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Contents

Shock Therapy versus Gradualism: The Central Eastern Europe (CEE) and East Asia Compared-A Review of Literature <i>Quamrul Alam, Thanh Hai Nguyen & Namul Majumdar</i>	3
Exemplary Models of Firm Innovation: Strategy and Leadership for the Twenty-First Century Competitive Environment <i>Ashford C. Chea</i>	9
High Performance Work Systems in the Intellectual Disability Care Sector in Ireland; an Exploratory Study at Organisational Level <i>Elaine C. Berkery, Siobhan D. Tiernan & Claire Armstrong</i>	16
Trading Activities and Cross-Sectional Variation in Stock Expected Return: Evidence from Kuala Lumpur Stock Exchange <i>Huson Joher Ali Ahmed</i>	29
Preliminary Study on the Undergraduate Specialty Structure Adjustment of General University in China <i>Wenbo Wang & Tong Li</i>	34
Differentiation Strategies of Internet Retailing (Unique, Value and Return): A Focused Web Evaluation into Airline Service Provider <i>Mohd Zulkeflee Bin Abd Razak, Azleen Ilias & Rahida Abdul Rahman</i>	40
An Action Research Case Study of the Facilitators and Inhibitors of E-Commerce Adoption <i>Orla Kirwan & Kieran Conboy</i>	48
Study on the Necessity and Feasibility of Supervisor Professionalization <i>Xiaoshi Zhou & Yu Zou</i>	57
Entrepreneurial Competencies: The Missing Links to Successful Entrepreneurship in Nigeria <i>Benjamin James Inyang & Rebecca Oliver Enuoh</i>	62
The Effect of Internet Trust and Social Influence towards Willingness to Purchase Online in Labuan, Malaysia <i>Alfhian Jeffri Chin, Syed Azizi Wafa Syed Khalid Wafa & Ai-Yee Ooi</i>	72
Total Quality Management in Supply Chain <i>Guangshu Chang</i>	82
Case Study of Factors Influencing Jobs Satisfaction in Two Malaysian Universities <i>Edward Sek Khin Wong & Teoh Ngee Heng</i>	86
Audit Firm Tenure and Auditor Reporting Quality: Evidence in Malaysia <i>Rohami Shafie, Wan Nordin Wan Hussin, Mohd 'Atef Md. Yusof & Md Hairi Md Hussain</i>	99
An Empirical Study of the Relationship between Transportation and Economic Growth in Xinjiang Province <i>Jinbo Wang</i>	110
Assessing Knowledge Sharing Behaviour among Employees in SMEs: An Empirical Study <i>Syed Shah Alam, Zaini Abdullah, Noormala Amir Ishak & Zahariah Mohd. Zain</i>	115



Contents

Ethical Investment and the Social Responsibilities of the Islamic Banks <i>ELMELKI Anas & BEN ARAB Mounira</i>	123
The Analysis of Developed and Developing Countries Textile Exports under the Current Trading System <i>Wenfán Li, Binghui Wang & Gaojie Yun</i>	131
In the Name of Independence: with Regard to Practicing Non-Audit Service by External Auditors <i>Mahdi Salehi</i>	137
Going International: The Experience of Chinese Companies <i>Qiang Ding, Michèle E.M. Akoorie & Kathryn Pavlovich</i>	148
The Research on the Effect of Changing Prices in the Multinational Company upon China's Economy <i>Jing Sun</i>	153
Exchange Rates and Export Competitiveness in Selected ASEAN Economies <i>Saadiah Mohamad, Mahendhiran Nair & Kamaruzaman, Jusoff</i>	156
Dynamic Relationship between Stock Prices and Exchange Rates: Evidence from Three South Asian Countries <i>Md. Lutfur Rahman & Jashim Uddin</i>	167
Empirical Analysis on Perceived Risk of Enterprise's Logistics Supervisor for Outsourcing Logistic Business <i>Jianhong Huang & Aiguo Li</i>	175
PPKM: Preserving Privacy in Knowledge Management <i>N. Maheswari & K. Duraiswamy</i>	182
Strategic Analysis for Hi-tech Enterprises to Introduce PE Investment in China <i>Jing Xiang, Susheng Wang, Zhaokun Kong & Wenhui Li</i>	187
Harmonization of Accounting Standards through Internationalization <i>Nikhil Chandra Shil, Bhagaban Das & Alok Kumar Pramanik</i>	194
Under the New Situation of the Textile Economy <i>Wenzhuan Sun & Junying Tian</i>	202
The Economic and Environmental Impact of a Suitable Forest Harvest Zone Allocation Using a GIS Analysis <i>Hj. Kamaruzaman Jusoff & Mohd Hasmadi, I</i>	208
Market Discipline in Post- Transformation Era: A Study on Banking Sector <i>Sathya Swaroop Debasish & Bhagaban Das</i>	218



Shock Therapy versus Gradualism: The Central Eastern Europe (CEE) and East Asia Compared-A Review of Literature

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Abstract

This paper reviews a numbers of policy measures taken by the governments in different countries from CEE to East Asia. The findings suggest that despite a number of discrepancies in the economic transition path and policies to support private sector development and SMEs from country to country, there are two distinct models: The Central and Eastern European “shock therapy” approach and the East Asian “gradualism” approach. The findings also highlight that regardless of the political and cultural context, in the early stage of economic transition process where institutional support and market conditions are not apparent, the state and public sectors play key roles. Despite of different levels of interventions, governments from those countries have taken some institutional measures in encouraging the development of private sector and capital formation, and enabling political flexibility and economic structural flexibility for the development of economic transition from centrally planned to market oriented economy. It is important to emphasize that no matter how those inventions are, but how the state can support economic transition and private sector development through political shifts and economic interventions. It could be concluded that the state has significant importance in encouraging capital formation and capitalist industrialization in CEE and East Asian countries

Keywords: SMEs, Economic transition, Private sector development, The State

1. Introduction

SMEs cannot be dependent on their own inadequate resources and capability for their survival and development. SMEs must have cooperation or links with other large firms for efficient utilization of resources, removing access barriers to the market and making the best use of policies and incentive programs from the government. SME growth depends on many factors that vary from country to country. McIntyre (2002) therefore argues that a synergistic relationship between the SMEs and the larger enterprise sector is a critical factor. Havie (2002) observes that in China the development of the Township and Village Enterprises (TVEs) is an important factor for the growth of SMEs. In the initial review of sustainability of small and medium forestry enterprises in China, Sun and Chen (2003) identify the need for cooperation and links between numerous SMEs in varied locations that lack formal associations or networks. Thus, in a collective culture like China and Vietnam, when a formal network is not apparent, an informal network provides a relationship framework for SMEs to overcome resource constraints. McIntyre (2002) also argues that a synergistic relationship, based on both horizontal and vertical linkages, such as industrial district and cluster (cited in Julien 1993, and You 1995), and the external economies of agglomeration and scope, played a large role in the post-World War II successes of Northern Italy.

McIntyre (2001) also proposes the economic landscape of the relationship among large, medium, and small enterprises, regardless of several scholars’ preference for thinking of SMEs as an alternative to the former SOEs. He has cited the example of Poland’s policies, which abandoned ‘shock therapy’ and concentrated on commercialization rather than privatization of SOEs, while in Russia a comprehensively corrupt large enterprise privatization process, had entirely

destructive economic effects. This means that small firms still need the support from large firms as their sub-contractors. The privatization and separation of large firms into small firms by policy inaccuracy has created a destructive effect on the Russian economy in the initial period of economic transition. According to Dallago (2003), SMEs in Russia have faced many difficulties due to policy mistakes and remained separate from large firms, whereas in Hungary policy stability has provided SMEs with sufficient co-operation with other firms and clear division of labor among governments at different levels. Hence, Dallago (2003) offers a new strategy: (a) the modernization and competitiveness of individual SMEs (e.g., by stimulating and easing investment activity); b) SMEs' vertical integration with both domestic and foreign companies; and c) horizontal integration among domestic and foreign firm SMEs. Regnier (1994) examines the experience of the four Asian newly industrialized countries (Singapore, Korea, Hong Kong, and Taiwan) and discusses how these countries have encouraged SMEs and created linkages between large and the small-scale enterprises. Empirical evidences in some developing Asian countries also supports this trend: large firms (particularly state enterprises) sponsored and promoted local SMEs in Indonesia (Hill, 2002); and the Department of Industrial Promotion (DIP) in Thailand implemented programs for the promotion of linkages between SMEs and large firms, and developing SME clustering and networking (Brimble, Oldfield and Monsakul, 2002).

2. Transitional economy and market reform

Transition means the process of change from a centrally planned economy towards a market economy, a progression that involves massive change at every level of society (OECD, April 1999). The transition from a centrally planned to a market economy was considered as an effective means of solving social and economic problems in these former socialist countries. A country that wishes to change its economy to a market-oriented one needs to restructure many things such as market liberalization, privatization, institutional development, structural adjustment, economic policy program of stabilization, deregulation and integration with the global economy.

According to Marangos (2003) and Dehejia (2003) there are two common approaches used for economic reform: 'shock therapy' and 'gradualism'. The rapid change initiative encountered by CEE countries can be defined as 'shock therapy' and the incremental change process undertaken by many Asian transitional economies is called 'gradualism'.

2.1 The Central and East European approach

The CEE transitional countries applied the rapid change 'shock therapy' to put the economy on 'automatic-pilot' and let the markets decide supply, demand, and prices and economic transformation. The government sectors play an insignificant part in this economic system. According to Katz (1995), the approach remains controversial after five years of transformation. Economic transition in the former Soviet Union could be a case in point where inflation and unemployment remain problems. In supporting the 'shock therapy' approach, Marangos (2003) analyses the disadvantages of gradualism that have resulted in many problems such as ill-defined property rights, badly operated markets, reduced social welfare and uneven distribution of wealth. In contrast, Dehejia (2003) attempts to explain why gradualism works when shock therapy did not – it was due to market imperfection in many transitional countries.

McIntyre (2002) makes the point that the transitional economy in East/Central Europe and the former Soviet Union (SFU) were already highly industrialised, urbanized and, in some ways, hyper-modernised before transition. Therefore, although facing many difficulties in the early stages, these transitional countries are now members of the EU and are entitled to receive support from this organization as well as from other international donors (Dallago, 2003).

According to Dallago (2003), the EU was important to these countries in two ways: (a) as a stabilizing and coordinating factor, and (b) as a donor of financial resource. There is a range of supports from the EU: the EU monetary and fiscal policy offers other countries a more stable environment, technical advice, and political support; technology transfer, financial funds; and an opportunity to become part of trans-Europe industrial and trade networks. As a result, development of the private sector, and particularly SMEs, in these countries can result in many benefits.

As discussed by Dallago (2003), the benefits for SMEs in CEE went further than just the accessibility of new markets in the EU, and those benefits included the advantage of expertise transfer, the acquisition of new technology and greater specialisation. However, Dallago also highlights the difficulties, including greater competition and risks for firms that enter the value chain of transnational companies (such as the specialisation in labour-intensive processes and the possible dismantling of the home research base).

2.2 The Asian 'Gradualism' Approach

The CEE 'shock therapy' approach was described by Kartz (1995) as the shift of economic decision making to the private sector, and the exclusion of government intervention in the national economy, or private enterprise operating in a framework of market-determined prices but abolishing the need for public sector involvement at the macro-level in a national economy. Conversely, the Asian 'gradualism' approach is an incremental process, and although private enterprises and free market are seen as drivers of this process, the public sector still cooperates actively in supporting and moderating market-based reform and private sector development at a macroeconomic level (Katz, 1995). Cook,

Kirkpatrick, and Nixon (1998) go further by arguing that the main source of private sector development should encompass three major components: privatization, restructuring of large-scale enterprise, and SME development.

3. Privatisation as tool to increase the size of the private sector

Privatization is used as an important tool to reduce the significant role of public sector firms and increase the size of the private sector. Privatization is a 'major instrument of the transformation and particularly the restructuring process' (Cook et al. 1998, p.3). In a different way, Harvie and Lee (2002) define privatization as a divestiture of ownership to develop the private sector.

Yamin (1998) states that privatization is an essential first step in the marketization process. Privatization bloated the size of the private sector and since many of the State Owned Enterprises were SMEs, this considerably increased the number of SMEs in the private sector as well. Assaf (1998) points out that privatization is a major instrument of the transformation since it develops SMEs in CEE and the former Soviet Union. One way to push the creation of new small firms is to break up state-owned enterprises into smaller entities and privatize them (Elleithy and Nixon, 1998).

Dallago (2003) also observes that many successful SMEs in CEE are not new, but are often spin-offs of preexisting state-owned companies or co-operatives or transnational companies. Similarly, Klapper, Allende and Sullar (2002) observe that SMEs in CEE were the result of restructuring and downsizing large firms, privatization, and outsourcing of support services and vertical fragmentation of products. In the same way, in developing countries, privatization began to go faster in the latter half of the 1980s (Cook et al., 1998) and it was economic reforms that were designed to reduce the public sector and develop the role of private market institutions. It is a necessary condition for a centrally planned economy to transfer to a market-oriented economy through the reduction of government ownership power in business.

However, a smaller or weaker public sector may also hinder the growth of the private sector, as experienced by CEE countries when they kept private enterprises operating in a framework of market-determined prices but eradicated the involvement of the public sector, while in Asian countries such as Japan, South Korea, Taiwan and also in the United States, Germany and the United Kingdom, the public sector has played and continues to play a key role in strengthening and supporting the development of a vigorous private enterprise sector and efficient market (Katz, 1995).

To conclude, despite some limitations, it is argued that current trends towards privatization and the declining role of the government have created an improved business environment and have encouraged the growth of a small firm sector (Elleithy and Nixon, 1998).

4. Discussion

4.1 Policy regime in CEE Countries

Support policies for SMEs vary from country to country and from developed countries to less developed countries due to differences in business contexts, culture, and the level of industrialization. Since East European countries are now EU members, there are various EU programmes for SMEs that cover a range of needs. These include vocational training and education, infrastructure projects, individual and information technology development (Konopielko and Bell, 1997). In addition, SMEs in these countries also receive direct support from local authorities and the government. Poland and Bulgaria are cases in point, where SMEs are provided with training and advisory services, management, market information, credit access, exports promotions and the introduction of high-tech production. In the initial stage of transition, these countries suffered some setbacks when SMEs operated in imperfect markets that lacked institutional support. Bulgaria's policy in 2000 (ASME, 2000) was based on two approaches for SMEs, aimed at creating an overall favourable environment and support for the start-up and development of SMEs through direct support. Since SME development is directly related to the existence of a favourable business environment, the key measures of the first approach are: reduction of trade barriers; alleviation of administrative-legal barriers; privatisation and de-monopolization; improvement of the taxation system; and building positive public attitudes and an entrepreneurship culture. The second approach put into practice various programmes of support for entrepreneurs: preparation for starting a business; finance and investment; company growth; quality management; export operations; training and development of staff. Hence, the policies for SME development consist of the following:

- Institutional framework;
- Macroeconomic policy;
- Administrative legal policy;
- Sector, regional and problem-oriented policy;
- Financial support; and
- Support through the provision of information, consultancy and training.

In Poland, the policies to support SMEs can be categorized in four groups: (a) legal and regulatory; (b) financial; (c) organizational; and (d) knowledge dissemination (Surdej, 2000).

Given that the SMEs in East/Central European countries can take advantage of high industrial levels, business support infrastructure, financial support, consultancy and training support, Gibb (1996) concludes that SMEs in these countries have been growing rapidly. The CEE experience suggests that business support infrastructure, financial support, legal and institutional framework, and cluster and network relationships play a vital role in business development.

4.2 Policy Regime in Asian Industrialised Countries

SME development is becoming increasingly important to many industrialized countries such as Korea, Taiwan, Singapore and Australia. The Singaporean government identified four key problem areas of SMEs: access to technology, the work force, finance and the market (Lee and Tan, 2002). In 1998 the Korean government employed a number of policies to foster the growth of SMEs and their involvement in the global economy. This was done by ensuring access to finance, supporting human resource development program, and developing technology and scientific achievements so that business can develop extensive relationships with the global market (Gregory, 2002). According to Ngui (2002), SMEs in Taiwan have the following features: network-based industrial systems; minimum efficiency sizes and entry barriers; and low agency and transaction costs. In Australia, special attention is given to key issues affecting the development of SMEs. These are access to finance, the importance of culture/networking in the conduct of business, access to technology and the adoption of information technology, and progress in human resource development (Nguyen et al. 2002).

The most common key features in Korea, Taiwan, Singapore, and Australia are support for technology and financial access, manpower access and networking. The Korean government paid attention to developing ties between large firms and SMEs and the fact that large and small electronic firms' networks clustered in Seoul is a good lesson for other countries.

4.3 Policy Regime in East Asian Developing Countries

Harvie (2002) identifies the case of TVEs in China as providing important lessons for other economies in transition. To support the private sector, China has reformed its financial system, and its tax and revenue system, enhanced its technical innovation system, improved legal protection of property rights, devised education and training programs, and opened up more sectors for private investment and competition. Harvie (2002) also cites in Garnaut and Song (2000) that there is still much discrimination against smaller and private enterprises in China such as through business registration, taxation, financing and foreign trading rights. Harvie then discusses a numbers of difficulties that the private sector has to face. Those obstacles include: the imposition of arbitrary fees and taxes; unequal access to finance; an inefficient bank lending system; weak managerial skill and employee levels; weak accounting and auditing practices; and insufficient support for private enterprises by different levels of government in registration, land use, finance, market entry and law enforcement. The significant issues of weak levels and the regulatory environment, weak markets predominantly in the financial and labor markets, and the nonexistence of a competitive environment are also vital to be solved. This situation is exactly what is happening in Vietnam during the transitional process and private sector development.

The Malaysian government has supported SMEs by providing financial and credit assistance, assisting entrepreneurial development, improving business management and human resource management, allowing consultancy and marketing services to grow, introducing technical and vocational programs, offering location and infrastructure facilities and providing fiscal incentives (Abdullah, 2002).

In Thailand, the government introduced a financial incentive package, technology development programs, and provision of benchmarks (in technology, marketing, management and governance). Support policies were devised with the intention that SMEs can integrate successfully into various industry value chains or clusters and become involved in more supportive networks such as academic institutions, government agencies and other firms in related and supportive industries (Brimble et al., 2002). This network relationship has created a new information flow and knowledge base for SMEs.

China, Malaysia and Thailand benefited from these policy reforms, network relationships and new support infrastructure. Indonesia's experience suggests that neglect of cluster linkage to markets was one of the reasons for SME failure. That is, economic advantages can only be achieved if the cluster has a well-developed network both internally and externally (Tambunan 2005).

4.4 Lesson learn from other countries

According to the OECD (1997), best practice policies for SME development should focus on five areas:

- (a) Financing;
- (b) Business environment;
- (c) Technology;
- (d) Management; and
- (e) Access to the market.

For these reasons, irrespective of the country concerned, transitional approaches or industrial background, SMEs still face familiar problems and need adequate aid from government policies, because private enterprise cannot operate in an imperfect market without support from institutions in general or government and the public sector in particular.

Katz (1995) also argues that there are two key concerns for Asia's new transitional economies: the process of transition and institutions of transition. The question of process involves the ability of the country to formulate and implement logical macro-level reform strategies, policies, and measures. The question of institutions involves the role of public sector.

According to Katz, the public sector should involve: (1) commercial law, regulation and enforcement machinery; (2) a central bank and integrated commercial banking systems; (3) essential support infrastructure; (4) respect for non-economic value; (5) international and financial relations; and, finally, (6) a more extensive framework as the key vehicle for economic reform, development and transition.

Drawing a general lesson from the East Asian experience, Petri (1995) points out: (1) there was a steady environment that encouraged investment and enterprise; (2) there were incentives to direct resources and initiatives towards proficient activities; and (3) there were dynamic mechanisms to promote leadership for high-speed development. A wide range of specific institutions and policies helped achieve these critical requirements.

Katz (1995) argues that the transitional countries of Asia – Laos, Mongolia, Myanmar and Vietnam – enjoy a significant economic advantage, since they can learn from the experiences of other transitional countries in Asian and CEE countries with less political change and step-by-step incremental processes. These countries enjoy cheap labor and strategic locations with a reasonably large market in Asia and the Pacific. However, they do not enjoy a high level of industrialization. As a result, the change to a market economy and integration into a global market requires a gradual approach to change. The economic transition and development of SMEs in South East Asian countries requires a well-designed policy package, an infrastructure development program and an effective institutional framework.

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Exemplary Models of Firm Innovation: Strategy and Leadership for the Twenty-First Century Competitive Environment

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Abstract

The author begins the article by outlining factors that influence the innovation success of firms. Second, he presents the resource-based view and the contingency perspective as the theoretical underpinnings. Third, he presents the literature review, methodology, and three approaches employed by exemplary innovators in stimulating creative and innovative ideas within their organizations. Fourth, the author discusses how exemplary innovators manage creativity and innovation. Fifth, he draws implications for would-be innovators seeking to make innovation an integral part of their strategic thrust. The author concludes by emphasizing a similarity between innovations of the previous two centuries and those of the twenty-first century. He then draws a lesson from the above centuries that can be applied today: adept, well-managed companies that commit the right resources to innovation and leverage their external environment will shape the markets and build the new industries of the twenty-first century (Chesbrough & Teece, 2002).

Keywords: Firm, Exemplary, Innovation, Competitiveness, Strategy

1. Introduction

Following prior research the author defines innovation as used in this paper as a process that begins with an invention, proceeds with the development of the invention, and results in the introduction of a new product, process or service to the marketplace (Edwards & Gordon, 1984). Innovation begins when a firm chooses an invention for development, with the ultimate goal of introducing it to the market (Kuznets, 1962). This definition is also consistent with Schumpeter's description: "The making of the invention and the carrying out of the corresponding innovation are, economically and sociologically, two entirely different things" (1939, p. 85).

The role of innovation in creating firm value has long been recognized. Firms undertake investment in research and development in hopes of developing innovative products and services that lead to increase performance. Prior research has found a positive correlation between innovation and firm value (Griliches, 1981). For example, Griliches (1981) reported that investment in innovation can yield returns of 200 percent over the long run. Similarly, much has been written on factors that contribute to the innovative success to firm (see Brown & Eisenhardt, 1995; Damapour, 1991; Fiol, 1996). Some of these factors are aspects of an organization's structure and culture, project team composition, within-firm and within-team knowledge flows, and top management and project leadership skill, commitment, and attitudes toward change (Griliches, 1990). More specifically, technological innovations often follow a "trajectory"—a related stream of technological development (Dosi, 1982; Winter, 1984). Continuous exploration and continuous exploitation are both necessary for a firm to progress along a technological trajectory (Puranan, Singh & Zollo, 2006).

2. Theoretical Underpinning of the Article

The author applies the resource-based perspective of the firm and the contingency theory as the theoretical framework of this article. The resource-based view of the firm seeks to explain how organizations develop and maintain competitive advantage using firm-specific resources and capabilities (Wernerfelt, 1984). According to this perspective, resources are assets or inputs to production that an organization owns or accesses (Helfat & Peteraf, 2003); while capabilities are the ability to use resources to achieve organization goals (Amit & Schoemaker, 1993; Helfat & Lieberman, 2002). The basic premise is that resources and capabilities increase the efficiency and effectiveness of firms (Barney, 1991).

Similarly, contingency theory has a long tradition of discussing how different dimensions of the external environment interact with organizational attributes such as the degree of competition in an environment (Pfeffer & Leblebici, 1973), the availability of financial resources (Pfeffer & Salancik, 1978), manufacturing intensity (Thompson, 1967), and market size (Lawrence & Lorsch, 1967).

3. Literature review

3.1 Sources of Firm Innovation

There are, of course, innovations that spring from a flash of genius. Most innovations, however, especially the successful ones, result from a conscious, purposeful search for innovation opportunities, which are found only in a few

situations. Four such areas of opportunity exist within a company or industry: unexpected occurrences, incongruities, process needs, and industry and market changes. The additional sources of opportunity exist outside a company in its social and intellectual environment: demographic changes, changes in perception, and new knowledge. True, these sources overlap. Different as they may be in the nature of their risk, difficulty, and complexity, the potential for innovation may well lie in more than one area at a time. Together, they account for the great majority of all innovation opportunities (Drucker, 2002).

3.2 Organizational knowledge and firm innovation

It is widely accepted that an organization's capability to innovate is closely tied to its intellectual capital, or its ability to utilize its knowledge resources. Several studies have underscored how new products embody organizational knowledge (e.g. Stewart, 1997), described innovation as a knowledge management process (e.g. Anthony, Eyring & Gibson, 2006), and characterized innovative companies as knowledge creating (e.g., Nonaka & Takeuchi, 1995). So close are the ties between research on knowledge and research on innovation, in fact that in recent years scholars have seen a blurring of the boundaries between these areas (Ahuja, 2000; Dougherty, 1992; Subramaniam & Venkatraman, 2001; Tsai & Ghoshal, 1998).

Although the basic link between organizational knowledge and innovation is on the whole persuasive, more remains to be understood about its precise nature. It is known, for instance, that organizations adopt different approaches for accumulating and utilizing their knowledge and that these approaches manifest themselves as distinct aspects of intellectual capital—namely, human organizational, and social capital (Davenport & Prusak, 1998; Nahapiet & Ghoshal, 1998; Schultz, 1961). Research has also delineated the differences between incremental and radical innovative capabilities (Abernathy & Clark, 1985) and noted that they vary in the kinds of knowledge they draw upon (Cardinal, 2001). Yet the finer aspects of how organizational knowledge gets accumulated and utilized remain unconnected to the specific types of innovative capabilities organizations possess, with most studies only linking knowledge to very generic, broadly defined innovation outcomes (e.g., new product introductions and technology patents) (Tushman & O'Reilly, 1997; Ahuja & Katila, 2004).

4. Methodology

This paper relies on the literature review of current relevant articles focusing on firm innovation. Except where a source was needed specifically for its perspective on broad issues relating to firms' overall business environment, the author screened papers by "firm innovation" and by numerous variants of keywords, focusing specifically on firm innovation management. Source papers included refereed research studies, empirical reports, and articles from professional journals. Since the literature relating to firm innovation is voluminous, the author used several decision rules in choosing articles. First, because firm innovation is changing fast in today's environment, the author used mostly sources published 2000-2007, except where papers were needed specifically for their historical perspectives. Second, given the author's aim to provide a practical understanding of the main issues in firm innovation, he included, in order of priority: refereed empirical research papers, reports, and other relevant literature on current firm innovation practices. To get some perspective on the current state of firm innovation, the author begins with a brief look at exemplary innovators find their creative ideas.

5. How exemplary innovators discover their creative ideas

5.1 They think long and hard about what is practical in their particular business

Studies indicate that exemplary innovators (EIs) usually have a pretty clear idea of the kind of competitive edge they're seeking. They have thought long and hard about what's practical in their particular business. And just as hard about what is no. For example, by drawing new product ideas out of current products—and tapping existing skills and technologies—EIs reduce the chance that they will come up with ideas that are impractical to produce or market. And using systematic patterns, rather than the preconceptions of customers or marketers, to generate ideas liberates a firm's innovation process from the straitjacket of existing concepts and assumptions (Goldenberg, Horowitz, Levav & Mazursky, 2003). However, the process of generating and finding innovative ideas is not an easy task in most firms. How then do EIs find good, concrete ideas? Brainstorming is one approach. Good ideas most often flow from the process of taking a hard look at the customers, the competitors, and the business all at once. So in looking for ways to innovate, EIs concentrate on (a) what is already working in the marketplace that they can improve on as well as expand (b) how they can segment their markets differently and gain a competitive advantage in the process (c) how their business system compares with their competitors' (Pearson, 2002), and adapt their business system accordingly (Hargadon, Parise & Thomas, 2007).

5.2 They look at how to create segments or markets for their products

Another strategy employed by EIs is to look at how to create segments or markets for their products. It sounds simple, but it takes a lot of creativity and skill to segment a market beyond simple demographics, ferret out what individual

groups of consumers really want, and actually create distinctive product performance features (Pearson, 2002). EIs do this by employing their ability to innovate through unique designs (Verganti, 2006).

5.3 EIs look in their within their business system.

A third approach used by EIs seeking good innovative ideas is to look in their business system. Beyond its products, every company has a business system by which it goes to market. That system is the whole flow of activities, starting with product design and working its way through purchasing, production, MIS, distribution, customer sales, and product service. It will come as no surprise that these systems differ from one competitor to another, even in the same industry. And in almost every case, each competitor's system has particular strengths and vulnerabilities that can provide a fruitful focus for EIs innovative energies. The underlying concept here is that a distinctive system can give EIs a big competitive edge for all their products. This is because it will help them leverage their inherent consumer appeal in ways their competitors find hard to match (Pearson, 2002).

6. Findings

Findings from the author's research show that EIs possess nine main characteristics that distinguish them from their peers. These attributes are presented below.

6.1 EIs embrace new innovation mindset.

The first attribute is that EIs embrace new innovation mind-set. That is, they share the following operating beliefs: (1) good enough can be great. Many companies unintentionally slow the innovation process by pushing for perfection. For EIs, they believe it is better to put something out there and see the reaction and fix it on the fly. It's another way of saying 'perfect' is the enemy of 'good enough.' (2) Step, don't leap. Great leaps forward, when companies many years and millions of dollars seeking to jump over existing companies, almost never work. EIs are aware that they have a much greater chance of success if they start with a simple springboard, and (3) the right kind of failure is success. Most well-run companies naturally consider failure to be highly undesirable. But remember, most of the time the initial strategy for a growth business is going to be wrong. For this reason EIs recognize that learning what's wrong with an approach and adapting appropriately is a good thing, not a failure (Anthony, Eyring & Gibson, 2006).

6.2 EIs know that most of their best innovations had come from connecting ideas across internal businesses.

The second characteristic that set EIs apart from their peers is that EIs know that most of their best innovations had come from connecting ideas across internal businesses. That is, they used the connect-and-developed model. In other words, to focus their idea search, EIs direct their surveillance to three environments: (a) identify top ten consumer needs (b) identify adjacencies—that is, new products or concepts that can help them take advantage of existing brand equity, and (c) define strategy to evaluate technology acquisition moves in one area that might affect products in other categories (Huston & Sakkab, 2006).

6.3 EIs have the ability to develop a strategic game plan for innovation.

The third quality of EIs is their ability to develop a strategic game plan for innovation. EIs create a short list of innovation ideas for their target market and to assess whether those ideas adhere to the general pattern of success they have uncovered and to their specific checklist. The discipline of checking seemingly high potential ideas against a rigorous list of questions keep EIs from moving forward with a plan that is similar to something that worked in the past but different in some crucial ways (Wolpert, 2002). For this reason, EIs do concentrate more on patterns and less on quantitative measures or outcomes.

6.4 EIs practice management innovation.

The fourth feature of EIs is that they practice management innovation. A management innovation can be defined as a marked departure from traditional management principles, processes, and practices or a departure from customary organizational forms that significantly alters the way the work of management is performed. Simply put, management innovation changes how managers do what they do such as (a) setting goals and laying out plans (b) motivating and aligning effort (c) coordinating and controlling activities (d) accumulating and allocating resources (e) acquiring and applying knowledge (f) building and nurturing relationships (g) identifying and developing talent, and (h) understanding and balancing the demands of outside constituencies. For EIs, management innovation is not a one-time revolutionary initiative. Rather it is ad hoc and incremental. A systematic process for producing bold management breakthrough that includes (a) commitment to a big management problem (b) novel principles that illuminate new approaches (c) a deconstruction of management orthodoxies, and (d) analogies from atypical organizations that redefine what is possible (Hamel, 2006).

6.5 EIs look at innovation systematically.

The fifth peculiarity about EIs is their ability to look at innovation systematically. They know that their competitive successes are built on a steady stream of improvements in production, finance, distribution, and every other function,

not just a big hit in sales or marketing or R&D. So EIs make sure they've got players who can deliver consistently. And they create organizations that give those players all the backup they need. That means (a) creating and sustaining a corporate environment that values better performance above everything else (b) structuring the organization to permit innovative ideas to rise above the demands of running the business (c) clearly defining a strategic focus that lets the company channel its innovative efforts realistically—in ways that will pay off in the market (d) knowing where to look for good ideas and how to leverage them once they're found, and (e) going after good ideas at full speed, with all their resources brought to bear (Pearson, 2002).

6.6 EIs have a strong commitment to strategic networking

The sixth attribute of EIs is their strong commitment and believe in the power of networking. Successful innovation requires the ability to harvest ideas and expertise from a wide array of sources. For EIs, that means bringing in insights and know-how not just from outside parties but from other businesses. They understand that the need for external perspectives seems almost self-evident: If they stay locked inside their own four walls, how will they be able to uncover and exploit opportunities outside their existing businesses or beyond their current technical or operational capabilities? Yet perhaps even more self-evident to EIs is the need to lock in their innovation initiatives to protect them from competitors. They do this by establishing a network of strategic intermediaries. This is because intermediaries facilitate the exchange of information about innovation among companies while keeping their secrets. The intermediaries can be trusted to maintain confidentiality because if they ever violated the terms of an arrangement no company would hire them again (Wolpert, 2002).

6.7 EIs possess the ability to innovate through design

The seventh trait of EIs is their ability to innovate through design. EIs understand that products that are radically innovative tend to have the following qualities: (a) they offer longer commercial lives than other goods (b) they create in consumers bolder expectations for the brand and high receptivity to their equally startling successors, and (c) they tend to enjoy especially high margins, because they are so dissimilar to the offerings of competitors (Verganti, 2006).

6.8 EIs possess the propensity to have more than one experiment going on at the same time.

The eighth characteristic of EIs is their propensity to have lots of experiments going on all the time. This encourages more risk taking since they don't expect every experiment to succeed. This also holds down costs since tests and trials don't get expanded until they show real promise. And it improves the odds of success because EIs usually bet on a portfolio, not on one or two big, long-odd projects (Chesbrough & Teece, 2002).

6.9 EIs possess the ability to institutionalize simplicity in decision making.

The last, but not the least, quality of EIs is their ability to institutionalize simplicity in decision making. The goal here is to manage complexity before it is hardwired into plants and costs. To do this, EIs would determine who has responsibility for making innovation decisions across the value chain (Gottfredson & Aspinall, 2005).

7. Discussion

When it comes to corporate innovation, the myth of the long genius dies hard. Most companies continue to assume that innovation comes from that individual genius, or, at best, small, sequestered teams that vanish from sight and then return with big ideas. But the truth is most innovations are created through networks—groups of people working in concert. The misconception has never been more damaging, as companies pour more money into generating ideas and they end up frustrated as innovations simply don't develop. In order to do away with this bad practice and lay the groundwork for innovation, organizations must make it easy for their employees to build networks—talk to their peers, share ideas and collaborate.

7.1 Developing an environment conducive to exemplary innovation

The process developing an environment conducive to innovation consists of the following steps: (1) Get the right people talking. There is a crucial first step companies can take to improve innovation: figure out what everyone inside the company knows—and make sure they talk to people with complimentary talents. (2) Rapidly test and refine ideas. With the rapid pace of change in many industries, companies must clear up the decision-making process to make it easier to push ideas through to the test stage. If it is not clear who has final say over a new idea, or if too many people have a say, it can lead to bottlenecks and sap the energy of those with big ideas, leading them to avoid risky proposals. Clearing up those processes can help fight fear of failure and promote creativity. Companies must also clear up the building and testing process for new products. That means having resources inside the organization that can be mobilized around a new opportunity, such as a model shop devoted to turning ideas quickly into prototype. In some cases, companies can improve their testing speed by turning to outside partners. A company might tap a trusted supplier to quickly provide new and promising materials, for instance. Or it might ask retail partners to make shelf space available for a brief test of a new product.

(3) Think twice about leadership. The people who usually get chosen to come up with new ideas are top performers in individual areas. But they may not have connections within the company that are vital for getting the job done. For instance, a star engineer might be tapped to lead a big project. But a lower-level engineer who has worked in more divisions of the company might be a better choice, since he or she could draw on broader knowledge and connections inside the organization. (4) Make collaboration easy. Very often, companies undermine their efforts by keeping workers sequestered in their groups. Research shows that collaboration between R&D groups stall when it takes longer to get approval to transfer people from one project to another than to actually get the work done. While executives will not be able to entirely overhaul organizations, they can at least make sure that they aren't impeding innovation. One effective strategy is to allow employees to work with more than one department at a time. So, for example, someone in R&D could collaborate with others in the business units without requiring juggling of budgets or formal reassignments. (5) Consider energy. Emotion plays a substantial role in networks. If one feels positively about a co-worker, he is more likely to turn to him for help and advice. And one is more likely to generate interesting ideas with that person than with someone who leaves one feeling drained or irritated. Therefore companies should map the energy and enthusiasm in their network—in other words, ask people to say who leaves them feeling positively or negatively (Cross, Hargadon, Parise & Thomas, 2007).

8. Managerial implications for would-be exemplary innovators

Several lessons are drawn from the analysis of the influential factors of EIs in this article, which can benefit would-be corporate innovators. First, to organize a business for innovation, managers must first determine whether the innovation in question is autonomous (it can be pursued independently) or systemic (it requires complementary innovations). They must also assess whether the capabilities needed to produce the innovation can be easily obtained or must be created (Chesbrough & Teece, 2002).

Second, companies should make sure that as they begin to execute their innovation strategies, they need to encourage adaptation and flexibility. They can do this by following a simple mantra: Invest a little, learn a lot. Research shows that many companies that think they are following an 'invest little, learn a lot' approach are actually falling into one of three classic traps: They are unwilling to kill projects that have fatal flaws; they commit too much capital too soon, allowing a project team to follow the wrong approach for too long; or they fail to adapt their strategies even in the face of information that suggests their current approach is wrong. To avoid these mistakes, companies should be rigorous about staging their investments. Early investments should focus on resolving critical unknowns. Identifying where the team should focus is straightforward. They must ask the following questions: What are the consequences of being wrong about an assumption? Is it catastrophic or potentially harmless? How much certainty do they have that they are right? How long would it take and how much would it cost to become more knowledgeable? By answering these questions and identifying critical assumptions, teams can direct their investments to the appropriate experiments. After running the experiments, companies then have one of four options: (a) double down—Information clearly points to a winning strategy with no obvious deal-killing uncertainties, so move forward rapidly (b) continue exploring—All signs look positive, but there are still untested assumptions, so keep experimenting (c) adjust the game plan—Investigation suggests that the current strategy is not viable, but another approach might be, so change the approach and begin experimenting again, and (d) Shelf—There is no clear path forward, so move on to other projects until something else changes. The key is to make decision rapidly. Studies show that companies seeking to build their innovation capabilities try to move dozens of ideas forward simultaneously. Starting with a lot of ideas is important, but success requires the fortitude to shut down the unpromising ones and redirect those that are heading in the wrong direction. If companies wait too long to make these decisions, they end up diverting resources toward fruitless efforts or continuing to executing a fatally flawed strategy (Anthony, Eyring & Gibson, 2006).

Third, because innovation is both conceptual and perceptual, would-be innovators must also go out and look, ask, and listen. Successful innovators use both the right and left sides of their brains. They work out analytically what the innovation has to be to satisfy an opportunity. Then they go out and look at potential users to study their expectations, their values, and their needs. To be effective, an innovation has to be simple, and it has to be focused. It should do only one thing; otherwise it confuses people. Even the innovation that creates new users and new markets should be directed toward a specific, clear, and carefully designed application. Fourth, careful analysis of the needs—and, above all, the capabilities—of the intended users is also essential. It may seem paradoxical, but knowledge-based innovation is more market dependent than any other kind of innovation (Drucker, 2002).

9. Concluding remarks

It should be noted that innovation is always a risky pursuit, with an uncertain and often distant payoff. But must that fact doom it to erratic investment? Or can innovation become a staple corporate priority as, for example, quality has become? Research shows that stability can be brought to corporate innovation and that the result will be much greater strategic gains and much stronger returns on investment. But sustainable innovation requires an entirely new approach.

In stead of being a largely isolated process—carried out often with considerable secrecy—innovation needs to become more open (Wolpert, 2002).

To sharpen an organization's receptivity to change and innovation, several ingredients are essential. First, and foremost, top management must be deeply and personally involved in the process. Innovative companies are led by innovative leaders. It is that simple. Leaders who set demanding goals for themselves and for others, the kinds of goals that force organizations to innovate to meet them. They must also set specific, measurable goals that constitute outstanding relative performance—like becoming number one in a particular market. Not vague, easily reached objectives. Innovative leaders aren't necessarily creative, idea-driven people (though objectively many are). But they welcome change because they're convinced that their competitive survival depends on innovation (Pearson, 2002).

Research confirms that in the 1990s disruptive innovations have had a major impact on industry structures, from travel to computer retailing to communications, and have often given rise to change in the process (Christensen, Baumann, Ruggles & Sadtler, 2006). Similarly studies indicate that the leading industries of the late nineteenth and early twentieth centuries—chemicals, steel, and railroads—all experienced rapid systemic and disruptive innovations. The winners were the companies that made major internal investments to shape the markets rather than those that relied on others to lead the way. While business conditions have certainly changed, many of the principles that worked a century or decade ago still pertain. Today, leading innovative companies like Intel, Apple, and Microsoft make extensive investments to enhance their current capabilities and spur the creation of new ones. The lessons of the second industrial revolution apply to the third: Adept, well-managed companies that commit the right internal resources to innovation and leverage their external environment will shape the markets and build the new industries of the twenty-first century (Chesbrough & Teece, 2002).

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High Performance Work Systems in the Intellectual Disability Care Sector in Ireland; an Exploratory Study at Organisational Level

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Abstract

There is a growing appreciation in the healthcare field of the importance of complementing physician expertise with more effective organisational processes and procedures (Flood 1994). Gowen et al (2006) suggest that Strategic Human Resource Management (SHRM) can effectively address hospital errors in tandem with quality management processes and procedures. To date, there is a growing wealth of research investigating how SHRM practices can increase organisational performance and competitiveness in the private sector. Unfortunately, this is not true of the healthcare sector, or indeed the Intellectual Disability Care (IDC) Sector where there remains a dearth of research addressing the linkages between HRM and organisational effectiveness. The purpose of this paper is two fold. Firstly, the paper will examine the literature investigating SHRM in healthcare, with reference to the IDC Sector where possible, focussing specifically on High Performance Work Systems (HPWS). Secondly, the paper will focus on how far HPWS have expanded in the sector at an organisational level from a management perspective. A postal questionnaire was chosen as the means of gathering this information. One questionnaire was sent to the human resource manager in each IDC centre in Ireland. The findings provide us with some important insights into the differential utilisation of the components of HPWS across the sector. The areas of HPWS in which the centres achieved the highest score were service user focus and teamwork. The area scored least favourably was communication between management and employees.

Keywords: Strategic Human Resource Management, High performance Work systems, Intellectual disabilities, Health services

1. Introduction

The IDC sector plays a significant role within the healthcare sector in Ireland. Approximately 11% (10,953) of the total employment in the health sector in Ireland (101,978) are employed in the IDC sector. The role of human resources (HR) in the IDC sector in Ireland is critical. Services offered within the IDC sector are predominantly based around the interactions between service providers and service users. Given the low level of technical interventions in the sector, services are fundamentally reliant on service personnel, in the form of health professionals and support staff. There have been two key trends in recent years in the profile of people registered with intellectual disabilities: (1) an increase in the number of people in receipt of services and (2) an increase in the percentage of over 35 year olds registered with intellectual disabilities. Both of these increases have and will continue to place increasing pressure on resources. To

date there has been little evidence of changes in the level of funding or staffing in the sector to reflect these increases. Despite the increase in the demand for services and resources, it is critical that the quality of care provided to service users is not jeopardised. This paper argues that by maximising human resources through the implementation of high performance work systems in the IDC sector, the employee body as a whole will become more efficient and effective, thus at least maintaining and potentially increasing the quality of care provided. The objective of this research is to identify the managerial perceptions of HPWS within the IDC centres in Ireland at an organisational level.

1.1 The IDC Sector in Ireland

The Health Service Executive (HSE) (note 1) provides a wide range of services for people with intellectual disabilities in Ireland. One of the key functions of the HSE with regard to intellectual disability services is the co-ordination of the Intellectual Disability Database (note 2) along with the provision of services to individuals with intellectual disabilities. Table 1 illustrates some of the key trends in the IDC sector in Ireland from 2003-2007.

As Table 1 highlights, in 2007 there were 25,613 people registered on the Intellectual Disability Database in Ireland, of which 24,898 are in receipt of services. This represents a prevalence rate of 6.51 per 1,000 population in Ireland. The ratio of males to females registered with intellectual disabilities currently stands at 1.29:1 (Kelly et al, 2007).

There has been an increase of 31% in the number of people registered with intellectual disabilities since the first census of mentally handicapped people in Ireland in 1974 (Mulcahy 1976, Mulcahy & Bennis 1976). The Health Research Board has also identified an increase in the lifespan of those registered with intellectual disabilities. The percentage of over 35 year olds registered with intellectual disabilities has increased from 29% in 1974, to 38% in 1996 to some 48% in 2007. This increase in the number of people over 35 registered with intellectual disabilities has significant implications for resources and an increasing level of demand for residential services along with support services for caregivers (Barron & Mulvany, 2004).

97% of those registered with intellectual disabilities are in receipt of services. This is the highest number of people in receipt of services since the database was established in 1995. 8,262 of these are in full-time residential care and a further 329 are in receipt of care from psychiatric hospitals. Of this 329, only 26 are recorded as being appropriately placed within in psychiatric hospitals (Kelly et al, 2007). Alternative residential facilities have been identified for 207 of these service users during the period 2008-2012, again, placing greater pressure on the services available.

Barron & Mulvany (2004) highlight that in recent years there has been a significant growth in the level of full-time provisions for full-time residential services, residential support services and day services. Since 1996 there has been a 46% increase in the number of people living in full-time group homes within communities. There is currently an ongoing demand for new intellectual disability services and a growing requirement to enhance existing services.

The intellectual disability services sector in Ireland is a sector that has experienced huge growth in recent years, and is a sector which appears will continue to experience further growth in the years to come. The HSE 'works in partnership with all stakeholders to ensure that the HSE is an employer of choice, with a motivated, skilled and flexible workforce, capable of delivering high quality services' (HSE 2005). There are a number of different ways in which the HSE can ensure high performance and high quality. One such example is through the effective management and utilisation of employees.

2. Literature Review

2.1 High Performance Work Systems in the Health Care Sector

SHRM literature has emerged as a major paradigm in the HR field (Dyer & Reeves, 1995). The literature blends the more 'macro' HR literature with 'micro' literature. Traditionally researchers focused on the individual level effect of HRM practices, concentrating on individual employee job satisfaction or individual employee performance. However, in recent years there has been a shift in focus from individual impacts of HRM towards a more 'macro' level approach.

Similar trends have also been noted within the context of the health sector. Khatri (2006) notes the shift from traditional research with a 'micro focus', focusing on individuals, to a more strategic view of the firms' human resources, where a 'macro' view of the firms' HR activities have emerged, paying particular interest to organisational effects of HRM policies and practices. Gowen et al (2006:806) note that SHRM "...can be critical to the efficacy of healthcare errors, error reduction barriers, quality management processes and practices, programme results and competitive advantage".

A number of researchers within the healthcare context suggest that SHRM systems improve organisational success and in particular when quality management programmes are in use (Caron et al 2004; Chen et al 2004; Manion 2004). Gowen et al (2006:818) also suggest "...that hospital errors can be successfully addressed with appropriate quality management practices and strategic HRM". Gowen et al, (2006) found healthcare error sources are highly statistically and significantly related to quality management processes, quality management practices, and strategic HRM. They further suggest that the impact on sustainable competitive advantage is greatest for strategic HRM, which includes employee teams, training, information sharing, rewards, recognition, and promotion opportunity. Their research

suggests that hospitals should exploit strategic HRM practices as they offer unique opportunities for reducing errors, providing results, and creating competitive advantage.

Shih et al (2006) note that scholars of SHRM have turned their attention to ‘bundles’ of mutually reinforcing and synergetic HR practices that facilitate employee commitment and involvement. One of the common themes they identify in the literature is an “emphasis on utilising a system of management practices that provide employees with skills, information motivation and latitude” (Shih et al, 2006:742), which in turn results in a more productive workforce which become a source of competitive advantage for the organisation. These bundles of practices are collectively known as high performance work systems. The next section explores high performance work systems in greater detail.

The term high performance work systems (HPWSs) was popularised by Appelbaum and Batt (1994). HPWS are known by many different names, amongst others, high performance work practices, high commitment systems, high involvement systems, flexible work systems. Given the variation of terms used to describe the phenomenon, hereafter the term HPWS will encompass all of the aforementioned terms. CIPD (2006:5) define high performance work systems as ‘... the careful design of work organisation and practices so that they are systematically linked to the achievement of organisational objectives and performance’. Organisations utilising HPWS seek to increase employee involvement, performance and commitment through bundles of “best fit” HR practices that generally include a combination of the following: employee empowerment, training and development, reward and performance management, recognition, information sharing, shared decision making, recruitment and selection, employee involvement and diversity and equality.

To date many studies have been carried out in the private/profit making sector and reported a correlation between HPWS and employee turnover (eg Arthur,1994; Brett, 2002; Guthrie, 2001), productivity (Arthur,1994; Datta et al 2005, Guthrie, 2001; Koch & McGrath, 1996; MacDuffie, 1995; Neal et al 2005; Patterson et al 1997), product/service quality (MacDuffie, 1995; Youndt et al 1996), and firm profitability and market value (eg Delery & Doty, 1996; Huselid, 1995) .

Although a limited amount of research has been carried out to date investigating HWPS in the health sector, a small body of research does exist which supports the effectiveness of HPWS in the health sector. Certain elements of HPWS have also been identified in research as having particular significance in healthcare context. Some of the key findings to date have highlighted a positive relationship between HPWS and employee job satisfaction (Harmon et al 2003, Blegen, 1993), lower job stress and lower patient service costs (Harmon et al 2003), effective information processing and decision-making (Preuss 2003), more effective patient care and decreased patient mortality (Michie & West, 2004) and ultimately superior healthcare (Preuss, 2003). The author is unaware of any similar work carried out in the IDC sector.

Similar to other industries, the healthcare sector is concerned with maximising effectiveness through the adoption of appropriate management policies and practices (West et al., 2006; 983). Research conducted by West et al. (2006) makes an important contribution toward enhancing our understanding of how HPWSs can positively affect hospital performance. They note the importance of performance appraisal/management to clarify individuals’ roles and objectives in their work, to provide them with feedback on performance, to determine their development needs and to communicate to them their value and importance to the organisation. They also stress that ongoing staff training and highly effective communication processes, especially among nurses and receptionist staff, are essential in reducing patient mortality and improving quality of care provision.

Preuss (2003) argues that high performance HR systems can help improve healthcare outcomes in a hospital setting. He suggests that HPWS promote effective information processing and decision making in an environment where it is critical. Drawing parallels between the healthcare sector and industry, Preuss notes that in manufacturing plants, information is relatively unequivocal and easily interpreted for ongoing decision making. However, in hospitals, work systems must support employee capacity to interpret equivocal information as part of ongoing decision making (Preuss, 2003). Preuss contends that implementing HPWSs can improve information quality by granting responsibility over information interpretation to employees who have critical knowledge, such as nurses, and making the information available for ongoing process improvement. Therefore he suggests that investing in HPWSs will lead to increased employee knowledge, information sharing and higher quality of care.

The current literature also suggests that team working enables shared knowledge and understanding about patient needs, good decision making, lower error rates, and more effective patient recovery (Borrill et al, 2000; Firth-Cozens, 1998; West & Borrill, 2006: West et al, 2006). Moreover, workers in healthcare settings are better able to act upon the ambiguous information because of their training, involvement in decision making and the shared learning associated with team working (West et al, 2006; 987).

Broadly, findings by West et al (2006:944) suggest that, “HR systems are related to the quality of healthcare and specifically patient mortality in hospitals. Above and beyond the effects of a set of important controls, our results suggest that people management systems that emphasise a set of complementary ‘high involvement’ policies and

practices (i.e., an emphasis on training, performance management, participation, decentralised decision making, involvement, teams, and employment security) may be successful in contributing to high-quality healthcare.”

3. Rationale for the study

Staffing issues should be central to anyone interested in developing high quality services for people with ID (Reid et al 1989, Rice et al 1991, Hatton et al 1999). Staff provide the interface through which national, regional and organisational philosophies and policies are translated into practical action directly affecting the lives of people with intellectual disabilities. As staff constitute the largest slice of revenue expenditure in services, increasing the quality of staff performance is crucial if scarce resources are to optimally benefit people with ID (Hatton et al 1999). Residential workers, in particular, perform a demanding job, often under difficult circumstances (Hatton et al 1999).

There is evidence to support the notion that staff find organisational factors, rather than aspects of user behaviour as more stressful in the work place (Hatton et al 1999). Working with people with learning disabilities does not inevitably lead to high stress; rather various factors may be important in reducing stress (Hatton et al 1999). Hatton et al (1999) identify a number of different factors, among these factors include: lack of job security (Rose 1995), lack of further training and skill development (Hatton et al 1993, Rose 1995), a lack of participation in organisational decision making (Hatton et al 1993), links between high staff stress and conflicting demands between work and home (Hatton et al 1995, Rose 1995). These areas are of particular interest as they fall under the remit of strategic human resource management.

To date, there remains a dearth of research in addressing the linkages between SHRM and organisational effectiveness within the IDC sector. This research aims to address this gap in the literature, investigating the linkages between the effective management of human resources, with specific reference to HPWS, and organisational effectiveness in the IDC sector in Ireland. The purpose of this research is to investigate the extent to which HPWS are implemented within IDC Centres in Ireland at an organisational level.

3.1 Method

Questionnaires were sent to the Human Resource manager in each of the 93 IDC centres in Ireland. Managers were asked to complete the questionnaire from an organisational perspective. A postal questionnaire was chosen as the most appropriate means of gathering information. It was constructed in a way that was easy to understand, follow and answer. The postal questionnaire ensured that data collected was unbiased and independent. Questionnaires were distributed in a sealed envelope with a stamped addressed return envelope and a covering letter from the researcher. The cover letter outlined the purpose of the research, explained that all of the completed questionnaires would be treated confidentially and provided the address and telephone number of the researcher if further clarification or assistance was required. In an attempt to generate a greater response rate follow up surveys were sent out and a series of follow up telephone calls were conducted.

The questionnaire was designed with a combination of open ended, closed and likert scale questions. There were two objectives in mind when developing this questionnaire. These objectives are outlined below:

3.1.1 Profile of the centres/ IDC sector: Before gathering data about HPWS general organisational information was sought. In an attempt to put the research and findings into context it was necessary to build up a profile of each centre, thus creating an overall profile of the sector. Sections 1-3 of the survey dealt with these issues. These sections explored areas such as employee details, organisational details, details of service users and overall organisational strategy.

3.1.2 HPWS: The remainder of the questionnaire dealt with HPWS within each individual centre. This was broken down into 7 different sections: (1) Recruitment and Selection, (2) Performance/Reward Management, (3) Quality Orientation, (4) Employee Involvement, (5) Work Organisation, (6) Diversity and Equality, and (7) Training and Development.

3.1.3 Sample

The sample used in this research was compiled from “The Directory of Services for People with Intellectual Disabilities” (note 4) which was issued by Inclusion Ireland (note 5). A total of 93 centres were contacted. The total response rate thus far is 26% (note 6). Though this response rate may appear low, it is well within the boundaries of previous HRM studies (Becker and Huselid (1998) reviewed previous HRM studies and reported response rates ranging from 6 to 28 per cent, with an average of 17.4 per cent)

SPSS was used to analyse the data. Some of the key findings are highlighted below.

4. Findings

4.1 Organisational Information

The aim of this section is to help set the context for which this research was carried out. This section examines the services offered within the centres surveyed and the profile of service users and employees in each of the research sites.

Of the total number of centres surveyed 70% were stand alone (note 7) centres. Each of these centres offers one or more services to service users. Table 2 highlights 11 different services, showing the percentage of centres that offer each particular service and the average number of service users that avail of the services in the different centres.

As can be seen from table 2, the most frequently offered service in centres is 7 day residential care which is offered by 90% of centres surveyed, followed by day care services (86%). The service with the highest number of average service users is day services (60%) followed by 7 day residential care. It is worth noting that the day services offered were offered to both residential and non residential service users.

4.2 Profile of Service Users

Figure 1 shows the total breakdown of service users based on the severity of their intellectual disability. As can be seen from figure 1 the largest represented group in the centres surveyed are those with moderate intellectual disability, with 47% fitting into this category. This number is slightly higher than that noted on the intellectual disability database in 2007, where 35% of those with ID were registered as moderate.

Figure 2 shows the breakdown of service users in the centres surveyed by age and gender. The ratio of males to females in the centres surveyed was 1.13:1, this figure is slightly lower than that identified by Kelly et al (2007) where they identified a ratio of males to females at 1.29:1. The total number of male service users in the centres surveyed was greater in all categories except for the >40 age category where the number of males registered was 1% lower than the number of females registered.

A total of 2,636 service users were captured in this survey. The average number of service users per centre was 126 (max 419, min 10). The literature previously highlighted an increase in the number of people registered with an ID. Again this was reflected in the survey conducted. 57% of centres surveyed indicated a change in the number of service users in the last five years. The number of service users increased in all but two centres in the past five years where the centre recorded a 9-12% drop in the number of service users. The average increase in service users across all centres was 25% (range -12% to 125%, SD= 32.74).

When asked if there was a change in staffing levels to reflect the increase in service users 18% said there was no change at all, 24% indicated a little, a further 29% reported somewhat, 18% answered quite a lot and the remaining 11% noted a change in staffing levels to a very great extent. Only one third of centres reported that staffing levels had changed “a lot” or “to a very great extent” as a direct result of the change in the number of service users. This illustrates the increasing demands placed on services and employees in the sector.

When asked of there had been a change in the profile of service users in the past 5 years, 70% noted there had been changes. The two most cited changes in the past five years were

- 1). An ageing population among service users which is putting greater demands on services, especially medical services given the greater level of illness that is associated with old age.
- 2). An increase in the number of males registering and availing of the services.

The next section will look specifically at the breakdown of employees in the IDC centres surveyed.

4.3 Profile of Employees

Across respondent centres the total number of staff was 3,701. The average number of employees per centre was 176 (min=10, max = 635, SD=209.5). The staff to service user ratio ranged from 1:2.91 to 1:0.15 (M= 1:1.4, SD= 0.8). 53% of employees were hired on a full time basis. The second highest category was relief workers (on average 17% per centre). The lowest categories represented were voluntary workers (5%), casual workers (1%) and others (1%).

The highest category of worker represented was care staff (25.3%), with the next highest being nurses (18.9%). The lowest category of workers recorded were doctors, occupational therapists and psychologists (0.2%). The significant difference between the number of care staff and the other categories of employees may lie in the fact that 90% of centres surveyed offered 7 day residential care to service users, thus creating a demand for care staff.

The age profile of those working within the centres surveyed is quite young, with almost 77% of those working in the centres under the age of 50 (77%). This is relatively significant as it means the number of employees lost through retirement in the next few years will be low. On average 76.1% of those working in the centres surveyed are white Irish, with 69% on average of employees in the centres being female.

The following section will look specifically at seven components of HPWS: (1) Recruitment and Selection, (2) Performance/Reward Management, (3) Quality Orientation, (4) Employee Involvement, (5) Work Organisation, (6) Diversity and Equality, and (7) Training and Development, focusing specifically on the usage of each practice.

4.4 Recruitment and Selection

Table 3 shows the main findings relating to recruitment and selection in the centres surveyed.

Only 14% of centres surveyed were administered one or more employment test prior to selection. 62% of centres offered their employees the opportunity to apply for internal promotions, on average this applied to 80% employees. 38% of centres reporting on average 32.6% of their employees holding non-entry jobs as a result of promotions or based upon merit or performance as opposed to seniority. The average range for job security was between 1.5 and 5 (mean = 3.66, SD = 0.779). Here respondents were asked if employment was guaranteed in the centres. Answers were recorded on a scale of 1 (not at all) to 5 (to a very great extent).

4.5 Performance and Reward Management

In the past 12 months, 71% of centres carried out performance appraisals with 34% (on average) of employees. This resulted in 80% of these centres offering training and development to approximately 25% of employees in these centres. While the number of employees being offered training as a result of performance appraisals is relatively low, it is encouraging to see that 80% of centres which carried out performance appraisals followed up on the findings of these interviews. From an employee's point of view this would be significant as it would place greater value and benefit on the process for employees.

Table 4 shows some of the key findings in relation to performance and reward management in the centres surveyed.

From the findings above it can be concluded that there is little reward or recognition given to employees for loyalty to the organisation in most IDC centres surveyed. This is most likely to affect job satisfaction and job commitment among employees. However, it is positive to note that in almost half of the IDC centres surveyed (48%) on average 84% of employees were guaranteed employment based on performance. In essence this should create greater levels of motivation among employees.

Given the high levels of interaction between service users and service providers it is positive to note that in 71% of centres surveyed employees are given feedback on the quality of care they provide to service users. This is a fundamental aspect in ensuring a high quality of care is provided to service users.

It is also worth noting that the benefits of further education is not fully utilised in the IDC centres. In only 24% of centres employees are given extra responsibilities based on the courses they had completed. In many of the centres the true benefit of these courses may not be realised and as a result employees may be reluctant to complete such courses as there is no major benefit to them with regards employment for doing so.

4.6 Quality Orientation

The main focus of this section of the questionnaire was to highlight different aspects of employee quality. Respondents were given a number of statements and asked to answer them on a scale of 1 (strongly disagree) to 5 (strongly agree). These statements included: to what extent do you believe the centres employees; are highly skilled, creative and bright, experts at their job, share information among each other, share ideas, are committed to developing new ideas and solve problems through collaboration. The average range on the employee quality scale was between 3.14 and 4.57 (mean=4.05 SD=0.379)

While looking at the focus in service users, respondents were given a series of statements relating to service user focus within the centres and were asked to rank these statements on a scale of 1 (not at all) to 5 (to a very great extent). The responses ranged between 3.2 and 5 (mean = 4.46, SD 0.43). This showing that for the most part there was a strong user focus in the IDC centres.

4.7 Employee Involvement

Employee involvement looked at the extent to which employees were involved in decision making, how well employees were informed about changes in the centres, employee suggestions with regards changes, involvement with the running of the centres, employees expressing their concerns. The average range for employee involvement was between 3.2 and 4.9 (mean= 4.08 SD=0.389). Furthermore, in 76% of centres, on average 46% of employees are involved in programmes designed to elicit participation and employee input, again showing that employee participation was viewed as important in the centres surveyed. In 81% of centres, on average 76% of employees are provided with strategic information relating to the centres.

Although there is evidence to suggest that emphasis is placed on employee participation within the IDC centres, there is also evidence to suggest that the same emphasis is not placed on communication between managers and employees. The scores for communication between managers and employees on organisational and employment issues was significantly lower with a range between 2.2 and 4 (mean = 3.42, SD 0.517). This indicates that communication between management and employees on issues, for example, such as pay, employee issues, future plans, work organisation, government regulations, ranges from rarely to often.

Although most centres scored relatively well with regards employee involvement, it is worth noting that the area which is lacking is communication between management and employees.

4.8 Diversity and Equality

Although 76% of centres had a formal policy on equal opportunities, only 12% of these (74%) centres measured the effects of the policies on their employees. Only 12% of all centres surveyed measured the effects of equal opportunities as a whole. While it is encouraging to see the uptake on equal opportunities is high, it is worrying to note that the benefits of doing so is not measured in the majority of centres surveyed.

4.9 Work Organisation (*Work Life Balance and Teamwork*)

4.9.1 Work Life Balance

There was quite a disparity in ranges for work life balance in the centres surveyed. The range was between 2 (rarely) and 5 (to a very great extent) (mean= 3.88, SD=0.728). The availability and uptake on flexible work arrangements within the IDC centres surveyed is quite low. Table 5 highlights the main flexible work arrangements and the number of centres which offer these arrangements.

Overall, as can be seen from table 5, the offering of these flexible working arrangements is quite varied. The uptake of each of these flexible work arrangements was also quite low, with uptake being less than 20% (on average) in each case. Reduced working hours had the greatest uptake at 18% while the lowest uptake was recorded for parental leave and annualised hours (6.5% on average).

4.9.2 Team Work

In 62% of centres, on average 81% of employees are organised in self-directed work teams in performing a major part of their role. The average range for teamwork was between 3.5 and 5 (mean =4.27, SD=0.446). From this it can be concluded that a relatively strong emphasis is placed on team work within the IDC centres.

4.10 Training and Development

It is positive to note that 38% of respondents noted their centre carried out diversity training with their employees. On average 48% of employees in these centres were involved in such training, while 38% of centres have an employee at management level assigned as a champion of equality and diversity. Table 6 highlights a number of different types of training, indicating the percentage of centres that offer this type of training.

The centres offering training is low in many areas. Four categories noted over 50% of centres offering training in that particular area (health and safety, abuse guidelines, infection control and how to handle confidential information about service users). However, in centres where training was offered on average over 50% of employees received that particular type of training in the past 12 months.

5. Limitations

There are a number of limitations to the research that the authors would like to highlight. Firstly these findings represent a sample size of 26% of the entire population. Although, as stated earlier Becker and Huselid (1998) reviewed previous HRM studies and reported response rates ranging from 6 to 28 per cent, with an average of 17.4 per cent. Also, there may be a respondent bias between those who choose to return the questionnaire and those who did not. A larger sample size would allow for a more representative analysis of the sector. Secondly, the questionnaire is descriptive in nature which does not allow for in depth statistical analysis.

5.1 Areas for further research

The aim of this survey was to identify how far HPWS have expanded into the sector. Further research is merited to incorporate a larger sample size. Also, this research focuses on an organisational level. Further research needs to be carried out to gain individual and team insights into the application of the different components of HPWS within these research sites. This would allow for a comparison between results reported at an organisational and individual/team level. Also research should be carried to identify the impact of HPWS on the overall quality of care in the sector.

6. Conclusion

Although the findings from the survey are not extensive and the sample size only represents 26% of the IDC centres in Ireland, the findings do give us some important insights into the different utilisation of the components of HPWS in the sector. These findings may offer some practical insights for managers in the IDC sector. The key insights are offered hereafter.

The areas of HPWS in which the centres achieved the highest scores were service user focus (mean 4.46, SD 0.43) and teamwork (mean 4.28, SD 0.446). Having a strong service user focus is essential within IDC centres given the low level of technical interventions in the sector; services are fundamentally reliant on service personnel and the interaction between service users and service providers. Teamwork is essential in healthcare organisations as it enables shared knowledge and understanding about patients' needs, good decision making, lower error rates, and more effective patient recovery (Borrill et al 2000; Firth-Cozens, 1998; West & Borrill, 2006; West et al 2006).

The area scoring least favourably was communication between management and employees (min 2.2, max 4 mean 4.2, SD 0.446). This lack of communication between management and employees is worrying. Lack of communication between managers and employees has a number of implications; it can impact on the quality of care provision, can lead to a lack of information sharing and can lead to ineffective decision making.

In the past 12 months, 71% of centres carried out performance appraisals. This resulted in 80% of these centres offering training and development to approximately 25% of employees in these centres. West et al (2006) note the importance of performance appraisals to clarify individual roles and objectives, to provide feedback on performance, to determine developmental needs and to communicate to employees their importance and value to the organisation. As a result of performance appraisals employees are likely to perform their roles more effectively, there is greater clarity about roles and objectives as well as developmental needs. An important area that needs to be addressed in the IDC sector relates to the developmental needs of staff. The number of employees offered training as a result of performance appraisals is relatively low (approximately 25%). Failing to meet the development needs of employees can lead to stress, as noted by Hatton et al (1999).

The average range for employee involvement was between 3.2 and 4.9 (Mean=4.08 SD =0.389). Employee involvement and decision-making are critical in health care organisations. Preuss (2003) notes that decision making can increase employee knowledge, information sharing and high quality of care. Hatton et al (2003) also notes the importance of employee involvement and participation and decision-making and concludes that lack of same can lead to higher levels of organisational stress among employees.

The offering of flexible working arrangements was quite varied among centres. Where offered, the uptake of each of these flexible work arrangements was also quite low, with uptake being less than 20% (on average) in each case. Reduced working hours had the greatest uptake at 18% while the lowest uptake was recorded for parental leave and annualised hours (6.5% on average). The availability of flexible working arrangements is quite significant given 69% of employees in the centres surveyed are female, in a society where females are viewed predominantly as the primary care giver in the home. Although the percentage of employees availing of these arrangements is low, their availability is significant. Hatton et al (2003) note that high levels of stress in the IDC sector can be linked with conflicting demands between work and home.

Given the recent changes in the sector and the increasing demands being placed on employees and services it is essential to ensure the quality of care to service users is not jeopardised. The literature to date provides arguments that support the importance of SRHM and HPWS in healthcare settings. West et al (2006:944) note that, "HR systems are related to the quality of healthcare and specifically patient mortality in hospitals. Above and beyond the effects of a set of important controls, our results suggest that people management systems that emphasise a set of complementary 'high involvement' policies and practices (i.e., an emphasis on training, performance management, participation, decentralised decision making, involvement, teams, and employment security) may be successful in contributing to high-quality healthcare." This research supports the argument put forward by West et al (2006) and proposes that through the efficient use of employees, and fully utilising employees, the quality of care provided will be maximised and increased through the use of HPWS.

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Notes

Note 1. The HSE has full responsibility for Health Services in Ireland since Jan 1st 2005.

Note 2. The Intellectual Disability Database was set up in 1995. Currently, each HSE area has a co-ordinator who compiles regional statistics regarding intellectual disabilities in his/her area. These regional statistics are then combined to formulate national statistics and are passed onto the Health Research Board where the statistics are analysed and converted into an annual report. The database contains information about people who are receiving intellectual disability services in Ireland along with people who are currently in need of such services.

Note 3. The prevalence rates for 2007 have been calculated using the 2006 census; the population has increased by 8% since 2002, whereas the numbers registered with ID have only increased by 0.4% since 2006, this explains the small decline in the prevalence rates from 2006-2007.

Note 4. This is a comprehensive listing of all the agencies providing services to people with intellectual disability in Ireland.

Note 5. Inclusion Ireland is National Association for People with an intellectual disability. Their mission is to be the independent champion of people with an intellectual disability and their families whose standing and expertise in intellectual disability is acknowledged and to ensure that people with an intellectual disability have their voices heard, are not isolated or segregated and lead more independent lives.

Note 6. 93 surveys were sent out. 9 responded stating that survey did not relate to their centre. 3 of the centres were under the same management. 21 completed surveys in total.

Note 7. Stand alone centres are independent centres that do not fall under an umbrella organisation such as The Brothers of Charity, The Daughters of Charity.

Table 1. Recent Trends within the IDC Sector in Ireland (2003-2007)

Year	2003	2004	2005	2006	2007
Total number registered on the National Intellectual Disability Database	25,557	25,416	24,917	25,518	25,613
Total number in receipt of services	23,464 91.8%	23,843 94%	24,078 97%	24,556 96%	24,898 97%
Total Number in receipt of full-time residential services	8,092	8,093	8,073	8,181	8,262
Total number availing of at least one day programme	23,011	23,645	23,914	24,386	24,729
Ratio of Males to Females	1.26:1	1.28:1	1.27:1	1.31:1	1.29:1
Prevalence rate per 1000 of population	6.52	6.49	6.36	6.51	6.04
Prevalence rate for mild intellectual disabilities per 1000 of population	2.38	2.30	2.16	2.18	1.96*
Prevalence rate for moderate, severe and profound intellectual disabilities per 1000 of population	3.72	3.73	3.72	3.74	3.48

(Adapted from the Intellectual Disability Database Report 2003-2007) (Note 3)

Table 2. Services offered per centre and average percentage of service is each centre

Service Offered	Percentage of centres surveyed that offer this service	Average percentage of service users that avail of this service where offered
7 Day Residential Service	90%	49%
5 Day Residential Service	48%	6%
Community Based Housing	52%	29%
Day Services	86%	60%
Training Services	57%	17%
Respite Care	67%	22%
Shared Care	19%	11%
Home Support Services	38%	8%
Supported Employment Programmes	52%	12%
Special School	29%	15
Other	38%	41

Table 3. Recruitment and Selection Issues

In your centre.....	% of respondents who answered yes
Were employees administered one or more employment tests?	14% (n=3)
Were employees hired on the basis of intensive recruiting efforts resulting in many qualified applicants?	57% (n=12)
Do any employees hold non-entry jobs as a result of internal promotions as opposed to hired from outside the organisation?	38% (n=8)
Do any employees hold non-entry jobs due to promotion based upon merit or performance as opposed to seniority	48% (n=10)
Do any employees have the opportunity to apply for promotion	62% (n=13)

Table 4. Performance and Reward Management

Please answer yes or no to the following statements.	% of respondents who answered yes
Are employees given feedback on the quality of care they provide to service users?	71 (n=15)
Do employees receive pay that is partially determined by a person's skills or knowledge level as opposed to the particular job they hold?	19 (n=4)
Are employees guaranteed continued employment based on performance?	48 (n=10)
Are employees given rewards based on seniority?	19 (n=4)
Are employees given extra responsibility based on courses they have completed?	24 (n=5)
Are employees rewarded based on loyalty to the organisation?	14 (n=3)
Do employees have access to a formal grievance/complaints procedure?	81 (n=17)

Table5. Flexible Work Arrangements

Flexible work arrangement	% of centres that offer this arrangement
Flexi-time	43% (n=9)
Reduced hours of work	90% (n=19)
Annualised work hours	24% (n=5)
Work only during school term time	24% (n=5)
Job-sharing	71% (n=14)
Parental leave	90% (n=19)

Table 6. Training Offered

Type of training	% of centres that offer this training
Health and Safety	52 (n=11)
Manual Handling	43 (n=9)
Abuse guidelines	52 (n=11)
Basic life support	29 (n=6)
What to do if there is a major incident or emergency	38 (n=8)
How to prevent or handle violence and aggression to either employee, patients or service users (e.g. TMAV training)	43 (n=9)
Infection control (e.g. guidance on hand washing)	71 (n=15)
How to handle confidential information about service users	52 (n=11)

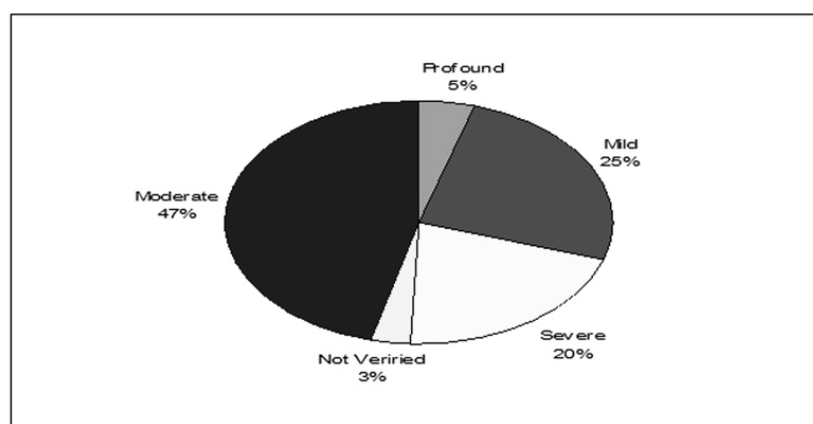


Figure 1. Breakdown of Severity of Intellectual Disability among Respondent Centres

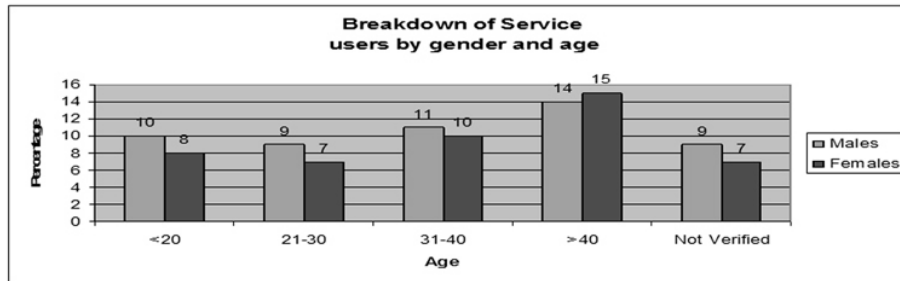


Figure 2. Breakdown of Service Users by Gender and Age



Trading Activities and Cross-Sectional Variation in Stock Expected Return: Evidence from Kuala Lumpur Stock Exchange

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Abstract

Trading activity has been considered as one of the possible factor that explains the cross-sectional variation in stock returns. In this study I use trading volume as a possible measure to proxy for liquidity as part of the trading activity. Monthly observations were used over a period 1995 to 2005 to examine the liquidity effect on stock expected returns. Based on findings it is appeared that level of liquidity does matter in explaining the expected stock returns in Malaysian capital market. While Fama-french factors also provide important explanation for stock returns. But none of the second moment variables proxying liquidity appeared to be statistically significant. However, momentum effect apparently explaining the cross-sectional variation in stock returns.

Keywords: Liquidity, Expected returns, Momentum effect, Fama-French factor

1. Introduction on liquidity and trading activities

The issue on predictability of expected returns has been important topics and on going debate among academics and researchers alike due to its strategic implication for both individual and portfolio investors. Efficient market postulates that, investors may not be able to use price related information to predict the stock returns. The finance literature on predictability of asset returns goes back at least early 1950s starting with Markowitz's Mean-variance efficiency and capital asset pricing model (1963) and arbitrage pricing theory (1973) and multifactor model was in its latest development. All these models have been developed to provide an economic rational for the formation of the asset price with the concept of equilibrium.

However, in recent years, there other school of thoughts which posits that the price formation could have been the result of the market micro-structure (trading activities and market liquidity). This adds new frontiers in the finance literature that provide further avenue to examine asset pricing beyond traditional equilibrium asset pricing concept. Finance theory defines liquidity as the ability to buy or sell large quantities of asset quickly by incurring lower cost. Liquidity of the stock could be served as a good barometer for the proper functioning of a market as it measures the degree of easiness with which stock can be traded. If liquidity were to be an important factor in pricing financial securities, portfolio investors should be much more concern about the magnitude of the liquidity of the market as this might have greater impact on their portfolio returns. Should the market be fairly efficient, small player can easily enter and exit the market while big portfolio investors may feel they are restricted as they are being tied with huge sum of investment.

In security industry, portfolio managers and investment consultants tailor portfolio to meet to their clients' investment horizon and liquidity objective. Hence liquidity influences the very objective of the portfolio decision. Therefore, proper proxy measures are needed to reflect the liquidity of the market. Numerous measures have been in the past to proxy for liquidity. These are trading volume, trading turnover & bid-ask spread, market depth and many others. Generally liquidity measure can be divided two, namely friction and activity. A friction measure is defined as the price concession for immediacy or trading cost. It can be sub-categorized into bid-ask spread measures, price measure (share price and range of price) or return measures (i.e. intra-day return relative to number of transaction and intra-day trading

volatility). While activity measure reflects the extent (magnitude) of trading activities. It can also be sub-categorized based depth measure (e.g. bid depth and ask depth); volume measures (i.e. number of share traded and dollar volume of share traded) and size measures (i.e. market capitalization and turn over rate). There is a general consensus that liquidity inclines when friction measure decrease and activity measure increase. Therefore, this study aims at examining whether or not liquidity or any other factors provide any explanation for cross-sectional variation in stock returns in Malaysian Capital Market. The rest of paper is organized as follow. Section one describes the fundamental feature of this study while section two discuss the literature on various forms of liquidity measures and it's impact on cross-sectional variation in stock returns. While section three discusses the methodology used to describe the relationship between stock expected returns and liquidity factors, momentum factors and Fama-French factors. And the last two sections discuss the findings and conclusion.

2. Literature Review

There is mounting evidence that relative stock returns can be predicted by the factors other than the risk that are inconsistent with accepted paradigms of modern finance. Jegadeesh and Titman (1993), show that the returns history of the stock is useful in predicting relative returns. In addition Fama and French (1993) & Lakonishok et. al. (1994) show that future returns can be predicted by the relative size of the current market price of a stock and current value of the accounting numbers such as book value or earnings per share.

However, there are others who strongly believed that the findings presented by these researchers would have been flawed or spurious or at least in part. Khothari, et. al. (1995) & Brown et.al., (1995) offered different explanation as they cited the survival bias as a problem that can aggregate predicting power.

Several finance theories advocate the ability of investors to trade any number of securities without affecting the price in fairly efficient market. However, in real context this is not the case as trading activities are subject to various restriction such as trading cost, short sales and many more that impact price formation. The influence of the market imperfection (anomalies) on security pricing has long been recognized. The liquidity in particular has attracted a lot of attention from various quarters (Chordia, Sarkar and Subrahmanyam (2002).

The mother of modern asset pricing is depicted by Capital Asset pricing model (CAPM) has been pioneer in determining the asset pricing solely based on market factor. However, it is a question whether market factor alone can be a source of determining the asset pricing. If it were not, would the liquidity may shed some light on asset pricing? By using CAPM Fouse (1979) found that liquidity grouping could effect security selection. His work implied that stock that previously appeared attractive when single liquidity grouping was used might not appear attractive when sorted into liquidity grouping. Many recent research papers also examine the effect of liquidity on stock return using various measures of liquidity.

James and Edmister (1983) found no significant difference between the mean returns of the highest and lowest quartile trading activity portfolio. The liquidity was proxied by daily trading volume. Amihud and Mendelson (1986) found that the expected returns are increasing and concave function of liquidity as measured by relative bid-ask spread using both ordinary and generalized least square regression on NYSE stocks. While Breannan et al . (1998) evidenced a strong negative relationship between stock returns and liquidity after risk adjustment and controlling for Fama-French factors (market to book, firms size, dividend yield, stock price). On the other hand Hameed and Ting (2000) found positive relation between returns predictability and the level of liquidity. The liquidity in their study was measured by average daily trading volume, percentage of days stocks traded and frequency of trading using contrarian investment portfolio methodology on Malaysian Market.

Obviously liquidity influence stock returns however, its ability to explain stock returns remain elusive. Generally, volume has probably been most widely used proxy to explain the price changes. One of the primary focuses of price prediction is volume of trading. On the basis of stock price data from 1965 through 1977, Touhey (1980) found neither the most basic nor the most complex volume indicators have actually forecast the S&P 500, the market consistently lead the volume rather than vice versa. Furthermore, the relationship among firm's size, liquidity and returns were analyzed by James and Edmister (1983) and suggested that a liquidity premium does not exist for inactively traded common stocks and firm's size effect is not attributable to trading activity. In addition Hammeed and Ting (2000) who documented positive relationship between trading activity and contrarian profit also showed that the different profitability of high volume and low volume portfolio is not totally due to the firm's size effects although differences are pronounced in the small firms' portfolio.

It also worthy to note that, the level of liquidity affect asset returns, while it is important to suggest that the second moment of liquidity proxy by standard deviation and coefficient of variation of both dollar trading volume and turnover could be positively related to asset returns. However, the concept was not apparently supported by Chordia et al. (2001). They document a negative relationship between average returns and coefficient of variation of both dollars trading volume and share turn over. Though numerous evidences were documented on the relationship between liquidity and

stock returns, so far no conclusive evidences were presented. Therefore, this paper aims at examining whether the trading activity could provide an alternative explanation to cross-sectional variation in stock return in Malaysian market.

A large literature on the relationship between trading activities and stock market returns have been documented (Benston and Hagerman, 1974; Gallant, Rossi and Tauchen, 1992; Hiemstra and Jones, 1994; Lo and Wang, 2000. Foster and Vishwanathan (1993) examine the patterns in stock market trading volume, trading cost and return volatility using intraday data from a single year, 1988. For actively traded firms, they find that trading volume is low and adverse selection costs are high on Monday.

Amihud and Mendelson (1986) demonstrated that common stock with lower liquidity yielded significantly higher average return after controlling for risk and other factors. While Amihud et. al. (2000) provided theoretical argument to show how liquidity impacts financial market prices. Jones (2001) and Amihud (2002) show that time series expected return is an increasing function of liquidity that is proxied by turnover. Pastor and Stambaugh (2001) find that expected returns are cross-sectionally related to liquidity risk. Amihud and Mendelson (1986) illustrate that the relative spread on stocks is negatively correlated with liquidity characteristics such as trading volume, the numbers of share outstanding, number of market makers trading the stock and the stock price continuity. They also demonstrated the importance of market microstructure factors as determinants of stock returns.

The bid and ask spread as used by Amihud and Mendelson (1986) is now a well-established measure of liquidity and transparency in the market. Market volatility as measured by the absolute value of the contemporaneous market return is positively associated with changes in spread (Cordial et al. (2001)), market returns are negatively associated with changes in spread. While, Brennan, Chordia and Subrahmanyam (1998) demonstrate a negative relation between average returns they use trading volume to proxy for liquidity. Brennan and Subrahmanyam (1996) find that the trading volume is an important determinant of the measure of liquidity. Chordia et. al. (2000) documented a strong cross-sectional relationship between dollar trading volume and various measures of bid-ask spread and market depth.

3. Data Methodology

A sample of 174 firms was selected randomly, which met the selection criteria. 72 monthly observations were drawn over the period from 1995 to 2000. Informations were extracted from the daily diary of KLSE and company annual handbook published by KLSE.

4. Model development:

Though various measures have been introduced, I selected dollar-trading volume as a possible proxy for liquidity since other measures, which require data that are not readily available. Two basic regressions were developed. The first model relates firms liquidity and expected return without isolating the other important variables. Therefore, in the second model I include Fama-French factors & momentum factors that are common in cross-sectional variation in stock returns.

$$R = \alpha + \beta_1 \text{DOLV} + \beta_2 \text{STDDVOL} + \beta_3 \text{CVVOL} + \beta_4 \text{LIQUIV} + \varepsilon \text{ ----- (1)}$$

$$R = \gamma_0 + \gamma_1 \text{DOLV} + \gamma_2 \text{STDDVOL} + \gamma_3 \text{CVVOL} + \gamma_4 \text{BM} + \gamma_5 \text{PRICE} + \gamma_6 \text{CRT23} + \gamma_7 \text{CRT46} + \varepsilon \text{ ---- (2)}$$

$$R = (\text{Pt} - \text{Pt-1}) / \text{Pt-1}$$

$$E(R) = 1/N \sum R_t$$

VOL = the natural logarithm of the average dollar volume of trading volume in 72 months.

STDV = the natural logarithm of the standard deviation of dollar trading volume

CVVOL = coefficient of the variation of the dollar trading volume

LIQUIV = is a dummy variable that takes a value of one if the average dollar volume exceeds the mean to proxy for the level of liquidity. This is done to examine whether level of liquidity will have any impact on cross-sectional variation in stock return.

SIZE = the natural logarithm of market value of equity of the firms.

BM = the natural logarithm of book value to market value ratio measured by the ratio of the book value of equity plus deferred taxes to market value of equity

CRT23 = cumulative return over 2 months ending at the beginning of previous month.

CRT46 = Cumulative return over 3 months ending 3 months previously.

5. Hypotheses

This study hypothesizes the liquidity, momentum factors and Fama-French factors do not provide any explanation for cross-sectional variation in stock returns. More specifically, following hypotheses were developed.

Ha1: Liquidity factor measured by trading volume, volatility of trading volume and coefficient of variance in trading volume will have important impact on firms' returns as liquidity and volatility closely proxy the level of uncertainty face by the firms hence its impact on cross-sectional variation in stock returns.

Ha2: while liquidity may have important impact on firms' expected return, given nature of Malaysian capital market, firms' returns could also be partly explained by momentum factors and fama-french factors. Its is because, Malaysia capital market is relatively less efficient compare to other developed markets, hence these factors may provide significant importance to the cross-sectional variation in stock returns.

6. Findings and Discussions

Insert Table 1 Here

Table 1 presents the findings from multiple regressions developed based dollar volume as the basic measure for liquidity. The model includes 4 variables including a dummy variable that take a value of one if the average dollar volume exceed the mean to proxy for the level of liquidity. The model retained only 2 variables namely dummy variable and dollar-trading volume abbreviated by DVOL, are significant at the conventional level. The model can explain 8.7% of the variation in firms' expected returns. The coefficient sign for dummy variable is as expected and this is in conformity with the liquidity theory that high liquid firms are relatively less risky hence resulting lower expected returns. And no sign of autocorrelation problem is observed, as the D.W test of 2.0399 indicates no such problem.

Insert Table 2 Here

Table 2 presents a more rigorous analysis of liquidity and expected returns by controlling Fama-French factors and momentum variables. The liquidity measure was based on dollar volume. Consistent with the findings presented in previous table, dummy variable reflecting the level of liquidity turnout to be negatively and significantly related to firms' expected returns. Momentum variables proxying for 2-months cumulative relative returns prior to one month period appears to provide better prediction for firms' expected returns. Similarly, Fama French factor namely book to market value ratio abbreviated by BM provides similar explanation for the changes in firms' expected returns. Therefore, we cannot safely conclude that liquidity is only factors that matter for cross-sectional variation in firms' expected return. Though no clear cut evidence was observed on the effect of liquidity on expected returns, 98 percent of the variation in expected was explained by variables included in the second model.

7. Conclusions

In this study I use trading volume as a possible liquidity proxy. The study is based on a sample of 174 firms, which are selected randomly over a period from 1995 to 2000. Monthly observations were used to examine the liquidity effect on stock expected returns. Two multiple regressions are developed separately to examine the relationship between liquidity and expected returns. The first model includes only liquidity factors while second model includes liquidity factors, momentum factors and Fama-French factors. Based on findings it is appeared that level of liquidity does matter in explaining the expected stock returns. While Fama-french factor proxied by book to market value ratio provides an important explanation for the cross-sectional variation in stock returns. None of the second moment variables proxying liquidity appeared to be statistically significant. However, momentum factor appeared to be persistently explaining the cross-sectional variation in stock returns. The results are consistent with the study done by Amihud and Mendelson (1986) who demonstrated that common stock with lower liquidity yielded significantly higher average returns after controlling for risk and other factors. Hence the findings implies that the portfolio managers who tailor their portfolio on the basis of liquidity should be extra cautious as the liquidity is not only the factors that determine the cross-sectional variation in stock returns in Malaysian capital market as the momentum and Fama-French factors provide possible explanation for cross-sectional variation in stock returns.

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Table 1. regression results for first model

Variables	Coefficient	T-value	P-value
C	-.0156	-1.98	.048**
LIQUIV	-.00547	-2.453	.0163**
DVOL	.003658	3.4508	.0007***
STDVOL	-.00114	-.5260	.5996
CVVOL	.01035	1.415	.1588
R-Square	.0871		
F-Value	4.033***		
DW	2.03		

*** Significant at 1% level

** Significant at 5% level

*significant at 10% level

Table. 2 Regression results for Second Model

Variable	Coefficients	T-value	P-value
C	.001907	1.088	.278
Size	.000317	.267	.790
BM	.000324	1.9348*	.055
LIQUIV	-.000593	-2.041**	.0469
DVOL	-.00146	-.883	.3785
STDVOL	-.000324	-1.094	.294
CVVOL	-.00114	-1.1324	.2591
CRT23	.5759	19.33***	.0000
CRT46	-.0448	-1.75*	.081
R-square	.985		
F-value	11.431***		
D-W	1.741		

*** Significant at 1% level

** Significant at 5% level

*significant at 10% level

Preliminary Study on the Undergraduate Specialty Structure Adjustment of General University in China

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Abstract

This article aims at the problem of deviation between the specialty structure of general university and the demand structure of market, and judges the state of employment rate by the single-value and standard deviation(x-S) control chart, then presents a specialty structure adjustment mechanism. The theories and methods of this article provide a quantified tool of undergraduate specialty structure adjustment for universities, and decrease the blindness of adjustment. Apply this mechanism to a certain university's computer science and technology specialty of Dalian, it achieved satisfying result.

1. Introduction

According to the figures released by Ministry of Education, from 2002 to 2005, the total number of university graduates was 1.45, 2.12, 2.8, 3.4 million, but the employment rate is only around 72%. So the number of unemployed graduates was 435, 635, 675, 912.6 thousand in these years, and it is increasing.

Although a large number of university graduates can not find job successfully, the enrolment ratio of undergraduate is still very low in China. National Bureau of Statistics showed that the ratio was only 5.7% in our country, while developed countries was 30%-50%, and the least developed countries was on average of 8.8%. The number of current university students is unable to meet the needs of rapid economic and social development in our country.

So, there is a structural problem in university graduates employment. The unemployment of university graduates which took place in recent years is structural, it only showed in some subjects, but not all. All this reflected that the specialty structure adjustment of universities was lagged behind the rapid economic and social development in our country.

There are many researches of curriculum reform, education and economy structure adjustment, but few of them discussed how to link education structure with economy structure, and most of these studies belong to qualitative research, such articles that combine qualitative and quantitative methods are rare.

2. The theoretical framework of specialty structure adjustment mechanism

This article combines qualitative and quantitative methods, and considers from four aspects: market demand rate, enrollment rate, trend of employment rate, professional counterpart rate.

2.1 Interpretation of the terms in mechanism

A certain specialty's enrollment rate = its enrollment number / total enrollment number $\times 100\%$ (expressed by S);

A certain specialty's market demand rate = the number of its market demand / the number of total market demand $\times 100\%$ (expressed by D);

Difference between supply and demand of a certain specialty = its enrollment number – the number of its market demand (expressed by $S - D$, and Table 1 shows the numerical range of it);

The lowest enrollment rate of new specialty = the lowest enrollment number of new specialty / total enrollment number $\times 100\%$ (expressed by N_{\min});

The lowest adjustment rate of enrollment number = the lowest adjustment value when adjust a certain specialty's enrollment number / total enrollment number $\times 100\%$ (expressed by A_{\min}).

Insert Table 1 Here

2.2 Compare future market demand structure with university's specialty structure

Firstly, investigate and analyze the state of future market demand. We must get the specialty list of future market demand from this step.

Then, analyze the specialty structure of market and university, figure out the market demand rate, university's enrollment rate, difference between supply and demand of these specialties (including market demand specialties and university's specialties). Based on these data, we will know which adjustment mechanism these specialties should belong to.

2.3 Lack of specialty

If the university don't have a certain specialty which market needs (i.e. $S = 0$ and $D > 0$), the university needs to consider whether to create this new specialty. Figure 1

Insert Figure 1 Here

shows the specific operation mode.

2.4 Surplus of specialty

If the university have a certain specialty which market demand rate is less than the lowest enrollment rate of new specialty (i.e. $S > 0$ and $D < N_{\min}$), the university needs to consider whether to delete this specialty. Figure 2 shows the specific operation mode.

(Note: analysis of employment rate is showed in chapter 3)

Insert Figure 2 Here

2.5. Adjust the enrollment number of specialty

If the university have a certain specialty which market demand rate is more than the lowest enrollment rate of new specialty (i.e. $S > 0$ and $D \geq N_{\min}$), the university needs to consider whether to adjust this specialty's enrollment number.

Furthermore, the maintained specialties by section 2.4 are also the objects of adjustment.

Figure 3 shows the specific operation mode (the content of ellipses located in the right side of this figure is the adjusted enrollment number).

Insert Figure 3 Here

3. Analysis of employment rate

We can use the single-value and standard deviation(x-S) control chart of quality control to analyze and estimate the state of employment rate.

3.1 Determine control limit

Employment rate of n years expressed by (x_1, x_2, \dots, x_n) , and thus calculate those sample average \bar{x} and sample standard deviation S:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i, \quad S = \sqrt{\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2}$$

According to the principle of 3σ , we will reckon the value of centerline, upper control limit and lower control limit, and then draw the control chart.

$$\begin{cases} UCL = \bar{x} + 3S \\ CL = \bar{x} \\ LCL = \bar{x} - 3S \end{cases}$$

Insert Figure 4 Here

3.2 Analyze the control chart

1). Normal state

① All the employment rates fall within the control limit, with no apparent regularity and tendency;

- ② The number of employment rate located on both sides of the centerline are basically same;
- ③ There are about more than 2/3 employment rates fall within the 1σ range around the centerline;
- ④ The distribution of employment rates is more denser around centerline, and more sparser around the line of control limit.

If the employment rate of a certain specialty at a normal state, well then:

when $\bar{x} \geq 80\%$, the rate “keep high”; when $50\% < \bar{x} < 80\%$, the rate at “normal changing state”; when $\bar{x} \leq 50\%$, the rate “keep low”.

2). Abnormal state

- ① There are more than 7 continuous values appear on one side of the centerline;
- ② There are at least 10 values out of 11 continuous values appear on one side of the centerline;
- ③ There are at least 12 values out of 14 continuous values appear on one side of the centerline;
- ④ There are at least 14 values out of 17 continuous values appear on one side of the centerline;
- ⑤ There are at least 16 values out of 20 continuous values appear on one side of the centerline;
- ⑥ There are at least 2 values out of 3 continuous values appear around the line of control limit;
- ⑦ There are at least 3 values out of 7 continuous values appear around the line of control limit;
- ⑧ There are at least 4 values out of 10 continuous values appear around the line of control limit;

If these values “above the centerline” or “appear around the line of upper control limit”: when $\bar{x} \geq 80\%$, the rate “keep high”; when $50\% < \bar{x} < 80\%$, the rate at “normal changing state”; when $\bar{x} \leq 50\%$, the rate “keep low”.

If these values “below the centerline” or “appear around the line of lower control limit”: when $\bar{x} \geq 80\%$, the rate at “normal changing state”; when $\bar{x} < 80\%$, the rate “keep low”.

- ⑨ There are more than 7 continuous values showed an upward trend, so the employment rate at an “increasing trend”;
- ⑩ There are more than 7 continuous values showed a downward trend, so the employment rate at a “declining trend”;

4. Demonstration analysis

This article takes computer science and technology specialty of a certain general university of Dalian as an example. All data we used came from projects of “Survey and analysis of human resource demand of Dalian major projects and corporations” and “Research of the state and countermeasure of Dalian undergraduate employment”.

4.1 Analyze the data

Market demand rate of computer science and technology specialty $D = 38.08\%$, the lowest enrollment rate of new specialty of this general university $N_{\min} = 20 / 2332 \times 100\% = 0.86\%$, we can see that $D > N_{\min}$, so this specialty belongs to the step of “adjust the enrollment number of specialty”(as shown in Figure 3).

4.2 Whether to adjust the enrollment number

This specialty’s enrollment rate $S = 140 / 2332 = 6\%$, so difference between supply and demand $S - D = 6\% - 38.08\% = -32.08\%$. The university’s lowest adjustment rate of enrollment number $A_{\min} = 5 / 2332 \times 100\% = 0.21\%$, according to the numerical range of Table 1, we know that this specialty belongs to the state “supply is less than demand”. And then we will see this specialty’s state of employment rate.

4.3 Analysis of employment rate

Insert Table 2 Here

Following values are calculated from above data.

$$\begin{cases} UCL = \bar{x} + 3S = 112.47\% \\ CL = \bar{x} = 90.80\% \\ LCL = \bar{x} - 3S = 69.13\% \end{cases}$$

Because the maximum of employment rate only to be 100%, so $UCL = 100\%$ is the natural upper limit.

Insert Figure 5 Here

From above figure we can see that the average of this specialty’s employment rate $\bar{x} > 80\%$, and there are 7 continuous values above the centerline, so the employment rate of this specialty “keep high”. Based on Figure 3, we will see that if a certain specialty’s supply is less than the demand, and its employment rate keep high, its enrollment number = its enrollment number of last year $\times 120\%$. So the enrollment number of computer science and technology specialty of this university is $180 \times 120\% = 216$.

5. Conclusions

The specialty structure adjustment mechanism in this article focus on the market, but there are so many considerations when the university adjusts its specialty structure, by no means limited to the market demand. So universities can take this mechanism as a reference, and take the results adjusted by this mechanism as one aspect of their specialty structure adjustment. The universities can set up a weight for the results, and then combine with other considerations, in this way, they can adjust their specialty structure comprehensively and exactly.

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Table 1. Numerical range of the difference between supply and demand

supply and demand are almost match	$S - D < A_{\min}$ or $S - D > -A_{\min}$
supply is more than demand	$S - D \geq A_{\min}$
supply is less than demand	$S - D \leq -A_{\min}$

Table 2. Employment rate of computer science and technology specialty in recent 10 years

1998	1999	2000	2001	2002
85%	88%	89%	93%	92%
2003	2004	2005	2006	2007
92%	91%	95%	90%	93%

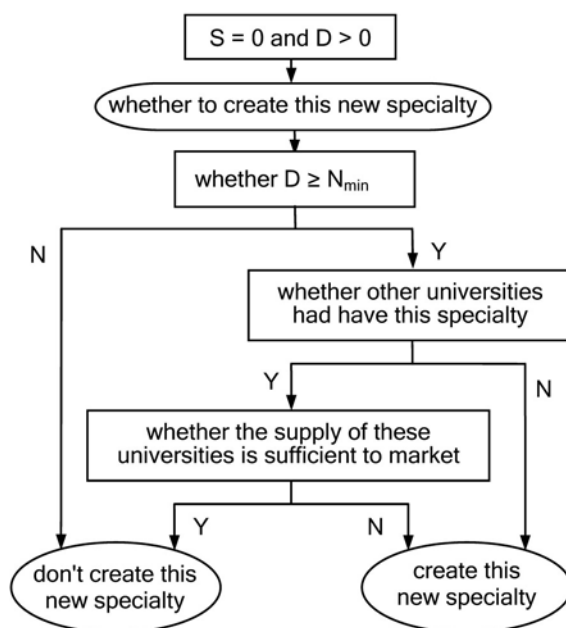


Figure 1. Flow of create new specialty

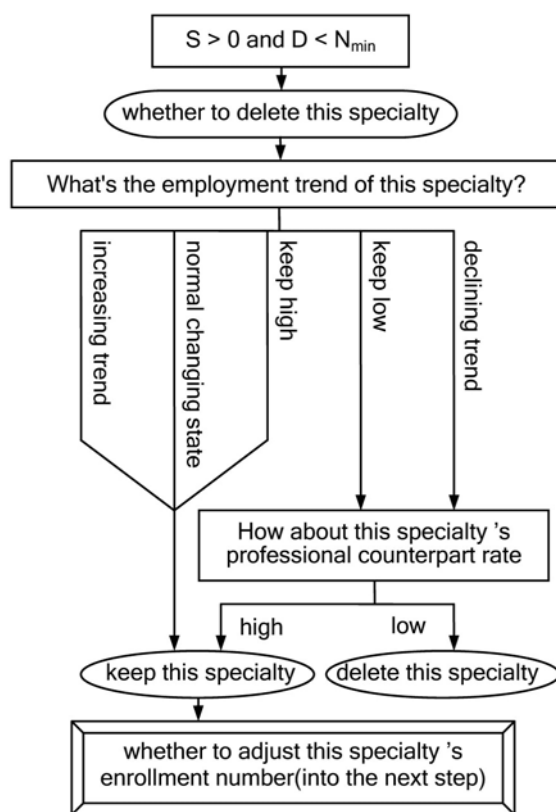


Figure 2. Flow of delete surplus specialty

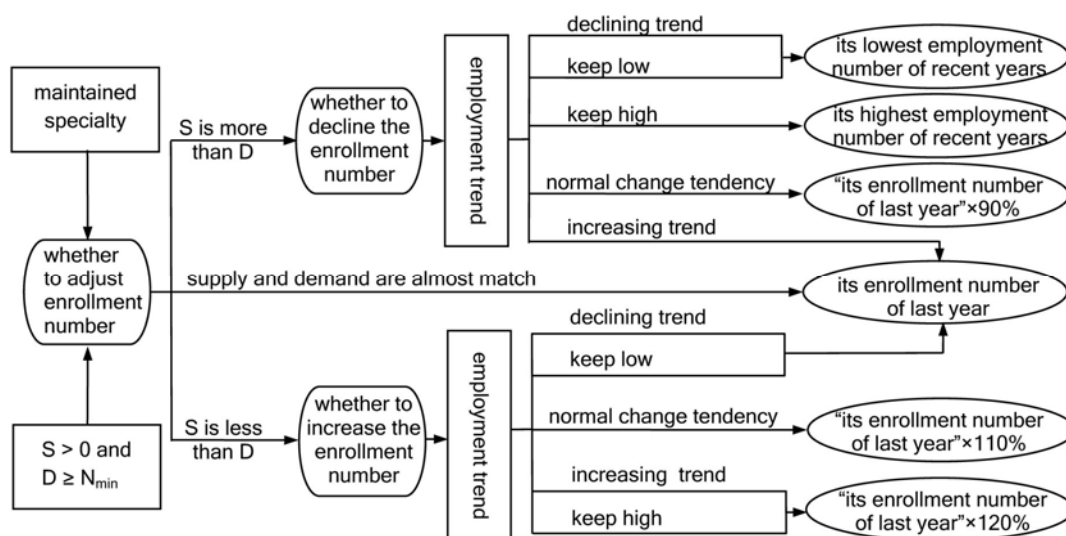


Figure 3. Flow of adjust specialty 's enrollment number

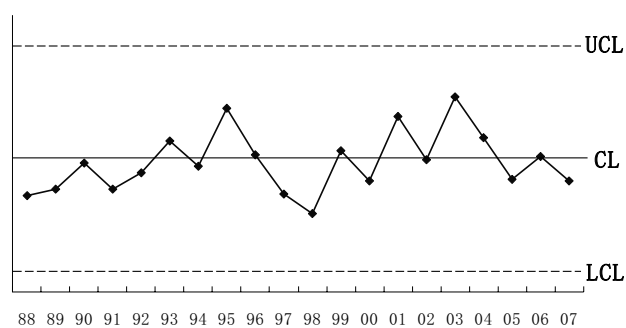


Figure 4. The state of employment rate

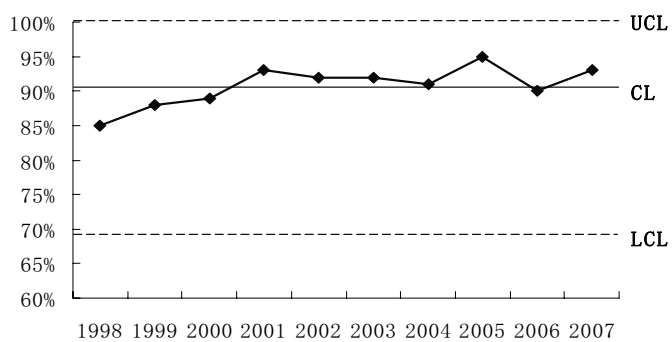


Figure 5. The control chart of employment rate



Differentiation Strategies of Internet Retailing (Unique, Value and Return): A Focused Web Evaluation into Airline Service Provider

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Abstract

Differentiation is defined as the process of adding a set of meaningful and valued differences to distinguish the company's offering from competitors' offerings (Kotler, 2003, p. 315). Karl Cluck of Razorfish, recommends that "online marketers must enhance the user's online experience in order to entice potential customers to buy" ("New York E-Commerce," 2000, p. 1). A company can differentiate itself by creating a unique customer experience such as superior customer service and in turn, brand the experience. Through experience branding, 'firms can greatly improve their ability to retain customers, target key customers segments and enhance network profitability' (Vincent, 2000, p.25). The internet interactivity allows companies to respond more quickly to customer requests. Moreover, the ever-increasing speed of the Internet allows companies to communicate more quickly with current and potential customers, which is essential to retaining current customers and attracting new ones. The main purpose of the case study is to review and evaluate AirAsia's website by applying Seven Unique Differentiation Strategies to Online Businesses (site environment/ atmospherics, making the intangible tangible, building trust, efficiency and timely order processing, pricing, CRM and enhancing the experience). In this study, qualitative data from AirAsia website was analyzed and discussed through proposed concise list of Seven Unique Differentiation Strategies to Online Businesses by Strauss and Frost, 2006. The study is expected to improve the differentiation of organization's image and service information availability and accessibility on the Web in future. Finally, Researches agree to look into further the changes that should be made to enhance the Air Asia website evaluations and that changes are pertaining to virtual tours, appealing the 3-D images, immediate customer response and better "On Time Acknowledgement" for AirAsia CRM.

Keywords: Differentiation strategy, Online business, Web evaluation, Airline service provider

1. Introduction

Recently, the internet has become one of the most rapidly growing retail formats, with online sales growth rates outpacing those in traditional retail settings (Burns, 2005; Levy and Weitz, 2001). Growth in the number of internet shoppers and the percent of internet sales are expected to continue (Maloy, 2003; Siddiqui *et al.*, 2003). Markets believe that the development of internet retailing is showing an increment to the sales of each e-tailer.

Researchers believe that the existence of website as the key element of connection between internet retailing and customers has become the main idea of why this study is done. Existing evidence from research points to the importance of website attributes to consumers' online shopping behaviour, with certain attributes playing a major role in creating demand for online purchasing and increasing store transactions and sales (Lohse and Spiller, 1998; Lorek, 2003; Magee, 2003; Maloy, 2003; *Retail Merchandiser*, 2003; Rowley and Okelberry, 2000; Swaminathan *et al.*, 1999; Zellweger, 1997).

AirAsia is an airline company that now flies to over 60 destinations in Malaysia, Thailand, Indonesia, Singapore, China, Philippines, Brunei, Cambodia, Laos, Vietnam and Myanmar. They have formed two (2) successful joint ventures in Thailand through Thai AirAsia, and Indonesia through Indonesia AirAsia. They have also expanded their fleet from the original two to twenty eight, and revolutionized air travel in these countries by offering incredibly low fares through their innovative sales channels. With the tagline 'Now everyone can fly', AirAsia's philosophy of low fares is aimed to make flying affordable for everyone. AirAsia also aims at making travel easy, convenient and fun for its guests. Therefore, part of the AirAsia key strategies are concerning into guest convenience and it refers to the idea of providing ticketless services, easy payment channels, internet booking and improving customer service. These key strategies deal with the internet transaction (through the AirAsia Website) and will require customers and future customers interest in browsing through the whole processes from the beginning to the end. Transaction will only be made once the customer had less complicatedness and had no bad experience.

In this study, the researches focus into the ability of AirAsia Website in meeting up with the global trends of customers' acceptance. The purposes of the case study are:

- 1). To review and evaluate AirAsia's website based on site environment/ atmospherics
- 2). To review and evaluate AirAsia's website based on making the intangible tangible
- 3). To review and evaluate AirAsia's website based on building trust
- 4). To review and evaluate AirAsia's website based on efficiency and timely order processing
- 5). To review and evaluate AirAsia's website based on pricing
- 6). To review and evaluate AirAsia's website based on CRM
- 7). To review and evaluate AirAsia's website based on enhancing the experience

The remainder of this paper is organized as follows. A review of related literature on differentiation strategies and seven unique differentiation strategies to Online Businesses. Next, the methodology employed in this study and website analysis method involved are described. Finally, the content website analysis results and discussion of the study are drawn.

2. Literature Review

2.1 Differentiation Strategies

Kotler defines differentiation as "the process of adding a set of meaningful and valued differences to distinguish the company's offering from competitors' offerings" (Kotler, 2003, p. 315). A firm can differentiate its offering along five dimensions: product, services, personnel, channel, and image (Kotler, 2003). These dimensions are discussed as follows:

2.1.1 Product Differentiation

Traditional offline differentiation emphasized the product dimension; the other areas have been used when little real difference exists between competing products. Companies still differentiate by product features online. However, the Internet's greatest contribution is in product line differentiation, that is, the literally limitless assortment of products that companies are able to offer and the ability to capitalize on this huge assortment as a platform to customize product offerings for individual customers. Internet marketing may have a major effect on product packaging. At present, marketers design most product packaging to appeal to consumers, be eye catching, compete with other products on store shelves, and sell the products. As more commerce is conducted online rather in retail stores, consumers might require products with more utilitarian packaging. Products purchased online will be shipped from the distributor directly to the consumer and, thus, never appear on retailers' shelves. As a result, these products will not require the expensive, colourful packaging that is necessary for store display; nor will they require multiple layers of functional and display packaging.

2.1.2 Service Differentiation

Services can effectively differentiate an online business in several ways. Customer service is enhanced by the ability to receive customer feedback through e-mail 24 hours a day, even if telephone operators and customer service personnel are not available and this will show the ability to respond more rapidly (in real time) to customer concerns. Another aspect of service differentiation is the distribution of products ordered online. Some companies are specializing in the

home delivery of products ordered online, thus differentiating their services from most traditional offline services. Other online services, such as online banking and securities trading, are becoming increasingly popular, differentiated both by the features they offer and the service consumption experiences. These services currently supplement traditional offline services, but as the world becomes more interconnected via the Internet, they may one day replace the traditional offline services.

2.1.3 Personnel Differentiation

In the past, personalized service and one-to-one relationships between merchants and consumers required costly skilled personnel. Now, the Internet allows companies to 'deliver their products and services through low-cost channels that automate the process and remove the expensive human element' (Wells et al., 2000, pg.32). By reducing a company's dependence on personnel to handle business transactions, the Internet leads to lower transaction cost, enabling a cost leadership advantage over offline companies. It "also results in cost reduction for the end user and at the same time acts as a differentiation by providing higher levels of service at lower prices." (Chakravarthy, 2000, p.2). However, as more companies offer products and services online, the cost advantage between online and offline operations will gradually shrink over time.

2.1.4 Channel Differentiation

The Internet doubles as a location-free and time-free distribution and communication channel. The Internet expands companies' reach from local to global, 24 hours a day, and with a limitless assortment of products. Customers may order a wider variety of products, at any time, day or night, for shipment to any location in the world, in contrast to the limited product assortment and limited business hours of traditional brick-and-mortar companies. Online channel differentiation occurs on multiple levels. First, companies that provide product or service information on the Web have an advantage over companies with no web presence by exploiting the Internet as a communication channel. Second, companies that conduct commercial transactions online capitalize on the advantage of the Internet's properties as a transaction and distribution channel. At a higher level is the differentiation of competitors' Internet-related service offerings. For example, in the banking industry, "one may provide a 'virtual pass book' facility, while another may transact on behalf of the client, and a third may actually provide interactive portfolio management services to key account holders" (Chakravarthy, 2000, p.2). Finally, highly specialized personal services—"Do it yourself," Websites—allows users to conduct activities such as transfer phone service and pay bills online.

2.1.5 Image Differentiation

Karl Cluck of Razorfish, recommends that "online marketers must enhance the user's online experience in order to entice potential customers to buy" ("New York E-Commerce," 2000, p.1). A company can differentiate itself by creating a unique customer experience such as superior customer service and, in turn, brand the experience. Through experience branding, "firms can greatly improve their ability to retain customers, target key customers, target key customer segments and enhance network profitability" (Vincent, 2000, p.25).

The Internet's interactivity allows companies to respond more quickly to customer requests. Moreover, the ever-increasing speed of the Internet allows companies to communicate more quickly with current and potential customers, which is essential to retaining current customers and attracting new ones. Consider the pure-play home furnishing business, iHome, which is "addressing customer requests to receive decorating help on a budget...iHome's ability to get download time under 30 seconds" is the key to iHome's growth rate" (Slott, 2000, p.38). All of these benefits help to differentiate the image and the customer experience of online firms. For example, AOL and Venus Swimwear have online chat features to help customers with questions about their purchases.

2.2 Seven Unique Differentiation Strategies to Online Businesses

According to Strauss and Frost, 2006 these strategies are of particular importance on the Internet because the marketing strategy often revolves around the company's image and product information available on the Web. In addition to the preceding strategies are unique to online businesses consist of site environment/ atmospherics, making the intangible tangible, building trust, efficiency and timely order processing, pricing, CRM and enhancing the experience.

2.2.1 Site Environment/ Atmospherics

Atmospherics refers to the in-store ambiance created by brick-and-mortar retailers. Similarly, Websites can be differentiated by providing visitors with a positive environment to visit, search, purchase, and so forth. Visitors want a site that easily downloads, portrays accurate information, clearly shows the products and services offered, and is easily navigated. If customers view the homepage and like what they see, they are more likely to view additional pages and ultimately become a paying customer.

2.2.2 Making the Intangible Tangible

A purely online product or service can only be seen through an image or description. Whether a company uses virtual tours, 3-D images, product image enlargements trial downloads, or customer reviews, the goal is to make offerings seem more tangible by showing them in a realistic and customer-friendly manner.

2.2.3 Building Trust

Trust is a key issue on the Internet, especially when customers are expected to pay online or their information is tracked for personalized service or supply chain management. For this reason, trust building should be an integral part of a Website's marketing strategy. In some instances trust may be appeared as a by-product of strong brand recognition; however, a company site with low or no brand recognition must project a secure environment. Detmer (2002) makes the following suggestion to e-marketers:

Take the time to clearly define your company's privacy policy, and make sure it is strictly enforced.... Maintaining the balance between privacy and personalization will increase the comfort level your customers feel for your business.

In addition to stating the privacy policy, e-commerce firms can reassure customers by using a safe and encrypted payment process for transactions. Trust is also important if customers should encounter problems on the Website, require personal assistance, or need to exchange or return a purchase. Visitors may be more likely to buy from a site if they know a live person can be contacted.

2.2.4 Efficiency and timely Processing

One of the strongest motivators for customers who make Web-based purchases is the ease of ordering. Organizations must market their alliances and delivery timeliness as an important benefit. Furthermore, if the online company follows through on its promises, it is more likely to build customer loyalty and receive referrals from satisfied customers. Customer satisfaction or dissatisfaction can spread very quickly on the Internet with just few keystrokes.

2.2.5 Pricing

Pricing as a method of differentiation has come under scrutiny, especially for Web marketers. When products were first offered on the Web, companies tended to offer price discounts as an incentive. Today, prices are relatively comparable on the Web, although some companies, such as Buy.com, offer lower prices. The majority of firms choose to differentiate themselves using methods other than pricing because pricing is easy to imitate and non price differentiation is more enduring for all but the price leaders.

2.2.6 Customer Relationship Management (CRM)

As more firms shift away from price differentiation and as barriers to entry decrease on the Internet, customer relationship management (CRM) becomes more predominant as a means of differentiation. Netflix, for example, forges long-term relationships with consumers who want the convenience of receiving movies on DVD by mail. Customers who subscribe to one of Netflix's monthly plans can set up personal lists of the movies they want to rent. Depending on the type of subscription they choose, customers can rent three or more DVD movies at one time with no return deadlines or late return penalties. After viewing a movie, customers slip it into the prepaid return envelope to mail it back to Netflix, a few days later, they receive the next DVD on their list. Thus, Netflix builds customers relationships one at a time through customer-driven personalization including a personal greeting on the Web site.

2.2.7 Enhancing the Experience

Another type of differentiation strategies is discussed in a E-Marketing Opportunity Model (Feeny, 2001). This model helps companies to differentiate using one of three e-marketing opportunities: enhancing the selling process, enhancing the customer buying process, and enhancing the customer usage experience. In this model, firms use perceived product differentiation and frequency of purchase to choose the best approach.

3. Methodology

The study will evaluate each of the strategy and researchers will point out the analysis through their observations and experiences. This will lead into in-depth discussion on how the customer perceived the value of the website and chances of involving into bad experience of transaction or vice versa. In summary, differentiation is what a company does to the product, services and processes. As stated by Strauss and Frost, 2006, differentiation strategies have evolved with the commercialization of the Internet. The keys to differentiating online businesses are the creation of a distinctive and superior customer experience and the development of one-to-one relationships with consumers. The real value added by the Internet is the enhanced ability to differentiate according to customer relationship and provide a unique experience for each customer. Therefore, making a different will turn the whole perception and defection to an acceptance.

These differentiation strategies are:

- 1). Site environment/ atmospherics
- 2). Making the intangible tangible
- 3). Building trust
- 4). Efficiency and timely order processing
- 5). Pricing

6). CRM

7). Enhancing the experience

4. Analysis and Discussion

4.1 AirAsia's Site Environment / Atmospherics

Based on AirAsia's Website (Figure 1) researchers found that the site environment is fascinating and create fresh ambiance to the customers in welcoming them to browse further. Here, we found that the colour (red colour) plays as a major element in creating the appearance to be 100% appeal compared to the other website of airline service providers. The interactive buttons help the viewers to easily connected and conduct the session from one page to another. Piece of information is easily downloaded and portrays accurate information as listed like flight booking, pricing, package offered and other valid and useful information. The Website is clearly shows the products and services offered as it refers to the ability of the company in granting the promises made. Basic information are all listed as these always required for the first time viewers or users in not making them lost throughout the browsing. Researches also found that the element of promotions is always becoming the main factor to be advertised in the website as it creates sense of "knowing more". This leads into the potentiality of creating sales and up to making profit to the AirAsia. Analysis made always found that the navigation is considered as "user friendly" and this is a key of becoming preferable airline service provider by the customers and potential customers.

4.2 Making the Intangible Tangible

As referring to Figure 1, it shows that AirAsia Website is providing lots of elements of "Making the Intangible Tangible" such as On Time Performance, On Time Guarantee, GoInsure, attractive pictures of places to visit, sitemap and others. Researches concern that by offering those elements have waken up the mood of realistic, becoming lively and customer-friendly manner. This will lead into attractions of becoming satisfied and loyal customer.

4.3 Building Trust

First and foremost, researches believe that through the recognitions awarded to the AirAsia, it appears as the major trust element in making the customer and potential customer become confident in dealing with the whole transaction with AirAsia. This can be seen through the listed awards shown in AirAsia Website (http://www.airasia.com/amazing/en/pageWithHeader.php?menu=one&content=one_awards). Those awards act as the evidence of making their promises into reality. Next is about the assurance of using a safe and encrypted payment process for transactions. It is not a denial that AirAsia Website is one of the best secured sites of doing internet transactions. This security aspect is proven by looking into the whole processes of buying and doing payment for the services offered. As evidence, this can be referred to Figure 2 (A) and 2 (B). Through AirAsia Website, it convinces the customer to become more relax and less hassle pertaining any queries about the transactions due to the availability of listed contact number and addresses as it connects the customer and potential customer to the AirAsia personal assistance which is a live person that can be contacted. It proves that AirAsia is always maintaining in building customer's trust. This supporting argument is shown in AirAsia Website (<http://www.airasia.com/site/en/page.jsp?sessionId=4589D22505F7F46D81B4AD505A02B0AB?name=Contact+Us&id=1b7a37dc-ac1e00ae-511e0a00-34df6a10&nav=6-1>).

4.4 Efficient and Timely Order Processing.

As others, AirAsia provides the customers and potential customers an instant payment system where it focuses on delivering immediate purchasing services. Meaning that, the customer has the opportunity in doing the purchasing process at anytime, anywhere upon customer preferences. Experiencing the purchasing ticket process through AirAsia Website has given the best opportunity to the researches as it offers alternatives in mode of payment compared to the other airline service providers. Here, AirAsia has given the best solutions in doing payment by giving options either paying by credit card or debit card. This option helps most of the customers or potential customers due to the cases that not everyone is having a credit card. Figure 3 shows the alternative in mode of payment system provided by AirAsia and Figure 2 (A) as well as Figure 2 (B) is supporting the statement of getting the opportunity of doing the purchasing process at anytime and anywhere. Figure 2 (B) is also a virtual evidence for customer reference if customer or potential customer encounter problems in the future. It will be emailed to customer email address based on customer choice.

4.5 Pricing

AirAsia's fares are significantly lower than those of other airline service providers. This is a fact that accepted by the market particularly competitors. AirAsia's Website fares are much cheaper compared to the frontline counter price and this is also one of the differentiation strategy that implemented by Airasia in order to attract more customers to purchase online through the website. Researches found that, the differentiation pricing strategy applied by AirAsia is valuing the company to be demanded more than their expectation. This is the key strategy that still cannot be beaten up by any other competitors and has guaranteed higher return to AirAsia since the day they started their operation. Researches

believe that the promotion pricing strategy has enhanced AirAsia reputation in making the promises become reality; "Now Everyone Can Fly". This tagline has become the benchmarking to the company in giving better fares at every promotional booking offer. Figure 1 supports the above statements and it is recommended to visit AirAsia Website (<http://www.airasia.com/site/my/en/home.jsp>) for a better proven.

4.6 Customer Relationship Management (CRM)

Researchers believe that AirAsia always determine the customers as their first priority in every consideration. This can be seen into the first page of the AirAsia Website which has stated the member log in button. Customer or potential customers can always be connected to the AirAsia programmes such as promotional booking offers, news updates, phone circulars, flight changes info and others. Becoming AirAsia members will bring customers to an advance information that will ensure members are always one's step ahead from others. These are the benefits that can be gathered from becoming members of the company. All particular data of customers are secured and will be guaranteed for personalization from AirAsia. All statements are supported by Figure 1 and an experience of becoming members at <http://www.airasia.com/site/my/en/home.jsp>.

4.7 Enhancing the Experience

From the beginning of operation until now, AirAsia has incurred a huge development in every prospect of services provided. The development has created outstanding improvement especially in the AirAsia Website application. Researches accept as true that the development leads into satisfaction of selling process, customer buying process and customer usage experience. Experience can only be gained once we are in the process. Therefore, due to less hassle given throughout the whole processes, researchers believe that AirAsia can be considered successful in delighting the customers. To ensure the statement is correct and supported with evidence, please have the practicality in browsing the AirAsia Website at <http://www.airasia.com/>.

5. Conclusion and Recommendation

In this study, researchers found that the ability of AirAsia to gain attractions from the customers and potential customers to viewing and browsing their website is by applying differentiation strategies. This study has shown that AirAsia is successfully proven that their interactive website is mutually meeting the standard of customer satisfaction and AirAsia can proudly stands as one of the most reliable and potential airline service provider that can provide better services through their website applications. Researchers believe that in the next few years, AirAsia Website will become the best ever retail website that fulfill the customers and potential customers demands and wants.

As for recommendations, researches agree to look into further the changes that should be made to enhance the AirAsia Website evaluations and that changes are pertaining to virtual tours of places to be visited, chances of appealing the 3-D images for more attractions, immediate customer response and better "On Time Acknowledgement" (particularly for flight delay and cancellation) for AirAsia CRM.

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_____. Availability: <http://www.airasia.com/site/my/en/home.jsp>

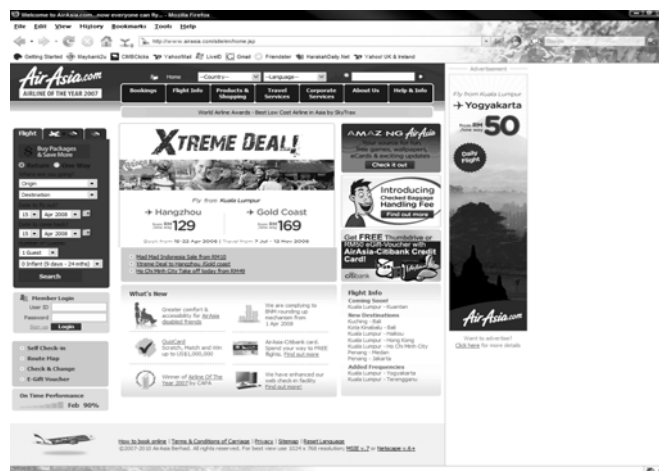


Figure 1. Airasia Main Page

Credit Card Debit E-Gift Voucher

Card Type:

Card Number:

Card Holder Name:

Expiration Date: Month Year

CVV/CID Number:

Credit Card Billing Address
This address must be identical to your credit card billing address.

Street address: No 37A Jln Pulau Angsa
U10/19

Town/City: Shah Alam

State and Zip Code: Selangor 40150

Country: Malaysia

Please be advised that credit card issuing banks may impose additional charges on all CROSS BORDER transactions. CROSS BORDER transactions are defined as transactions whereby the country of the cardholder's bank differs from that of the merchant.

Please note that the additional charge is not imposed by AirAsia and neither do we benefit from it. You are advised to seek further clarification from your credit card issuing bank should a CROSS BORDER charge be applied to this transaction.

[MasterCard. SecureCode. learn more](#)

[VERIFIED by VISA learn more](#)

[Purchase Now](#)

Figure 2 (A). Part of Online Purchasing Process

AirAsia.com

Home My Account Check n' Change

Itinerary 14 Apr 2008 16:11 hrs

Confirmation

Booking date: Monday, 14 Apr 2008

Booking Number: **CH46DL**

Status: **CONFIRMED**

You will need to provide this confirmation number and positive I.D. at check-in to receive your boarding card.

Flight Details

Depart

Kota Kinabalu (BKI) to Johor Bahru (JHB)

Economy Promo

Wednesday, 30 Apr 2008 Flight AK 5629

Depart Kota Kinabalu (BKI) at 21:03

Arrive in Johor Bahru (JHB) at 23:20

Contact Information

Home:

Alt: 60

Fax: 60

earl@yahoo.com

Guest Information

I.

Figure 2 (B). Completed Form of Confirmation

Credit Card Debit E-Gift Voucher

Direct Debit Payment

Please select the bank for your direct debit payment..

Maybank making every moment count [Pay by MAYBANK](#)

RHB BANK [Pay by RHB BANK](#)

PB eBank.com [Pay by PUBLIC BANK](#)

FPX [Pay by MEPS FPX](#)

[Terms & Conditions of Carriage](#) | [Privacy](#)
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Figure 3. Alternative in Mode of Payment System



An Action Research Case Study of the Facilitators and Inhibitors of E-Commerce Adoption

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Abstract

This research has studied an established Irish retail business as it takes its first tentative steps into the e-commerce arena. Although the adoption of e-commerce is widely studied in the academic world, only a small percentage of these studies focus on the Small to Medium size Enterprise (SME) retail sector. SMEs account for 97% of Irish companies and employ up to 800,000 people (Chamber of Commerce Ireland, 2006). Whilst examining the SME's adoption of e-commerce, the factors that affected the adoption process were specifically identified and understood. This was achieved by conducting an action research case study. Action research merges research and practice thus producing exceedingly relevant research findings. The case study commenced in August 2003 and concluded in August 2004. It consisted of three distinctive action research cycles. The researcher worked in the SME throughout the research process, and had been employed there for the previous 5 years. This chapter demonstrates how the research was undertaken, and also discusses the justification, benefits and limitations of using action research. The research concluded that the adoption of e-commerce within the SME sector tends to be slow and fragmented, the presence of a "web champion" is paramount to the success of the project and Internet adoption is faster with the recognition of a business need. It also supported the evidence that an SME is more likely to adopt e-commerce when the SME owner has a positive attitude to IT.

Keywords: Action research, SME, E-commerce adoption, Internet

1. Introduction

Zwass (2003) defined e-commerce as "the sharing of business information, maintaining business information, and conducting business transactions by means of Internet-based technology". Figures released from Forrester Research reveal that e-commerce is surging (Forrester Research, 2006). In the US, online sales for the second quarter of 2005 reached nearly \$39 billion, a 25% year-over-year increase and a slight bump up from first quarter sales of \$38 billion. Total online sales in Europe will top \$100 billion this year; this represents a 21% increase over 2005 (Forrester Research, 2006). eBay has already seen its European sales volume soar 85% in the past year.

Internet adoption by SMEs is important to the generation of critical mass for e-commerce. While research has shown that SMEs are adopting the Internet and e-commerce (Coltman et al, 2001: Levy et al, 2001: Scupola, 2002), there is little systematic research into how such companies are adopting e-commerce. Egan et al (2003) recognized the need for such research: "More work with SME owners might usefully address a method for overcoming e-commerce adoption barriers; this research would be very useful if done in an action research mode". In answer to Egan's call, and in recognition of the important role that SMEs play in the Irish economy, the overall objectives of the study are to identify the factors that facilitate or inhibit e-commerce adoption in an Irish SME, and to understand how these factors affect the e-commerce adoption process.

2. Literature Review

SMEs are an important sector of any economy as they contribute to economic growth, social cohesion, and employment as well as regional and local development (Scupola, 2002). The European Union (EU) has 18 million SMEs, which are responsible for 67% of overall employment and 59 % of GDP (Ritchie & Brindley, 2005).

A Forfás study in 1999 found that 99.4% of enterprises in Ireland are SMEs, and that they account for just under half of total enterprise employment in Ireland. Therefore, significant opportunities exist for the Irish SME sector to create efficiencies in communications, shift the trading power balance in its favour and create new markets (Egan et al, 2003). There has also been an increasing interest in the role and contribution of SMEs for the development and sustainability of a knowledge based economy in Ireland.

2.1 E-Commerce and SMEs

Traditionally, SMEs are lacking in resources, such as time and money (Levy et al, 2001). For this reason, they are relatively late adopters of new technology, and tend to adopt a “wait and see” attitude to e-commerce adoption (Forfás Report, 2002).

Forfás (2002), an Irish research agency, found that in Ireland 81% of Irish SMEs have Internet access and 46% of the companies surveyed had a web site. E-commerce is widely argued to have the potential to transform the marketplace, and to provide SMEs with a wider variety of opportunities to engage in business activities (Levy et al, 2001).

For the last number of years the Internet and e-commerce have been offering exciting new competitive opportunities for SMEs to extend their customer base into the global marketplace, and broaden their involvement into new markets (Lewis and Cockrill, 2002).

Internet adoption by small businesses is important to the generation of critical mass for Internet commerce (Poon and Swatman, 1999). E-commerce is likely to have the most fundamental impact on SMEs by offering tremendous opportunities to high growth SMEs, but successive research studies have shown that significant business benefits are not being realized (Poon and Swatman, 1999, Levy and Powell, 2000). The literature states that there is little evidence that SMEs do more than develop websites and adopt e-mail (Levy and Powell, 2000).

2.2 Factors Affecting the Decision to adopt E-commerce

A decision to adopt e-commerce is not taken lightly, especially when the organisation is an SME. There are a variety of factors that facilitate or inhibit the adoption of e-commerce, and also several factors that could be classified as either a facilitator or an inhibitor, depending on the situation of the SME at that time. These factors need to be addressed prior to the decision to adopt e-commerce being made. These factors are outlined below in Table 1.

3. Research methodology

This study is concerned with the factors that inhibit or facilitate Internet adoption within an Irish SME context, and also to understand how these factors affected the e-commerce adoption process. This was achieved by conducting an action research study on River Deep Mountain High (RDMH), Galway. RDMH is a retail SME based in Galway. The shop has specialised in outdoor clothing and equipment since 1991. RDMH expanded in 1995, opening a second branch in Limerick. Including both shops, there are a total of 20 employees. The researcher worked in the SME throughout the research process, and had been employed there for the previous 5 years. At the time of the research, there was no web site and hence, no e-commerce or e-business capabilities. The SME was in the process of adopting e-commerce, making it a highly suitable SME in which to conduct the proposed research. In order to increase awareness of the shop and hopefully expand the business, the company was moving to having an online presence, with a view to online shopping facilities in 3 years time. The research took place from August 2003 until August 2004, and it involved 3 distinct Action Research cycles, as outlined in figure 1 below.

3.1 Benefits of using Action Research

The following paragraph outlines the benefits of using action research as a research methodology. The high involvement of the researcher with the research subjects allows for access to rich and in-depth research data. Researchers can overcome the problem of trying to understand the ill-structured, fuzzy world of complex organizations by applying action research, as it addresses real-life problems and the immediate concerns of practitioners (Avison et al, 1999). Since the topic of the research is partly selected by the client (e.g. a company in a specific industry), its findings are likely to be of high relevance to at least a section of the practitioner community (e.g. the immediate research client and other companies in the same industry). The real world orientation of the approach offers a singular opportunity to recruit students who hold positions in organizations facing a problem whose solution can lead to relevant research findings. The problem-solving orientation of the research increases chances of obtaining research funding. Action research is usually participative. This implies a partnership between the researcher and the client. This approach may be deemed more satisfying and also more occupationally relevant (McNiff, 2000). Westbrook (1995) presented action research as an approach that could overcome three deficiencies associated with “traditional research methods”:

- It has broad relevance to practitioners;
- It is applicable to unstructured or integrative issues;
- It can contribute to theory.

3.2 Action Research and Information Systems (IS) research

The discipline of IS seems to be a very appropriate field for the use of action research methods (Myers, 1999). IS is a highly applied field, almost vocational in nature. Action research methods are particularly clinical in nature, and place IS researchers in a 'helping-role' within the organizations that are being studied. It should not be surprising that action research is the 'touchstone of most good organizational development practice' and remains the primary methodology for the practice of organizational development.

Action research is one of several qualitative research methods used in the field of IS' (Galliers, 1992). Such qualitative research is important for studying complex, multivariate, real-world phenomena that cannot be reduced for study with more positivist approaches (Baskerville & Pries-Heje, 1999). Action research is especially important in situations where participation and organizational change processes are necessary (Baskerville & Wood-Harper, 1996).

Given the frequent calls for IS research to be more relevant to practice (McTaggart, 1998; Rademacher, 2001), it is believed that action research has the potential to contribute to making IS research relevant. Action research merges research and practice thus producing exceedingly relevant research findings. Such relevance is an important measure of the significance of IS research.

3.3 Justification of using Action Research in this study

The researcher decided that action research was the preferred method for this research based on the factors listed in Table 2 below.

3.4 Limitations of using Action Research

Like most qualitative research methodologies, action research is difficult to do well and easier to do atrociously. Action research is much harder to report and the researcher also has to justify the overall approach. This has to be done well enough so that even if examiners do not agree with the approach, they have to acknowledge that the researcher has provided an adequate rationale. Action research involves heavy involvement in the research situation, with the opportunity for good learning, but at the potential cost of objectivity.

Table 3 below outlines how this research identified and addressed these possible limitations. This was undertaken to increase the credibility of the research findings.

4. Findings

4.1 Factors affecting RDMH's e-commerce adoption process

From the research, the following factors were identified as having affected RDMH's adoption process:

Perceived benefits: It was reported in section 2.2 that the recognition of perceived benefits by an SME will facilitate the e-commerce adoption process. These findings are consistent with the literature review as both the SME owner and the researcher felt that there were perceived benefits available from adopting e-commerce.

Web champion: The literature on e-commerce adoption has emphasized the importance of a "corporate champion" often identified as the owner/manager of an SME (Scupola, 2002; Poon and Swatman, 1999; Fink, 1998; Cragg and King, 1993). The "web champion" in the case of RDMH was the researcher, not the SME owner, who initiated and completed the e-commerce site. These findings are consistent with the literature, as the literature states that this role may or may not be assumed by the owner, and also the process of e-commerce adoption will be facilitated by the presence of one.

Organizational skills: The level of knowledge among IT and non-IT professionals is important in the e-commerce adoption process (Scupola, 2002; Mehrtens et al, 2001; Fink, 1998). Organizations with more IT experience or greater IT already in use are more likely to adopt IT (Fink, 1998). The findings from RDMH are consistent with this, as the researcher was employed by the organization and completing a Masters Degree in e-commerce at the same time. The SME owner had also computerized all of the stock in both branches of RDMH, and so is knowledgeable about IT and has a positive attitude to IS/IT.

Lack of time and resources: SMEs lack the willingness to dedicate the time and resources necessary to resolve their lack of understanding and skills (Chapman et al, 2000; Lewis and Cockrill, 2002). The researcher experienced a significant lack of time during the project. This was due to the fact that the researcher continued to work on the shop floor, as well as developing the website. This is consistent with the literature as RDMH is a typical SME.

Lack of understanding: The lack of understanding of the need to adopt innovations, such as ICT and e-commerce, prevents SMEs using them to overcome existing performance gaps or exploit new opportunities (Chapman et al, 2000). Again, this is similar to above and consistent with the literature. The researcher also lacked some understanding of the new technologies being used in the adoption process.

External pressures: There is little evidence of business strategy driving Internet adoption among SMEs. However, Internet adoption is faster when SMEs recognize a business need (Levy and Powell, 2003). The SME owner did not feel

that it was a business need, therefore there was nothing done to adopt or develop a website for the shop until the researcher approached with the research proposal. This is consistent with the literature findings.

4.2 How the factors actually affected RDMH's adoption process?

As is evident, not all of the factors listed in table 1 were deemed relevant in the context of RDMH. Why were only six out of the thirteen possible factors listed as relevant? It was found that some were not applicable due to the nature of the website (front-end, information only). Others were not applicable due to the researcher embracing the role of web champion, and not the SME owner. Finally, others were not relevant due to the present state of the SME involved (financial situation, level of IT already adopted and future strategic expectations of having an online presence). See table 4 below for an explanation of how the factors identified were actually relevant.

5. Conclusions

This research has investigated the process that RDMH went through in order to add a website to the organization. After analyzing an SME that has moved from offline to online, a number of similarities and differences from the literature have been identified. The following conclusions have been drawn from the findings of this research.

5.1 Conclusions regarding the e-commerce adoption process

This research supports Poon and Swatman's (1999), and Levy and Powell's (2000) evidence that the adoption of IS/IT tends to be slow, fragmented and occurs in stages. In addition, this research confirms Levy et al's concept that most SME's will pursue a business strategy in which a company combines online e-commerce with a traditional retail outlet.

This research also supports Mehrtens et al's (2001) and Levy and Powell's (2003) research evidence that an SME that is likely to adopt e-commerce will most often have an owner who has a positive attitude towards IT adoption, who is innovative and who is knowledgeable about IT. The literature also emphasized the importance of a "corporate champion" often identified as the owner/manager of an SME (Scupola, 2002; Poon and Swatman, 1999; Fink, 1998; Cragg and King, 1993).

Most SMEs will find that web technologies will not be one of their core competences (Riemenschneider, 1999). This is not consistent with the findings, as the researcher was employed by the SME whilst concurrently pursuing a Masters Degree in e-commerce.

5.2 Conclusions regarding the use of action research as a methodology

From the research methodology perspective, the researcher encountered a number of difficulties that are well documented limitations of using action research. This included a significantly longer case study chapter, due to the need to present and analyze the three action research cycles in detail. The findings chapter was also quite complex as each issue needed to consider the researchers view, the SME owners view, and the final amalgamation of the two. This was overcome by eventually splitting the findings chapter into two separate components.

The degree of documentation was also high as the researcher maintained a journal throughout the adoption process, and each meeting was recorded in detail. As a result, the researcher had a significant amount of data to analyze. The researcher also had to ensure that when reflecting on the data, perceptions and interpretations were non-biased and accurate.

The benefits from having undertaken the research using this methodology included an increased depth of knowledge about the research process. Also, the extra depth, documentation and analysis were rewarded through what the researcher believes were more credible research findings. The researcher learnt some valuable lessons regarding the research process. Action research incorporated a significant amount of extra work for the researcher, a point that was raised by the supervisor at the start of the study. However, the researcher feels that the extra work was rewarded as it resulted in richer and more credible findings.

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Table 1. Factors Affecting the Decision to adopt E-commerce

Factor	Reference	Facilitator/ Inhibitor
Perceived Benefits	Poon and Swatman (1999) found that perceived benefits were a key reason why participants adopted and continued to use the Internet.	Facilitator
Business Need	There is little evidence of business strategy driving Internet adoption among SMEs. However, Internet adoption is faster when SMEs recognize a business need (Levy and Powell, 2003).	Facilitator
Owner/Manager Influence	The literature on e-commerce adoption has emphasized the importance of a "corporate champion" often identified as the owner/manager of an SME (Scupola, 2002; Poon and Swatman, 1999; Fink, 1998; Cragg and King, 1993). An SME that is likely to adopt e-commerce will most often have an owner who has a positive attitude towards IT (Mehrtens et al, 2001; Levy and Powell, 2003).	Either
Web Champion	The web champion or "corporate champion" may or may not be the SME owner. In some cases, it is an internal member of staff.	Facilitator
Organizational Structure	For most SMEs, their failure to plan the introduction and exploitation of new technology is due to management limitations (Levy et al, 2001). Min and Galle (2001) found that organization size is believed to influence the e-commerce adoption practices of firms.	Either
Organizational readiness	This is the extent to which an organization feels ready to adopt e-commerce (Fink, 1998; Scupola, 2002). Among the factors that determine this are: skills and knowledge of the technology, internal IT support and support from external parties such as IT vendors (Chapman et al, 2000; Mehrtens et al, 2001; Scupola, 2002).	Either
Organizational Skills	E-commerce imposes new skills requirements on the retail sector (Lewis and Cockrill, 2002). The successful uptake of e-commerce requires IT expertise, coupled with strong business applications skills and therefore a flexible, multi-skilled work force is required (Lewis and Cockrill, 2002).	Either
Lack of time and resources	SMEs lack the willingness to dedicate the time and resources necessary to resolve their lack of understanding and skills (Chapman et al, 2000; Lewis and Cockrill, 2002). These resources involved are human, financial and time. SMEs are regarded as "poor" in human, financial and material resources (Levy et al, 2001).	Inhibitor
Lack of Understanding	The lack of understanding of the need to adopt innovations, such as ICT and e-commerce, prevents SMEs using them to overcome existing performance gaps or exploit new opportunities (Chapman et al, 2000).	Inhibitor
Cost Factors	Strategically, information systems are used in order to lower the costs of production, coordination and transactions or to add value to the product, process or service (Levy et al, 2001). As the cost of IS falls, SME's are starting to reap the benefits of these systems, as they are more accessible (Levy et al, 2001). Yet, the tendency in SME's is still to view IS investment as a cost (Levy and Powell, 2000; Wymer & Regan, 2006).	Either

Government Initiatives	The Irish Government has enacted a number of critical Acts to underpin eBusiness development including the Electronic Commerce Act 2000, the Copyright and Related Rights Act 2000 and the Communications Regulation Act 2002. Ireland has made major investments in national information infrastructures, including international telecommunications connectivity, Internet data centres and other support services	Facilitator
Security Concerns	Daniel et al (2002) reported that the concern about security was inhibiting adoption, as were lack of customer satisfaction and use. In a 2001 report by the Chamber of Commerce Ireland, it was reported that 34% of businesses felt that concerns about security were an obstacle in their path to e-business (Scott et al, 2003).	Inhibitor
External Pressure/External Environment	This pressure comes from existing Internet users, particularly customers and competitors, but also suppliers and potential employees (Mehrtens et al, 2001; Daniel et al, 2002; Cragg and King, 1993).	Either

Table 2. Factors influencing research methodology

Factor influencing research methodology	Reason for Influence
There is a unique opportunity available to the researcher to conduct the research in a dynamic SME environment.	The SME involved, RDMH, was at that time initiating the process of e-commerce adoption. The researcher was employed there, and had been for five years, and also had full access to the SME.
In this case, the researcher is solely responsible for the e-commerce implementation process.	The RDMH management had very limited participation. Action research is a research method that solves immediate practical problems while expanding scientific knowledge (Avison, et al., 1999).
High suitability to the research topic and to how the research will be carried out.	Egan et al (2003) recognized the need for such research: "More work with SME owners might usefully address a method for overcoming e-commerce adoption barriers; this research would be very useful if done in an action research mode".
As the research area is concerned with rich, subjective, qualitative data, not quantitative data, the research philosophy is interpretivist in nature.	Action research tends to be both participative and qualitative. The virtue of action research is in its responsiveness to the research situation (Greenwood and Levin, 1998). One of the key principles of action research is: let the data decide. At each step of the process, the information collected so far will determine the next step of the process.
The research approach will be inductive.	This research was concerned with generating theories not hypothesis testing.
The research situation demands responsiveness during the research project as the research occurs in a changing environment in real-time.	Action research is appropriate when the research question relates to describing an unfolding series of actions over time in a given group, community or organization; understanding as a member of a group how and why their action can change or improve the working of some aspects of a system; and understanding the process of change or improvement in order to learn from it (Coghlan & Brannick, 2001). The proposed research in RDMH, where the strategic focus of the SME is short-term and is therefore in a constant state of flux, makes action research suitable for this research.
Participation of researcher in the research environment.	One of the reasons for the emergence of action research and its subsequent use in the IS field is the recognition, largely motivated by the early work of ethnographers, that a research environment can be more deeply understood if the researcher becomes part of that environment (McNiff, 2000).
The researcher serves two masters.	A key characteristic of action research sets it apart from other research approaches. In action research, investigators try to fulfill the needs of their study subjects and, at the same time, generate new knowledge. As such, IS action researchers have to serve two masters: their immediate research clients, who directly benefit from the research while it is being conducted, and the IS academic community in general.

Table 3. Limitations of using action research and how the researcher overcame these

Possible limitations of AR	How to address the limitation	How this was achieved in the study of RDMH
<u>Achieving rigour</u> – way of assuring the quality of the data collected	Use of action research cycles to provide adequate iterations	There were 3 definite action research cycles during the collection of the results. Susman and Evered, two leading authors in this field, advise the use of numerous action research cycles within a given piece of research.
	Planning of methodical data collection methods	Interviews were used as the data collection method. The researcher was careful not to influence the owner regarding the answers, as this would increase researcher bias.
	Careful nurturing of collaboration with subjects	The collaboration process with the owner began in August 2003, with the establishment of the client-system infrastructure, this collaboration continued throughout the research process.
	Interpretations will be developed as part of the data collections	The researcher and owner developed interpretations on the findings. This occurred when meeting to come to a consensus on the results.
	The relevant literature will be accessed as part of the interpretation, to widen the dialectic	For the generation of each report for the SME owner, the literature was accessed
	Multiple data sources will be accessed to provide a dialectic	For the findings, the primary sources of data were the researcher and the SME owner. This was supplemented by documentation and literature from the organisation, and relevant academic literature.
	Establish an ethical client-system infrastructure and research environment	This was established August 2003. It was agreed that the SME would be used as the proposed research environment, and it was also agreed that the researcher would have unlimited access to the information and documentation contained within the SME that was related to the research project.
<u>Validity</u> – are the findings really about what they appear to be about?	Conscious and deliberate enactment of the action research cycles	Each stage of each action research cycle was followed with deliberate purpose, and each stage was adhered to correctly according to the academic research that was carried out on the action research cycles.
<u>Researcher bias / Lack of impartiality</u>	Researcher needs to consider the extent to which the story is a valid presentation of what has taken place	The researcher was very careful not to prompt the SME owner during the interviews, with respect to the researcher's answers, as the researcher had already independently answered the questions prior to interviewing the owner.
<u>Generalisability</u> – the extent to which the findings are equally applicable in other settings	It will not be a problem if the researcher does not claim that the results, conclusions or theory can be generalized.	As SMEs tend to be industry specific, there is a lot of diversity across the sectors. This study was concerned with the retail sector.

Table 4. How the factors identified actually affected the adoption process.

Factor affecting the decision to adopt	Facilitated/ Inhibited	How was it relevant?
Perceived benefits	Facilitated	These helped the SME owner to see some future benefit from the project. It also helped to increase the owner's enthusiasm for the website.
Web champion	Facilitated	All of the incentive for this website had come from the researcher. This had started in August 2003 when the researcher approached the SME owner and proposed the website development.
Organisational skills	Facilitated	The researcher was employed by the organisation, so the skills that the researcher had as a result of the 1 st year of the MBS programme benefited the SME.
Lack of time and resources	Inhibited	The researcher worked in the shop and developed the website, and as a result, experienced a serious time shortage during the day trying to balance both activities.
Lack of understanding	Inhibited	The researcher spent extra time on the development of the site, as it was the first time using the software involved, Dreamweaver MX.
External pressures	Inhibited	The researcher saw that customers were ready for the website, having been asked at different times over the previous three years, if the company had one or not. The SME owner did not agree in this instance, as a lack of a business was stated as the reason why the organisation had not previously gone online.
Role of the SME owner This factor did affect the adoption process, although there was conflict between the researcher and the SME owner when agreeing on the role that it played.	Facilitated	The research has shown that the owner had a very positive attitude to IS/IT adoption as when the researcher approached the owner with the website proposal, the owner agreed to the suggestion immediately. The owner's positive attitude facilitated the adoption of e-commerce, even though it was stated that the owner did not see the website as a business need.
Cost factors Again, this factor did affect the adoption process, although there was conflict between the researcher and the SME owner when agreeing on the role that it played	Inhibited	Initially, the owner did not feel that cost was an issue as the researcher was completing it in-house. In reality, cost was the deciding factor of the type of web site that would be adopted and developed. The owner perceived the development of the website as free until the 1 st report was studied. It was then decided to adopt a front-end, information only site with no online sale capabilities, as the researcher could develop it in-house at no extra cost. This is consistent with the literature findings as the tendency in SME's is still to view IS investment as a cost (Levy and Powell, 2000; Wymer & Regan, 2006).

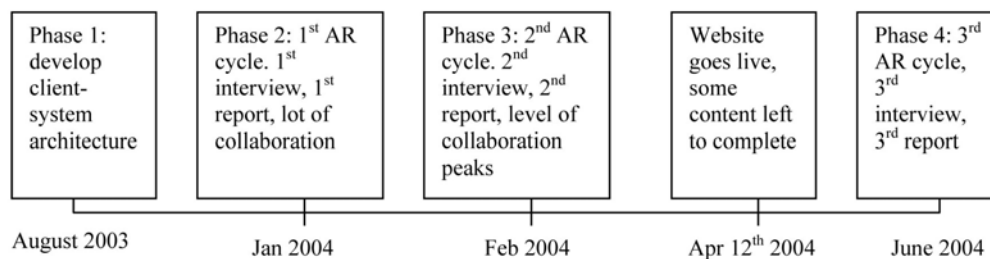


Figure 1. Timeline of RDMH's research framework



Study on the Necessity and Feasibility of Supervisor Professionalization

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Abstract

The original intention of supervisor professionalization which is an opinion in this article is to find a more effective supervisor system which can ensure the independent status of supervisors. First, in this article, we gave a consensual definition to the supervisor professionalization, and expatiated on the necessity of supervisor professionalization, and made feasibility analysis from four aspects including “separation of property and superintendence”, “management of the special industry”, “combination of supervisor professionalization and corporate governance system” and “the personnel market of professional supervisor”, and finally obtained the general conclusions according to analysis results.

Keywords: Supervisor, Professionalization, Corporate governance, Independent director, Principal-agent, Feasibility

Because of information asymmetry, the agent must go with the supervision, which is one of basic opinions of the “principal-agent theory”. Without supervision, the governance mechanism is not perfect, and if the function of supervision can not achieve acquired requirements, the mechanism is not perfect too. Supervisors are the main supervision personnel in the corporate government and management, and the key point which decides whether the supervision is effective is whether supervisors have independent status. We put forward that the formation of the independent status of supervisors should be improved by supervisor professionalization. So we need to discuss two problems, and one is the necessity of supervisor professionalization, and the other is the feasibility of supervisor professionalization.

1. Meanings of supervisor professionalization

The modern enterprise system is the outcome that the market economy develops sufficiently, and its prominent characteristic is the separation of the property and the management right, so a problem, how to supervise, must occur. The present governance mechanism gives part of the function to the board of directors, and gives part of the function to the board of supervisors.

In the artificial person governance mode of American company, the supervision function is performed by the board of directors, and there is no board of supervisors in the company, but the independent exterior director is acquired in the board of directors, whose main function is to supervise. The board of directors has the internal auditing committee which leads the internal auditing institution, and the internal auditing institution is composed by professional registered internal auditors. The internal audition institution completes the supervision works about the internal control in the company under the lead of the internal auditing committee. At the same time, the company accepts the supervision from the exterior auditing (social auditing). The characteristic of this supervision system is the professionalization, i.e. the main execution personnel of the supervision works including registered accountant in social audit and the registered internal auditor in internal audit are all professional personnel. In the Germanic company governance mode, the board of supervisors not only exists, but many regulations and laws such as the “Germanic Company Governance Principle” definitely regulate the composing, institution, acting principles and other contents of the board of supervisors (Wang, 2007, P.22). Japanese company also sets the board of supervisors which performs the independent discipline and is the necessary permanent body of the company, and the board of supervisors possesses definitely operation superintendence, financial superintendence, company representation right (in special instance) in the “Commercial Law” (Zhao, 2008, P.153).

In fact, Chinese active Company Law has given the frame of modern enterprise system which is a sort of governance structure, i.e. it confirms the statuses of the general meeting of shareholders, the board of directors, the board of supervisors and the management layer. The board of directors has two rights, and the first one is the decision-making right of important proceeding and the right of important project constitution, and the second one is the decision right of management institution and main personnel. The responsibility of the board of supervisors is mainly to perform the superintendence. The board of directors is responsible for the general meeting of shareholders, and the responsible object of the board of supervisors is not definite. Form the generation and election process of supervisors, the board of

supervisors, but it always is limited by the board of directors in practice, i.e. the so-called phenomenon of “insider control” (Chen, 2004, P.92). Because there are always regulations about the figure of director in the memorandum of association, so the decision-making right and the superintendence of the board of directors can be inherited naturally, but the board of supervisors has not this characteristic. Whether for directors or supervisors, they all represent the shareholders to govern the company, and their rights all contain the component of “consignation”.

For the limited liability company, its board of supervisors is always composed by “stakeholders”. In recent years, for the joint stock limited partnership, the requirement that arranges non-stakeholders into the board of supervisors is more and more intensive. For many middle and small shareholders in the joint stock limited partnership, the information asymmetry exists between the decision-making and management layer and them, so they need the supervisors with more independent status to be responsible for them to supervise the decision-making and management, which is why Chinese Securities Regulatory Commission requires that the listed company sets independent director.

Whether for the limited liability company or the joint stock limited partnership, the relationships among the board of directors, the board of supervisors and the management layer is the base of the governance mechanism, and one of these relationships is the supervision relationship.

According to the principal-agent theory, the supervision is the necessary condition to realize the consignation, and the range of the supervision is consistent with the range of agent. Generally, the supervisors’ supervision aims at the management layer, but for the company with numerous shareholders, most of them can not join the board of directors, so the decision of the board of directors should be supervised, which equals the consignation relationship between the general meeting of shareholders and the board of directors has been formed objectively, so the supervision should also be possessed. So the supervision should be independent not only from the management layer, but from the board of directors (Tang, 2004, P.179). In addition, the personnel who assume the supervision responsibility should have necessary knowledge and ability, or else, they can not achieve the requirement of the supervision.

The independence and technical requirements are the main reason to put forward the supervisor professionalization. But what is the supervisor professionalization?

The supervisor professionalization is that the supervisors of the company is composed by professional practicing personnel, and the supervision institution and supervision personnel should accept the operation lead of the corresponding profession organization and follow the constitutions and rules of the profession organization. That is to say, the supervisor professionalization should turn the supervisors’ work into their occupation, and supervisors have to acquire the professional practicing certificate firstly and be the professional supervisors. One of premises of the professionalization is to establish corresponding profession organization (such as the registered supervisors association). Its aim is to make the supervision institution and supervisors’ status more independent, and make the supervisor’s work more professional, which are also the standards of the supervisor professionalization.

2. Necessity of supervisor professionalization

For the necessity of supervisor professionalization, we put forward following opinions in the article.

First, the supervisor professionalization can quicken forming the independent status of supervisors or supervision institution.

Second, the supervisor professionalization is propitious to enhance the professional level of supervision, and the professionalization will certainly help to enhance the quality of the supervision.

Third, the supervisor professionalization is propitious to perfect the modern enterprise system. Some problems occurred in the case of American “Enron Company” and some Chinese domestic listed companies have reflect the imperfection of the company supervision system from one side, and that also requires the supervisors’ (or independent director) status should be more independent, and the practicing personal credit system should be more perfect. The supervisor professionalization is the effective approach to achieve these requirements.

Fourth, the supervisor professionalization is propitious to the harmony of the supervision functions. According to the feasibility analysis in the latter of the article, the industrial management mode after supervisor professionalization can harmonize and unify the supervisors’ work and the operation of internal audit and avoid the crossed phenomena, which is very necessary objectively.

Fifth, the supervisor professionalization is propitious to the reform of state-owned enterprises. One of difficulties of the reform of state-owned enterprises is that separation of government functions from enterprise management is not thorough. The separation is the breaking of the management relationship and the staff relation. And the supervision chain should not be broken, but it should be strengthened (Hu, 2004, P.187). Because of the weakness of the supervision chain, the government always hesitates in “unlocking” and “control”, and always confuses the staff relation chain and the supervision chain, so the result is that the supervision is not professional and independent, and the

separation of government functions from enterprise management is very difficult.

3. Feasibility of the separation of property and superintendence

The core of modern property right theory is the description about the relationships between the property and various rights derived from it. The base supporting this theory is the separation of the property and the management right. In fact, the property and the superintendence could also be separated, but the separation must go with following conditions.

First, the separation of the property and the management right and the principle-agent relation of the management right exist. With the separation of the property and the management right, the management changes from independent mode to the dependent mode, so the necessity of supervision is needed.

Second, the object and contents of supervision should be definite. If the supervisors are responsible for the board of directors, the object of supervision is the management layer, and if the supervisors are responsible for the shareholders (the general meeting of shareholders or the shareholder representation meeting), the object of supervision includes not only the management layer but the board of directors. As the object of supervision is definite, the contents of supervision should also be definite, so the base of the separation of supervision function occurs.

Third, the superintendence has the object of consignment. The object can be or not be professional supervisors, but whether it is or not, there should be the system limitation to the superintendence.

To be brief, the condition of separation is that the premise of supervision exists, and the object and contents of supervision are definite, and the consigned environment exists.

When above conditions are possessed, the property and the superintendence can be separated. First, this separation has same base with the separation of the property and the management right, i.e. it accords with the hypothesis condition of the principle-agent theory. Second, the consigned supervision operation can exist independently, and can realize the equity of right and responsibility. Third, this separation accords with the social development rule of the refined social work division.

In the separation conditions, the consigned environment is the factor which needs to be further perfected, but it can not ultimately limit the separation, and other conditions have been possessed, so the separation of the property and the superintendence is possible.

4. Combination of the supervisor professionalization and the company governance system

The organic combination of the supervisor professionalization and the company governance system directly influences the feasibility of professionalization, which relates to the reform of the company system in fact, i.e. it relates to the redistribution of the supervisions on the governance layer and the management layer, the change of the supervision responsibility system, and the harmony among the decision-making right, the management right and the supervision right.

The separation of the property and the supervision right induces two changes, and the first one is the supervision right is performed by the supervision agent, and it is not the “natural heritage” any longer, and the other one is that the agent should be responsible for the consigner. This change of the responsibility system obviously is clearer than the line of “natural heritage”.

The redistribution of the supervision right and the change of the responsibility system supplement each other. If supervisors are responsible for the board of directors, the supervision function of the board of directors should relegate to professional supervisors. And if supervisors are responsible for shareholders, the supervisors’ decision supervision function should be correspondingly added. At the same time, the organizational institution should correspondingly confirm the management right and responsibility. But which mode we adopt, the redistribution of the superintendence can be confirmed.

When introducing the system of professional supervisor, one important problem is that the change of authority will reduce the running efficiency of the institution, for example, the right and responsibility don’t match, the programs are too complex, and the power is abused, and the efficiency is lower. The intention to introduce the system of professional supervisor is to add the independence of the supervisor’s work, and it will not change the decision and the management responsibility system. Generally, supervisors only have the checking right and reporting right, and they have not the decision right for the decision-making and management, so their rights will not limit the running of the decision and management. However, the reporting work may influence the decision and management programs and make the programs more complex, but this complexity will not have largely negative influences. First, the work occurs in the reporting process, and it will not interfere with the decision and management process. Second, by the more precise programs, supervisors can find the problems in the decision-making and management in time, which will make the later decision-making and management more scientific and reasonable.

5. Management of the special industry

One of the running conditions of the professional system is the professional management of the occupation, and the intention of the management is to standardize the practicing behaviors and enhance the practicing skills. Whether the industrial management can guarantee the implementation of the professional system is decided by the guarantee functions of the system, the mechanism and the authority.

We can first use the industrial management system of accountant for references. The accountants are managed by the Accountant Association which is managed, instructed and supervised by the financial department of the government. Because the management has the legal proof (Law of the People's Republic of China on Certified Accountants), so the management has the character of authority. The management system mainly includes the regulations of the association about the practicing behaviors, the work criterions of the association, and the laws and regulations of the government to the industrial management.

Whether does the supervisor professionalization possess thus industrial management conditions? As viewed from the system, the government manages the association which manages practicing personnel, and this mode of industrial management is proved to be feasible and effective by the practice. So it is mature and feasible to establish the professional supervisor association which can connect the management of the government to the industry. And if the function of management is confirmed by laws (laws or regulations), the authority of the management can be confirmed. The problem is that who will be the administrative department. If the industrial and commercial department and the audit department of the government assume this function, both the disadvantages and the disadvantages will exist. The industrial and commercial department is the law-enforcing department of the "Company Law", and it follow a rational line to do the supervisor management work well, but it will encounter difficulties in the operation training and instruction. The function of the audit department is supervision which accords with supervisors' function, so it is a sort of reasonable arrangement to combine the internal auditor with supervisors and develop corresponding industrial management, but the audit industry emphasizes the auditing of the financial income and expenses, and the supervision work will be too narrow.

In individual opinion, it is fit to let the audit department as the administrative department of the industry. First, the close operations is more convenient for the practicing management, and especially audit department can absorb the standards and practices from international internal auditor association, extend the auditing supervision to the risk management and internal control, which can make the auditing and the supervisor's operation more compatible, and make the industrial management more easily base the operation management. Second, the internal auditor association is the industrial management organization which has existed, and it can fulfill the industrial management condition of supervisor professionalization only by proper adjustment.

6. The personnel market of professional supervisor

The professionalization means the special occupation skill will become the commodity, and the supply and demand of the professional personnel will be adjusted by the market. Which people can be the professional supervisors? This is the problem about the standard which is generated by the combination of certain criterion and shareholders' wills. Only if these two factors are definite or they are easy to be definite, the standard can be confirmed. To ensure the supply and demand of the talents and the realization of the talents' value, the standard must embody the character of the special industry.

The confirmation of the talents includes the works on two layers. The first layer is the admittance standard of the professional supervisor. The second layer is the marking of the ability grade for professional supervisor, such as the confirmation of the elementary-class talent, the confirmation of the middle-class talent and the confirmation of the super-class talent. The admittance standard mainly includes the longevity, the knowledge level and other evaluation contents, and the rating standard also includes the performance, occupational credit and other evaluation contents. These standards may be immature in the initial stage of the professionalization, especially for the actual operation, so the standard will influence the professionalization to some extent, but the influence will only be in some phases.

Another condition of talent commercialization is the price tag. Though the price of talents is generated in the supply and demand process to large extent, but because of the particularity of the professional supervisor market, the talent price will be an important node to run the supervisor personal market. If the market instruction prices of the talents with different classes can not be formed, it will be induce that the prices deviate from the values only depending on the relation of supply and demand, which not only make practicing personnel could not pull their weights, but increase the burden of the enterprise. The talent pricing (such as the instruction price) is a technical problem, it must need certain time to gradually reduce the difference of price and value.

In addition, the manager of this market should be the industrial management organization. If the professional supervisors are brought into common personal market to realize the supply and demand, the talent rating and talent price tag will hardly achieve the requirement of the industrial management. Furthermore, the salary and payment system

of professional supervisor is special in the payment mode and payment channel, and the direct salary and payment system may influence the credit of the occupation (Guo, 2004, P.24). These characteristics indicate that the industrial association should serve as the manager of this market, and the market management mode and the association management mode are different, i.e. the body of the market is the professional supervisor and consigner, and for the salary and payment, the engagement and rating, simple administrative method can not be adopted.

Though above particularities exist in this market, but the personnel market of professional supervisor still has many common characteristics with general personnel market, and these particularities will not ultimately restrict the supervisor professionalization.

7. Conclusions

Through above analysis, the supervisor professionalization is propitious to enhance supervisors' practicing ability, cultivate occupational credit, fully implement the modern enterprise system, and enhance the independent status of supervisors more importantly. From the feasibility analysis of four aspects such as the separation of property and superintendence, the supervisor professionalization is basically feasible, and the disadvantage is that the immaturity of some stages may exist, but the disadvantage will be gradually cleared up in the professionalization process as the price will finally return to the balance point of supply and demand.

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Entrepreneurial Competencies: The Missing Links to Successful Entrepreneurship in Nigeria

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Abstract

The strategic role of the entrepreneur as an agent of economic transformation in society is visible in employment and wealth generation, stimulation of indigenous entrepreneurship or promotion of entrepreneurial culture. The Nigerian government has accordingly created the enabling environment to nurture entrepreneurial development, through the establishment of various agencies to provide financial resources to small and medium scale enterprise operators or entrepreneurs. Despite the provision of financial resources to these entrepreneurs, there is still a high rate of entrepreneurial failure. The paper advocated a shift in paradigm in re-thinking entrepreneurial failure in the country. The missing links to successful entrepreneurship were identified to be entrepreneurial competencies, defined as the cluster of related knowledge, attitudes, and skills which an entrepreneur must acquire or possess to enable him produce outstanding performance and maximize profit in the business. These entrepreneurial competencies were the critical success factors to entrepreneurship, and they deserve serious consideration in entrepreneurial discourse and not to be neglected.

Keywords: Entrepreneurial competencies, Entrepreneur, Entrepreneurship, Intrapreneur, Entrepreneurial opportunities, Nigeria

1. Introduction

All known human societies have always created the veritable conditions for the existence of entrepreneurs. The entrepreneurs in turn exploit the available opportunities in the society or their environmental domain, to create or develop new products or services, thus adding value to society while equally maximizing benefits or profits. The impact of the activities of the entrepreneurs or small and medium enterprises (SME) on the socio-politico-economic life of Nigeria is quite obvious. In Nigeria, the small and medium enterprises sub-sector has been expanding, especially since the mid-1980s, following the prolonged recession in the economy which forced many large enterprises to lay off large proportion of their work-force. The sector accounts for 70 percent of industrial employment (World Bank, 1995). Also the agricultural sector, which largely consists of SMEs, employs over 60 percent of the nation work-force (Salami, 2003). It is in recognition of the strategic role of the entrepreneurs in national development, that the federal, states, local governments, and even some corporate institutions are continuously creating the enabling environment to enhance entrepreneurship. For example, the federal government's active encouragement and policy thrust to entrepreneurship and small scale business development could be seen from the establishment of:

1.1 Small and Medium Enterprises Equity Investment Scheme (SMEEIS).

The Central Bank of Nigeria (CBN) established this on 19th June 2001 to liberalize access to funds through all the commercial banks. The SMEEIS, in addition to providing finance, also requires banks to identify and package viable industries with Nigerian entrepreneurs. It is the most ambitious effort ever in the economy to provide a ready pool of money for small and medium enterprises funding using 10 per cent of bank profit before tax. From inception on 19th June 2001 to 30th September 2003, a total of 83 banks had set aside the sum of N20.66 billion under the scheme, and within the same period, a cumulative sum of N4.90 billion had been invested in 107 projects by 44 banks (Anyanwu, Adebosun and Okafor, 2003). As at December 2007, the sum of N42.02 billion had been set aside by the deposit money banks and N21.72 billion was invested in 523 projects in different parts of the country (CBN, 2008). This is a huge amount of money going by the current exchange rate of US\$1 equivalent to N120 (Nigerian Naira)

1.2 Bank of Industry (BOI)

This is established to provide long and short term funding with generous interest rates to small and medium business operators.

1.3 Microfinance Banks

These recently replaced the former Community Banks, and are to provide sustainable funding for small and medium enterprises.

1.4 Nigerian Agricultural and Rural Development Bank

This development finance bank now houses the former Peoples Bank, which is being restructured to provide small scale funding and guarantees in the rural setting. It is to provide funds for rural agricultural entrepreneurship.

1.5 Small and Medium Enterprises Agency of Nigeria (SMEDAN).

This is a Federal government funded agency established in 2003 that oversees the affairs of small and medium enterprises in Nigeria. While SMEDAN does not provide funds to business operators, it does assist them in preparing good business plans and to gain easy access to funding. It provides support and information services.

1.6 Corporate Institution Initiative

Here corporate bodies like Shell, Nigeria Liquefied Natural Gas Limited and other oil companies are providing funding to small and medium enterprises. This is part of their corporate social responsibility to the host communities.

1.7 Enterprise Development Services (EDS)

This is a unit in the Lagos Business School of Pan African University. It provides the desired capacity and training opportunities targeted to specialized areas of production or service development. This makes significant contribution to entrepreneurial development.

1.8 Niger Delta Development Commission Skills Acquisition Centers Programme

Established by the Niger Delta Development Commission (NDDC) in 2004 to train youths in skills acquisition around the Niger Delta Region. This is concerned with building the capacity of various technical and productive centres in order to enable them absorb and train youths in their areas of operation.

Entrepreneurship is not an easy vocation, and it does not always guarantee a hundred percent success. There are several critical success factors that must be put in place to enable the entrepreneur achieve a measure of success. Most current entrepreneurial literatures tend to unequivocally argue that most entrepreneurial failures or small scale business failures are due essentially to inadequacy of financial resources. Such research outcomes have no doubt influenced the government policies of providing more financial resources and financial agencies to enhance entrepreneurial development. This has led the sustained negligence in considering other equally important variables that do contribute to successful entrepreneurship in Nigeria. These other factors are the entrepreneurial competencies.

This paper therefore argues for a paradigm shift in re-thinking entrepreneurial development in Nigeria. It presents a literature review to offer clarification of key concepts. The paper finally discusses entrepreneurial competencies as very essential and necessary factors that enhance successful entrepreneurship, and stresses the need for more academic discourse and research in this area.

2. Literature Review

The literature review presented here is intended to offer a pertinent clarification of the key concepts in entrepreneurial discourse. These concepts are entrepreneur, entrepreneurship, intrapreneur and entrepreneurial competencies. The eclectic nature of entrepreneurship, continually generating research interests among scholars of diverse disciplines (Lumpkin & Dess, 1996; Brazeal & Herbert, 1999; Ireland, Hitt & Sirmon, 2003; and Ireland & Webb, 2007), justifies the need for operationalising these concepts within a defined subject area. This would further enhance understanding

and appreciation of the linkages of these concepts with the small and medium enterprises, that are ubiquitous in both the developed and developing nations, and contributing significant benefits to these economies.

2.1 Entrepreneur

The literature is replete with many definitions of an entrepreneur, and rarely do scholars agree on a universal definition of any sort. Rather scholars are wont to see an entrepreneur from the different perspectives, and sometimes also reflecting a particular social milieu. The term “entrepreneur” is French in origin and literally translates to mean “one who takes between”. Richard Cantillon (1725) and Jean Baptiste Say (1824) are some important French writers who expressed views on the role of the entrepreneur. For Cantillon, an entrepreneur is one who bears uncertainty, buys labour and materials, and sells products at certain prices. He is one who takes risks and makes innovation on factors of production. He was thus the first to recognize the crucial role of the entrepreneur in economic development. Say also made similar contribution - considering the entrepreneur the pivot of the economy and a catalyst for economic change and development (Deakins, 1996:8-9). On his part, Schumpeter (1934) sees the entrepreneur as an innovator. He does new things in a new way. He supplies new products; makes new techniques of production, discovers new markets, and develops new sources of raw materials. The modern use of the term “entrepreneur” is usually credited to the works of Schumpeter. Drucker (1985) considers that the entrepreneur always searches for change, responds to it and exploits it as an opportunity. The American Heritage Dictionary defines an entrepreneur as a person who organizes, operates and assumes the risk of business ventures. In their own contribution, Meredith, Nelson and Neck (1991) posit that entrepreneurs are people who have the ability to see and evaluate business opportunities; to gather the necessary resources and to take advantage of them; and to initiate appropriate action to ensure success.

Based on the above review we can now conceptualize entrepreneur as a change agent, an innovator who is also a risk taker, who exploits business opportunities in his environment and utilize resources effectively to develop new technologies, produces new products and services to maximize his profits and contributing significantly to society's development. This definition encompasses the desire of the entrepreneur to maximize profit and contribute to economic and social well being of the society. It shows the entrepreneur as one who is also imbued with the ability to organize a business venture with the desire to achieve valued goals or results. He is a catalyst of economic or business activities.

It is of interest to note and clarify the concepts of “intrapreneur” which is related to that of entrepreneur. An employee of an existing organization may also be engaged in entrepreneurial activities through innovations and products development according to (Kanter, 1983). This is the case of an intrapreneur who is capable of initiating change from within in large organizations. Sometimes when such an employee is dissatisfied with the organization because he receives no support to fund and develop new products he may decide to leave and establish a new company to put his ideas into practice. In this case he becomes an entrepreneur, many business have their roots in intrapreneurship. The intrapreneur is therefore an entrepreneur within an already established organization.

2.2 Entrepreneurship

This is a creative process of organizing, managing an enterprise and assuming the risk involved in the enterprise. In a similar vein, Hisrich and Peters (2002: 10) see entrepreneurship as a “process of creating something new and assuming the risks and rewards”. This definition stresses four important aspects of entrepreneurship:

- (i) Creation process – creating something new of value to the entrepreneur and customers;
- (ii) Entrepreneurship requires the duration of the necessary time and effort;
- (iii) Risk taking is involved – financial, psychological and social; and
- (iv) The reward needed in the form of profit, personal satisfaction, independence, etc.

Awodun (2005:118) adopts the same process approach to define entrepreneurship as an act of:

- (i) Recognizing opportunities in your environment;
- (ii) Mobilizing resources to take advantage of such opportunities;
- (iii) Ensuring the provision of new or improved goods and services to customers; and
- (iv) Obtaining profit in return for the risk to dare.

Entrepreneurship is therefore “about learning the skills needed to assume the risk of establishing a business ... developing the winning strategies and executing them with all the vigor, persistence and passion needed to win any game” (Inegbenbor, 2006:1). Aruwa (2006: 3) sees entrepreneurship as “The willingness and ability of an individual to seek for investment opportunities, to establish and run an enterprise successfully”. Entrepreneurship serves as a linchpin between invention, innovation, and introduction of new products and services in the marketplace and also enables the entrepreneurs to act as engines of growth in the economy (Ketchen, 2003; Venkataraman, 1997). Entrepreneurship is therefore linked to entrepreneurial opportunities, the compelling forces enabling entrepreneurs to introduce or develop new products or services. Dutta and Crossan (2005: 426) define entrepreneurial opportunities “as being a set of

environmental conditions that lead to the introduction of one or more new products or services in the marketplace by an entrepreneur or by an entrepreneurial team through an existing ventures or a newly created one.” It is in a similar vein, that Aina & Salao (2008) see entrepreneurship as comprising “any purposeful activity that initiates, maintains or develops a profit oriented business interaction with internal situation of the business or with the economic, political and social circumstances surrounding the business”.

Entrepreneurship is simply concerned with what an entrepreneur actually does – the utilization of resources in managing an enterprise and assuming the risks and maximizing profit from the business venture. It is a very dynamic process of creating incremented wealth for the well being of both the entrepreneur and individuals in society. Successful entrepreneurship requires the entrepreneur to possess certain managerial skills. These skills are the ability to conceptualize and plan effectively; ability to manage other individuals, ability to manage time effectively and to learn new techniques in handling business operations; and ability to adopt to change and to handle changes in our environment.

2.3 Entrepreneurial Competencies

A pertinent starting point in conceptualizing entrepreneurial competencies is to first define competence. A competence is simply the ability, which an individual requires to do assigned job. In the words of Woodruffe (1990) competence is “A work related concept which refers to areas of work at which the person is competent”. Therefore, competent employees or individuals are those who meet their performance expectations. In management literature, “competencies”, is used to describe the set of disparate skills managers require to help them perform their jobs. These skills are identified and effectively initiated in training courses or programmes. Competencies therefore constitute a cluster of related knowledge, attitudes, and skills, which an individual acquires and uses together, to produce outstanding performance in any given area of responsibility. In fact, in competency based training all three factors - knowledge, attitudes and skills must be effectively addressed, and taught in an integrated manner. This is the only way outstanding performance can be achieved.

Entrepreneurial competencies therefore, include those clusters of related knowledge, attitudes, and skills which an entrepreneur must acquire through managerial training and development to enable him produce outstanding performance, and maximize profit, while managing a business venture or an enterprise. Quite often, less attention is paid to these critical success variables; rather attention is focused mainly on financial resources. Business or entrepreneurial failures are readily attributed to inadequacy of financial resources. This calls for a shift in paradigm, in rethinking about entrepreneurial failures, by focusing on entrepreneurial competencies as the missing links to successful entrepreneurship. Inyang (2002) notes that the small scale business enterprises can achieve high level of productivity through the application of what he calls the people-based approaches or techniques, such as employee motivation, organizational communication, employee training and development, participation in decision making, among others. Emphasis must be re-focused in developing entrepreneurial competencies in the entrepreneurs to enable them contribute maximally to the economic development of the society.

3. Contributions of Entrepreneurs to Economic Development

The government places greater emphasis on entrepreneurial development in Nigeria. The National Universities Commission’s 1989 Approved Minimum Academic Standards for teaching of courses in business schools at the undergraduate level has a compulsory course on “Entrepreneurial Development”. This course is meant to create opportunities for graduating students of business management and related disciplines to learn entrepreneurial skills to help them venture into setting up businesses. The programme is also intended to assist the government in reducing unemployment through self-employment.

The government is therefore heavily concerned about developing small scale business operators or indigenous entrepreneurs, who can assist her in economic/national development – being self-employed and reducing unemployment, creating more employment opportunities and given the citizens a sense of self worth and confidence. Anyanwu et al., (2003) in a survey found that the beneficiaries in SMEES scheme recorded significant increases in employment in their enterprises, following the injection of SMEES funds. In Nigeria, small and medium enterprises are known to have contributed significantly to economic development, job creation and sustainable livelihood (NIPC, 2003). Owualah (1999: 9) notes that the small firms make both social and economic contributions to our development process. The social benefits are in terms of transforming traditional or indigenous industry; stimulating indigenous entrepreneurship and technology; creating jobs, and redistributing wealth and income. The economic benefits involve the utilization of local resources, the dispersal and diversification of economic activities and the mobilization of savings. Entrepreneurs constitute a veritable force in the promotion of an entrepreneurial culture. This, according to Ilesanmi (2000: 17) is so since the entrepreneurs “become models to be initiated [sic] by potential entrepreneurs because of the successful images already portrayed by the existing entrepreneurs”. Onuoha (1994) equally notes that the small and medium scale enterprises provide the sources of material and labour inputs for bigger activities in the country. They

also contribute to increased regional business activities of the West African and other African countries through the export of manufactured goods by Nigeria entrepreneurs.

A holistic assessment of the role of the entrepreneurs shows that they are making significant contribution to national development. Based on statistics sourced from CBN publications of various years, Aruwa (2006) finds in 2003, small and medium enterprises in Nigeria contribute 90 percent to total number of industrial establishment; 70 percent to total industrial employment and 10-15 percent to total industrial production. This supports the results of an earlier study by Fadahusi (1992), which states that SME represents 90 percent of the enterprises in the ACP (African, Caribbean and Pacific) countries. This sector also provides 70 percent employment opportunities for the citizens and promote indigenous technology. Kuratko and Hodgett (2001) note that small business enterprises employ 53 percent of the private work-force and accounted for 47 percent of sales and 51 percent of private sector gross domestic product GDP. Ogundele and Oni (1995) therefore conclude that the SMEs or the entrepreneurs are the dominant feature in the economies of both developed and developing countries. According to Inegbenebor (2006: 2) the entrepreneurs or small and medium enterprises help to “raise the level of productivity in the economy by harnessing and utilizing resources more effectively. Entrepreneurs are innovators developing new technologies, new products and services, or adapting existing technologies to new ones”. As promoters of change and initiators of development activities, entrepreneurs are a rare breed of people with rare abilities to identify and exploit opportunities, to improve the status of our society, while maximizing benefits from their venturesomeness. The entrepreneurs usually start as a downtown corner shop, or business outfit of a family size, to grow to become a big business concern like the Dangotes, Ekenedili Chukwus, Ibrus, Odutolas, Fola Adeolas, and others. These are well-known and successful Nigerian entrepreneurs with large conglomerates or business empires under their control. What helps them going over the years despite obstacles, are the development of special skills, attitudes and behaviours, which enable them to preserve and perform their roles in society. Success comes only through such disciplined orientation and commitment to a course of action. The Nigeria entrepreneurs must acquire the requisite entrepreneurial competencies through regular training and development programmes to avoid entrepreneurial failures in their business ventures.

4. Entrepreneurial Competencies and Entrepreneurship

Entrepreneurial competencies have important role to play in entrepreneurship, in Nigeria. This section presents a critical analysis of the following entrepreneurial competencies, which we consider as the missing links to successful entrepreneurship.

4.1 Time Management

Time management has been an area of concern for individuals, corporate bodies and entrepreneurs in particular. Few things are more important to us than learning to save time and how to spend it wisely. Adair (1988) notes that “Time is a scare resource, it is irreplaceable and irreversible”. If we see time as a scare resource, we will choose the best and wisest way to spend it. This principle applies to us all in most areas of our lives. But it is especially true in the world of work. For the potential demands and pressures on our time greatly outweigh what is available. We have to choose our ends wisely and achieve them. Ilesanmi (2000:194) opines “to achieve more in the day to day business, the entrepreneur must be thoroughly equipped with the skills for managing his/her time effectively”.

Time discipline can be applied to any end. It is a transferable skill. In history there had been a shift from religious to secular ends especially the making of money. That is not irreversible. There is no reason why the principles of time management now taught in a business context cannot be applied to spiritual and intellectual life. The adage that “Time is money” is often referred to as the businessman’s proverb and this can help us towards a personal philosophy of time. The point of the analogy is that both time and money are limited resources. Therefore, time (like money) is a valuable commodity. It can be borrowed, saved or squandered.

The “time is money” analogy is operational not a mere literary ornament. It is a positive and practical help to look upon time as money. For money is a wide spread yardstick of value. If we see our time as being more valuable than money we have it about right. As most of us try to save our money and invest wisely, we should also try to avoid wasting our time and to invest it with energy to good effect.

Ilesanmi (2000:194) identifies some common time consuming activities to include slow decision making, inability to delegate, unnecessary interruptions, appointments that fail to take place, delays while traveling, poorly conducted meetings, procrastination, etc. He suggests that all entrepreneurs need to learn how to manage their time effectively by carrying out activities such as: quick decision making habits, keeping diaries, delegating duties, avoiding unnecessary interruptions, properly conducted meetings, avoiding queues, selecting and following priorities, etc. A successful entrepreneur is an effective time manager.

4.2 Communication

Nwachukwu (1988) defines communication as the transfer of ideas from the sender to the receiver. It is an indispensable management tool. According to Inyang, Oden and Esu (2003:2) the specific goals of communication in an

organization “are to influence, inform and/or to express feelings”. The entrepreneur therefore requires effective communication skills for several reasons according to Ilesanmi (2000:193):

1. Communication process helps the entrepreneur effect the managerial functions of planning, organizing, staffing, influencing, interacting, controlling, and co-ordinating.
2. It facilitates distribution of work to various categories of staff.
3. It is an effective tool for staff participation in decision-making and entrepreneurial effectiveness.
4. It enhances the development of actual understanding among all organizational members.
5. It helps to create good public relations or image for an organization.
6. It is an instrument for maintaining staff discipline and in asserting authority over subordinates.
7. It is a means of transmitting information, work instructions and feedback at the work place.

It is obvious therefore, that “communication is the most important tool we have for getting things done and the basis for understanding, for co-ordinating and for action (Inyang, 2000). In carrying out this vital managerial responsibility, the entrepreneur must learn to communicate in correct, clear, short and courteous manner in order to accomplish desired goals.

4.3 Human Resources Management

Grant and Smith (1977) note that “the human resources of most companies are the most difficult to obtain, the most expensive to maintain and the hardest to retain. Capital and materials are of equal importance to the organization but, inanimate and unemotional, they demand no understanding of human needs and motivations for their effective utilization”. Likert (1967:1) notes that “All the activities of any enterprise are initiated and determined by the persons who make up the institution. Plans, offices, computer automated equipment and all else that a modern firm uses are unproductive except for human effort and direction”. Cole (1990) sees human resources as the most dynamic of all the organization’s resources that need considerable attention from the organization’s management if they are to realize their full potential in their work

The entrepreneur needs to put in place both human resources (labour) and capital resources (money, machinery, materials and methods) in order to achieve the overall organizational goals and objectives. Without acquisition of human resource management skills, the capital resources earlier mentioned cannot be effectively used. The effective management of the human resources of an organization determines the success or failure of the organization because all other resources (inanimate) depend on the human element. Iyayi (2006) aptly states the obvious justification for small-scale business organization to pay serious attention to human resources management function since this contributes significantly to entrepreneurial success.

Generally, the new venture does not have the luxury of human resource department that can interview, hire and evaluate employees. Most of these decisions will be the responsibility of the entrepreneur and perhaps one or two other key employees. As the firm grows, there will almost be a need to hire new employees. The entrepreneur must follow important procedures for interviewing, hiring, evaluating and preparing job description for new employees. Instituting an effective organizational culture can also be useful in human resources management.

4.4 Marketing Management

Hisrich and Peters (2002: 509) state, “marketing skills in the growth stage of a new venture are also critical to a venture’s continued success. As the company grows, it will need to develop new products and services to maintain its distinctiveness in a competitive market”. This should be an on going process based on information regarding changing customer’s needs and competitive strategies. This information can be obtained formally using survey or focus groups, or informally by direct contact with customers by the entrepreneur or his or her sales force.

Ebitu (2005:196) opines that “marketing is crucial to the survival and growth of any organization. It is only marketing that brings revenue into the organization which is used to settle bills, acquire assets, carry out expansion, pay dividends and taxies and embark on community projects as part of its social responsibility”. In essence, all the funds generated by an entrepreneur are dependent on marketing. He further notes, “the marketing function interrelates with almost all other functional areas of business such as accounting, finance, production, engineering and human resources. The marketing function is central and strategic to a firms success” (Ebitu, 2005: 196).

The importance of marketing management skill to an entrepreneur cannot be overemphasized. Ebitu (2005:197) notes that “No matter how lofty the entrepreneur’s ideas, techniques and products are, effective marketing must be applied in order to reap the dividends of his endeavour”.

4.5 Business Ethics

“Ethics concerns the rules and principles that define right and wrong, good and bad conduct. Ethics also deals with moral ability and obligations” (Inyang, 2004:136). It is viewed as a system of rules governing the ordering of values in

society. Business ethics is sometimes called management ethics, and it is the application of ethical principles to business relationships and activities.

Statt (1999: 19) sees business ethics as the application of ethical concerns to the world of business and it usually takes one of three forms:

- 1). *Code of ethics*: Where a company has explicit guidelines for the members about what constitutes acceptable behaviour to stakeholders like staff or customers;
- 2). *Changes in the Board of Directors*: To include people from outside the business world who reflect broader interests; and
- 3). *Social Responsibility*: By a company in the marketing of its goods and services.

The entrepreneurs and employees have ethical responsibilities or obligations, which are placed on them by virtue of the positions, they occupy in the organization. The entrepreneur must adhere to high ethical standards, dealing fairly, honestly and responsibly with his employees and other stakeholders. He requires these ethical abilities to succeed in the business or operate effectively. Tracy (2000: 213) puts it this way that, "People don't buy products or services. They "buy" the people who are selling the products or services. First, you sell yourself as a likeable and credible person, and then you sell what you represent".

On the part of the employees, they are expected to exhibit the same high ethical standard of behaviour that will affect the company's image financially and economically. For example, "employees pilfering in the work place, falsification of records, divulging official information to unauthorized persons, are some of the unethical behaviour that must be avoided by employees" (Inyang, 2004: 137).

Business ethics is becoming a subject of intense concern for society, which is now demanding that organizations should operate responsibly and maintain very high ethical standards to improve the quality of life of the people. Managers are thus dealing with different publics. Abonifoh (1999:187) effectively documents the ethical concerns of managers as they relate to the different publics (employees, labour unions, trade associations, dealers, customers, suppliers, stakeholders, creditors, government, society at large and the firm itself). In a recent review of entrepreneurial studies in Nigeria, Ogundele (2006) finds that the general lack of business ethics – lack of disciplined behaviour by entrepreneurs and officials charged with the execution of government entrepreneurial assistance programmes – was a major missing link in successful entrepreneurial development.

4.6 Social Responsibility

The establishment of every business venture is backed up by the profit motive. It is the profit that drives shareholders into buying shares and private capital owners into investing their capital. The profit motive leads to the production of goods and services. The business venture also has the responsibility to embark on certain projects within and outside its environment as part of its social responsibility. Business should not only be concerned about the quality of goods and services they produce to generate profit but also their contribution to the quality of life in their operational environment.

Inyang (2004: 148 – 149) defines social responsibility or corporate responsibility as "the obligation of businessmen to pursue those policies, to make those decisions or to follow those lines of action, which are desirable in terms of objectives and values of the society of their location". The business operators have a responsibility to protect and improve society, and their actions should not in any way endanger a community or society. They should display high degree of corporate responsiveness, which is the ability of an organization to relate its operations and policies to the environment in ways that are mutually beneficial to the organization and the society.

The entrepreneur in a small business venture still must effect some social responsibilities, even if not on a larger scale like those undertaken by corporate organizations. He needs to make contribution to community development, product safety, employment generation, ethical business practices, contribution towards educational activities like award of scholarships, and even creating opportunity for apprenticeship training, and so on. Undertaking some of these responsibilities may endear the entrepreneur to his host community, enhance his image and social standing, thus contributing significantly to his business success.

4.7 Leadership

Leadership is the most important single factor in determining business success or failure in our competitive, turbulent, fast moving global economy. The quality of leadership is the decisive strength or weakness of organizations and institutions. The ability to produce the necessary leadership is the key determinant of achievement in all-human activities.

According to Ilesanmi (2000: 187) "successful entrepreneurs are successful leaders, they have power and motivate the entrepreneurial venture". In other words, for an entrepreneur to succeed, he/she must have the ability to direct the organization and persuade others to seek defined objective enthusiastically. You become a leader in your business and

in the world around you by practicing the qualities and behaviours of leaders who have gone before you. Like any set of skills, leadership is developed by practice and repetition, over and over again, until you master it.

Entrepreneurs are creative individuals with unique leadership qualities and personal styles. As astute leaders, “They seek opportunities, initiate projects, gather the physical, financial and human resources needed to carry out projects, set goals for themselves and others, and direct and guide others to accomplish goals” (Ilesanmi, 2000: 188). Effective leadership is a potent tool in the hands of the entrepreneur, which helps him to turn his business vision into reality.

4.8 Decision-making

Decision-making is very important to the success of an entrepreneur. According to Nwachukwu (2005: 169), “Decision making is at core of entrepreneurial activities.” Making a decision is one thing and making the right decision given the circumstance is another.

Many individuals have difficulty bringing their ideas to the market and creating a new venture. Yet entrepreneurship and the actual entrepreneurial decisions have resulted in several millions new businesses being started throughout the world.

According to Inyang (2004: 129) decision-making is “the process of selecting among available alternatives”. This selection process may be very difficult especially when the available alternatives are numerous. An entrepreneur makes decisions on daily basis and therefore has to acquire adequate knowledge and skills in decision making to enable him/her make the right decisions. The decision taken at any point in time may either make or mar an enterprise completely.

Tracy (2000:61) states, “The ability to make good decision is one of the most important skills of the successful person. In studies where the careers of managers who were promoted rapidly were compared to those of managers who were passed over for promotion, researchers found that the one distinguishing behaviour of the more rapidly promoted managers is that they were more decisive in everything they did”.

Making a decision is as important as implementing the decision. Sometimes the right decisions are actually made but the courage to implement it is not there. An entrepreneur has to acquire adequate knowledge, skills and attitude to making the right decisions and implementing it in order to achieve optimum result in a given situation.

Tracy (2000: 62) states that “High achievers are not necessarily those who make the right decisions, but they are those people who make their decisions right. They accept feedback and self-correction. They take in new information and they change if necessary. But they are always decisive, always moving forward, never wishy-washy or vacillating in their attitude and their approaches to life”.

It follows therefore, that an entrepreneur can only succeed in his undertaking when he makes the right decisions and is also able to ensure that they are implemented and subject to change if necessary.

4.9 Financial Management

Every business enterprise requires capital with which to start its operations. Capital here means two things; money needed to start and operate the business and assets, which represent the resources provided by owners and creditors of the business. The extent of the need for capital must be determined before hand and then sources of the needed capital found.

Ojong (2005) identifies that one of the characteristics of a successful entrepreneur is his/her ability to source for funds for his enterprise. These funds have to be properly managed to ensure that at any point in time, there will be adequate funds to cater for the day to day running of the enterprise.

Mbat (2001: 3) defines financial management as “the planning, organizing, directing and controlling of the firm’s financial resources”. An entrepreneur needs to acquire knowledge on financial management issues like anticipation of financial needs for the enterprise, acquisition of funds and allocation of funds in order to yield optimum result. To achieve these goals he or she needs to maintain the correct proportion of the firm’s finances in three key areas: savings, insurance and investments. Most entrepreneurial failure are due to the inability of the entrepreneurs to effectively manage funds which they source for their ventures. The acquisition of financial management knowledge is therefore a necessary factor in entrepreneurial success. “The essence of financial management if therefore to ensure that there is adequate cash on hand to meet the necessary current and capital expenditures as well as to assist in maximizing growth and profits.” (Nwachukwu, 2005: 184).

5. Conclusion

The entrepreneur is an important agent of change, contributing significantly to the economic development of Nigeria in terms of wealth and employment creation, stimulation of indigenous entrepreneurship and so on. The government on her part recognises the strategic and economic role of the entrepreneur and has continuously crafted policies that would

enhance the development of entrepreneurship in the country. The government policy initiatives have tended to emphasize more of financial resources than other critical factors to entrepreneurial success

These other critical success factors – the entrepreneurial competencies – which have been neglected for long, should be considered as very essential and necessary variables in entrepreneurial development. The entrepreneur needs to acquire competencies in such areas as managing time effectively, communication, human resources management, business ethics and social responsibilities, developing effective leadership qualities, decision making skills, marketing and financial management. These entrepreneurial competencies, which are rooted in effective training and development, can serve the needed tonic for his success in business.

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The Effect of Internet Trust and Social Influence towards Willingness to Purchase Online in Labuan, Malaysia

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Abstract

This study is an empirical research one-commerce that examines the willingness of consumers to purchase online. The study focuses on two influential components that mediate the relationship between online shoppers and online vendors, namely, trust in the Internet structure and social influence. By using a convenience sample size of 115 from government servants and employees of private sectors residing in the Federal Territory Labuan who are computer literate, have access to Internet, and who possess credit card(s), this study aims to examine the relationship between the two variables of trust in the Internet structure and susceptibility to social influence on their willingness as consumers to purchase online. The findings show that trust in the Internet structure and susceptibility to social influence are significantly related to willingness to purchase online. However, hierarchical linear regression analysis had provided insignificant influence between trust in the Internet structure and willingness to purchase online with social influence as a moderator.

Keywords: Internet trust, Social influence, Willingness to purchase online

1. Introduction

In the modern 21st century era, the development of information technology (IT) has certainly brought about far-reaching effects on our society today. The development of computers of increasing speed and processing capabilities has accelerated economic development while creating new opportunities and sectors of activity amidst an increasingly competitive environment. As stressed by Kotler (1987) and Quelch and Klein (1996), this has also caused companies to transform their production systems, product promotion and relationships with customers, producing almost constant opportunities for innovation.

As a result of this rapid growth of IT, Business to Consumer (B2C) electronic commerce (e-commerce) has become a large and essential segment of the new digital economy, which is essentially the ordering of goods and services by individual consumers and making payments for the orders through the Internet. Zwass (2003) explains e-commerce as the sharing of business information, maintaining business relationships and conducting business transactions through telecommunication networks; whilst Pandya and Dholakia (2005) define B2C e-commerce as the new technology-driven means to promote retail and distribution services to consumers.

In order to successfully enable e-commerce, the factor of trust certainly plays a crucial role here, as buyers and sellers typically do not see each other while transacting online, unlike in the offline world. How does a buyer pay a seller he has never seen in a one-time transaction for something he cannot physically inspect until after it is paid for and

delivered? Trust is the key; as stated by Dasgupta (1988), “trust is of much importance precisely because its presence or absence can have a strong bearing on what we choose to do and, in many cases, what we can do.”

To address this issue of e-commerce risk perception by consumers, significant research was performed by (Kim & Prabhakar, 2000; Salam *et al.*, 2003) to understand and minimize the incidence and consequences of risk. Their studies have inferred that these risks would significantly impact the success and viability of the virtual transaction environment.

One of the major factors that could impede the growth of e-commerce is the concern for information privacy. (FTC, 2000; Hoffman *et al.*, 1999; Malhotra *et al.*, 2004). Although many online businesses have broadly implemented online privacy policies designed to signal trustworthy organizational practices (Meinert *et al.*, 2006; Pollach, 2006) and there has also been evidence that these policies do positively influence users’ confidence in buying online (Earp & Baumer, 2003); many users still believe that providing information online can result in personal privacy problems (Sinclair *et al.*, 2006).

The second major factor impeding the growth of e-commerce would be the fear of information security itself (Hawkins *et al.*, 2000; Roberts, 2004). Security issues continue to present challenges to retaining current online customers and attracting new ones for all online organizations in general, whether for commercial entities or the government, and especially for online banks in particular (Rombel, 2005). Nearly 60 percent of the respondents to a recent Gartner survey said they were concerned or very concerned about their online security (Roberts, 2004).

Some examples of the information hazards that have occurred include leaks in personal data, security breaches, software flaws, Internet scam and identity theft, all of which frequently make the headlines today. These dangers would certainly influence Internet users’ online behaviour in increasing protection of their privacy and minimizing their exposure to security threats. According to the Consumers Report (2005), it was found that 9 out of 10 United States of America’s Internet users over 18 have made changes to their online behaviour due to fear of identity theft, whilst 30 percent said they have reduced their overall use of Internet, followed by 25 percent stating they have stopped buying things online, and another 29 percent reporting they have cut back on how often they buy things online.

To counter the argument against information security, some researchers have argued that the reliance on the e-commerce process itself has replaced the perception of trust (Shneiderman, 2000), while Friedman *et al.* (2000) supported the views that even on the Internet, people trust people, not technology. Furthermore, the e-commerce industry is showing signs of approaching maturity; as pointed out by Crockett (2006), who predicted that the number of households with Internet access will only increase by 3 percent in the next three years, i.e. from 64 percent in 2006 to 67 percent in 2009.

On the other hand, the development of e-commerce could still be in a volatile stage, as a survey by Cole (2003) of American Internet users and non-users found that fewer adult Internet users have purchased online in 2002 than in the previous two years, and that more than half of Internet purchasers spent less than they intended when shopping online. Additionally, the Boston Consulting Group estimated that 65 percent of Internet buyers, accounting for 80 percent of the dollar value of prospective purchases, terminated their transaction before checking out (Maravilla, 2001). This evidence highlights the importance and significance of understanding the behavior of online purchasers in e-commerce.

Thus, this study attempts to examine the possible change of consumers’ online purchase behavior arising from their trust in the Internet structure and social influence by using data collected from people in the Federal Territory of Labuan¹. The aim of this paper is to examine the relationship between trust in the Internet and social influence towards consumer willingness to purchase online.

2. Literature review

The last thirty years has witnessed a tremendous increase in the strength of e-commerce both from the perspective of researchers as well as real-life practitioners, where unlike before, e-commerce was a relatively unknown term to many. However, the willingness of consumers in providing their personal information or their inclination to purchase online remains the major obstacle to the rapid growth of e-commerce in this informative age.

The pioneer studies on e-commerce were initiated by two models, namely the Elaboration Likelihood Model by Petty and Cacioppo’s (1986), and Chaiken and Eagly’s (1983) Heuristic-Systematic Model. The objectives of both studies were to identify key factors that influence online information-giving behavior. It was identified that relevant reference groups and media are the primary social influences on consumer willingness to provide information online or to purchase online. In addition, there are six other studies that addressed consumer willingness to complete a transaction on the Internet. These studies had identified the factors of trust in the online store (Jarvenpaa *et al.*, 2000), trust in the vendor (Pennington *et al.*, 2003), trust in organizational practices (Smith *et al.*, 1996) and the web site features (Belanger *et al.*, 2002; Gefen & Straub, 2004; Pennington *et al.*, 2003), which can also be characterized as the consumer’s perception of the online firm. The study of user trust characteristics that include risk beliefs was covered by Malhotra *et al.* (2004), while studies on user attitude and risk perception (Jarvenpaa *et al.*, 2000), and individual trusting character (Gefen *et al.*, 2003) were also based on risk beliefs or tendencies.

Evidence of a link between the positive perception of Internet privacy and security and the desire for making Internet purchases was covered in two studies by George (2002, 2004). The specific factors of trust in the Internet channel were addressed in a model of consumer trust in Internet shopping (Lee & Turban, 2001) which includes a construct of trust in the computerized medium based on perceived technical competence, perceived system performance and user understanding of the system itself. In a similar model of e-commerce relationship trust, McKnight and Chervany (2001) discovered institution-based structural assurance as a factor affecting trust-related Internet behaviour. In this said research, the structural assurance was characterized as “technological Internet safeguards” such as encryption. The structural assurance aspect of the institution-based trust can be compared to the “technology trust” contract defined by Ratnasingham and Poulou (2002) as the subjective probability by which users believe that the underlying technology infrastructure is capable of facilitating transactions securely according to their expectations.

Generally in IT studies, social influence is referred to in some literature as normative belief structures or social norms, where it is frequently decomposed into relevant reference groups. Taylor and Todd (1995) decomposed the sources of social influence into three groups of people: peers, superiors and subordinates. According to their study, influence from peers and superiors were both found to be significantly related to the subjective norm construct that leads to behavioural intention and usage of technology (Taylor & Todd, 1995). Another study conducted by Lewis, Agarwal, and Sambamurthy (2003) analyzed social influence from organizational peers, informal circles, professional peers, supervisors, and senior leaders, only to find no significant effect from any of these sources of social influence.

However, in the context of e-commerce, Limayem *et al.* (2000) further identified three other components of social influence namely friends, family, and media, in a longitudinal study that examined online buying intentions. Results from this study indicated that media had the strongest influence on online shopping, followed by family influences. However, the influence of friends had no significant effect on the intention to shop online (Khalifa & Limayem, 2003; Limayem *et al.*, 2000). Hwang (2005) found that all these same three components of social influence (friends, family, media) were significantly related to online trust, while Bhattacharjee (2000) found external influences in the form of mass media such as news reports and popular press to have a huge effect on the subjective norms leading to the acceptance of e-commerce.

Predictors on whether an individual will buy online or otherwise were investigated by Bellman, Lohse and Johnson (1999). They found that the most crucial determinant of buying on the web was based on previous Internet usage behavior, such as using the Internet to search for product information, while Vellido *et al.* (2000) found that the willingness to purchase online was best predicted by consumer risk perception of shopping on the Internet. Furthermore, Bhatnagar *et al.* (2000) developed a two-part definition of perceived risk to examine its impact on the willingness to purchase online. The two types of risks were defined as product category risk and financial risk. Their results indicated that increases in both types of risks generally decreased the likelihood of purchasing online.

The actual motives for online shopping have long been the focus of consumer and retail researchers. Babin *et al.* (1994) identified two dominant shopping motives: shopping for fun (hedonic) and shopping with a goal in mind (utilitarian). Wolfenbarger and Gilly (2001) also agreed on these two motives being typical of online shoppers. Goal-oriented shoppers were found to value four attributes of online shopping, namely (1) convenience, (2) information, (3) selection and (4) the ability to control the shopping experience. Meanwhile, the fun-oriented shoppers reported browsing the Internet for fun through auctions, visits to hobby-related sites and bargain hunting. Internet shopping for fun takes advantage of the Internet as a vast repository of information. As the Internet matures, its importance as a source of product information is a major benefit of online shopping (Evans & Wurster, 1999). Though information-rich, the Internet still does not seem to be used as a total substitute for other sources of information. For example, Ramaswami *et al.* (2000) reported that online shoppers of financial products used both online and offline channels in their information search activities. Furthermore, in a study of new car buyers, Ratchford *et al.* (2001) found that heavy users of Internet sources were also heavy users of printed sources of information such as car ratings books and dealer brochures.

Bhatnagar *et al.* (2000) found that customers' perceived convenience of shopping on the Internet had a positive impact on their willingness to purchase online. However, Ramaswami *et al.* (2000) found that for those who use online information sources for buying financial products, shortage of time availability was not associated with the propensity to conduct an online search for these products or to purchase these products online. In other words, those that were hard-pressed for time did not use online shopping more than those who had more free time available. This same result was supported by another research conducted by Alreck and Settle (2002) who found a difference between consumer perception and behavior towards Internet shopping and time saving behavior.

While the characteristics of the shoppers' perceived risk are essential in predicting the willingness to purchase online, Internet shopping is also impacted by the type of products being sold online. According to Bhatnagar *et al.* (2000), it was discovered that high-risk products such as products that are technologically complex or high priced were less likely to be purchased online. Vijayswathy (2002) found that the willingness to purchase online was inversely related to the tangibility of the product. High cost intangible items such as auto financing generated a higher intention to purchase

rating than high cost tangible products such as household appliances. Rosen and Howard (2000) hypothesized that homogeneous goods such as books and music are more suited to online sales compared to differentiated products that require a physical inspection.

3. Theoretical frame work and research methodology

Based on the early discussion, researchers of the online trust literature provided evidence that users' belief in the trustworthiness of the online medium is linked to the willingness to provide personal information (Lee & Turban, 2001) and the intention to make online purchases (George, 2004). Research by Gefen and Straub (2004) indicated that the inclusions of features that convey a sense of human presence are positively related to individuals' willingness to provide personal information online. Furthermore, social influence (friends, family, and media) is strongly associated with willingness to provide personal information online (Bhattacharjee, 2000; Hwang, 2005; Limayem *et al.*, 2000) and increased purchasing likelihood (Noteberg *et al.*, 2003).

Thus, this study considers the relationship between two main independent variables and consumers' willingness to buy goods or services via Internet. The two independent variables are (1) trust in the Internet and (2) susceptibility to social influence. The dependent variable of this study is willingness to purchase online. This research framework is adopted from the study of Sinclair (2007) "Initial Trust Formation in B2C E-commerce". The research framework is present in figure 1.

Figure 1 illustrates a schematic diagram of the research model to be employed in this study. Definition of the variables used in this study: The dependent variables are trust in the Internet and social influence, while the independent variable is willingness to purchase online.

Trust in the Internet infrastructure is defined as trust in the safety and integrity of the fundamental security measures used to protect personal information during online transactions (McKnight & Chervany, 2001). Social influence is defined as user susceptibility to social or interpersonal influence and the tendency of a person to change their online information-giving behavior as a result of social pressure (McGuire, 1968). Willingness to purchase online refers to self-report measure of willingness to purchase goods or services to satisfy needs and desires (Belch and Belch, 2004) via the Internet.

3.1 Research hypotheses

Based on the theoretical framework in Figure 1, five research hypotheses were developed.

H1: Trust in the Internet is positively related to willingness to purchase online.

H2: Susceptibility to social influence is positively related to willingness to purchase online.

H3: Susceptibility to social influence is positively related to trust in the Internet.

H4: Trust in the Internet is positively linked to susceptibility social influence.

H5: The interaction of trust in the Internet and susceptibility to social influence is positively linked to willingness to purchase online. (Since there are evidence of interaction effects, these four hypotheses address possible mediation and/or moderation effects among the four constructs in the research model).

3.2 Research approach

This study is based on empirical approach as it attempts to analyze the relationship between the independent variable of willingness to purchase online and the dependent variables of Internet trust and social influence. However, this study will be an exploration study as there are not many studies conducted. Thus, dependent variables will also be the moderating and intervening variables.

3.3 Research design

3.3.1 Sample of analysis

The population of this study will be using convenience samples among government servants and employees of private sectors residing in Federal Territory Labuan, Malaysia. However, the samples must equate with computer knowledge, have an internet access and holding and using credit cards for shopping. These three elements are prerequisites for e-commerce application to be successful.

3.3.2 Data collection method

The method of data collection was utilizing non-probability-sampling technique, that is, convenience sampling due to time and budget constraints. The questionnaires were distributed to the public personally, through family members and friends. The targeted group was government servants and employees of private-sectors as most of them are computer literate and holding credit cards.

3.3.3 Data analysis

For the data analysis of this study, the Statistical package for Social Sciences (SPSS) version 14.0 will be used firstly to obtain the descriptive statistics such as frequencies, mean, and standard deviations. Subsequently, this will be followed

by reliability tests to evaluate the consistency in each item of the variables used. The Cronbach's alpha coefficient is expected to be 0.6 or more to establish goodness or accuracy measures. The hypothesis testing based on simple and multiple regression analysis were conducted to test the relationship between the independent and dependent variables. In addition, to observe the effects of moderating variables on the relationship between the independent and dependent variables, Hierarchal Regression was conducted.

3.3.4 Questionnaire

The questionnaire for this research was adapted from the questionnaire constructed and used by Dr. Jollean K. Sinclair in the research on Initial Trust Formation in B2C E-commerce with some minor modifications. The questionnaire was presented in dual languages, English and Bahasa Malaysia. The said questionnaire was divided into two sections. Section I was to collect information relating to demographic items. There were 8 questions where the respondents were required to select one answer or complete the blank. Section II was designed to collect information relating to the Trust in the Internet, Social Influence and Willingness to purchase online. This section contained 11 items whereby the respondents were required to choose one answer out of five alternatives. The scale used was called the Likert scale whereby the five alternatives are "strongly disagree, disagree, neutral, agree, and strongly agree."

4. Research findings

4.1 Overview of data collected

A total of 200 questionnaires were distributed to the respondents. From the total of 200 questionnaires, 115 were returned on time for the analysis process. This represents an average response rate of 57.5 percent. The 115 respondents consist of 69 males and 46 females, aged between 25 to 60 years old, with the mean value of the age of 37.0957. The respondents comprise 48 Malays, 28 Chinese, 2 Indians, 22 Bumiputras and 15 foreigners. The Bumiputras comprise Sabah and Sarawak natives, namely Kadazans, Dusuns, Ibans, Bidayus and other native groups. Meanwhile, the foreigners, mostly expatriates working and residing in Labuan, were Germans, English, Australians, South Africans and Nigerians. The respondents reported using the internet extensively with 69.6 percent using the internet daily while 25.2 percent using the internet weekly and 5.2 percent using the Internet monthly. Almost 60 percent of the respondents had used Internet for more than 10 years. However, 38.3 percent of the respondents never purchase goods or services on the e-commerce, 41.7 percent had purchase a couple of times in a year and 19.1 percent had purchase monthly on the e-commerce. 33 percent of the respondents own 1 credit card, 25 percent own 2 cards, and approximately 41 percents hold 3 or more cards.

4.2 Reliability test

Reliability tests were conducted using Cronbach's alpha to measure the stability and internal consistency of the obtained data in this study. As the value is greater than 0.7, the data is deemed reliable and consistent (Nunnally, 1979). Refer to Table 1, the value obtained for all the variables is 0.901. The reliability for trust in the internet structures questions is high, with value of 0.877. The statistic for reliability test for social influences is 0.771 and willingness to purchase online is 0.939. Therefore, it can be said that the overall Cronbach's Alpha values obtained for all variables from the survey data are relatively high, indicating a relatively high probability of stability and internal consistency in the survey questions and the data obtained.

4.3 Mean and Standard Deviation of Variables

The mean value of total willingness to purchase online is 2.7983, while the standard deviation is 1.0709. On the scale of 1 to 5, the mean value of willingness to purchase online is slightly below the neutral point. The result indicates that most of the samples are willing to purchase goods and services through the Internet. All facets of trust in the Internet structures mean value is 2.7217 and the standard deviation is 0.8595. On a scale of 1 to 5, the mean value is slightly below the neutral point. This shows that most of the samples trust in the Internet structures. Similar to other variables, all the facets of social influences mean value is slightly below the neutral point. The mean value is 2.4812, while the standard deviation is 0.92422. The result can be concluded as the samples are influenced by family members, friends and media in deciding whether to purchase goods or services via Internet.

4.4 Regression Analysis

The simple and multiple regression analysis were conducted to determine the relationship between dependent variable of willingness to purchase online and the independent variables of trust in the Internet and social influences. A simple linear regression analysis was used for each independent variable that explained its influence on the dependent variable separately. However, the multiple linear regression analysis performed is used to combine independent variables which explained its influence on the dependent variable collectively. Meanwhile, the hierarchical regression analysis was used to measure the moderating variable in the independent variable which explained its influence on dependent variable separately with rules included.

4.4.1 Hypothesis 1: Trust in the Internet is positively related to willingness to purchase online

Trust in the Internet as independent variable was entered into a linear regression model equation with willingness to purchase online as the dependent variable. The result from Table 3 shows that there is significant relationship between

trust in the Internet and willingness to purchase online at 1% level. The Durbin-Watson value of 1.904 indicates that there is no autocorrelation problem. The Beta test of slope ($\beta = 0.876$), indicates that there is a highly positive related between trust in the Internet and willingness to purchase online.

4.4.2 Hypothesis 2: Susceptibility to social influence is positively related to willingness to purchase online

Social influence was entered into a linear regression model equation as independent variable, while willingness to purchase online as the dependent variable. From Table 4, the result shows that there is significant relationship between trust in the Internet and willingness to purchase online at 1% level. The Durbin-Watson value of 1.904 indicates that there is no autocorrelation problem. The Beta test of slope ($\beta = 0.301$), indicates that there is a positive related between social influence and willingness to purchase online.

4.4.3 Hypothesis 3: Susceptibility to social influence is positively related to trust in the Internet

Social influence as independent variable was entered into a linear regression model equation, with trust in the Internet trust as the dependent variable. As shown in Table 5, it shows that there is significant relationship between trust in the Internet and trust in the internet at 1% level. The Durbin-Watson value of 1.935 indicates that there is no autocorrelation problem. The Beta test of slope ($\beta = 0.416$), indicates that there is a positive relationship between social influence and trust in the internet.

4.4.4 Hypothesis 4: Trust in the Internet is positively linked to susceptibility social influence

Trust in the Internet as independent variable was entered into a linear regression model equation, with social influence as the dependent variable. From Table 6, it shows that there is significant relationship between trust in the Internet and social influence at 1% level. The Durbin-Watson value of 1.935 indicates that there is no autocorrelation problem. The Beta test of slope ($\beta = 0.387$), indicates that there is a positive relationship between trust in the Internet and social influence.

4.4.5 Hypothesis 5: The interaction of the trust in the Internet and susceptibility to social influence is positively related to willingness to purchase online

The independent variable of trust in the Internet was entered into hierarchical linear regression with willingness to purchase online as dependent variable and social influence as the moderating variable. Refer the Table 7, the interaction between trust in the Internet and willingness to purchase online moderated by susceptibility to social influence is found to be not significance at 1% level. The result indicates that there is no moderating effect from social influence.

5. Conclusion

This study was conducted to determine the relationship between trust in the Internet structure and susceptibility to social influence with regards to consumers' willingness to make online purchases in Labuan. The findings support the view that trust in the Internet structure and susceptibility to social influence are significantly related to consumer willingness to purchase online, which are in line with the findings of Lee and Turban (2001) and George (2002, 2004).

The findings between susceptibility to social influence and willingness to purchase online show a positive relationship. This is consistent with the study conducted by Limayem *et al.* (2000) where it was discovered that social influence of family and media was greatly associated with willingness to provide personal information online. Hwang (2005) supported that all three dimensions of social influence (friends, family, media) are significantly related to online trust. In addition, Bhattacharjee (2000) noted that external influence in the form of news reports, popular press and mass media will affect the intention to accept e-commerce. The susceptibility to social influence and trust in the Internet structure were found to be positively related. This result is consistent with the research conducted by Bearden *et al.* (1989) whereby susceptibility to interpersonal influence was defined as "the tendency to learn about products and services by observing others and seeking information from others".

Hierarchical linear regression analysis had provided insignificant influence between trust in the Internet structure and willingness to purchase online with social influence as the moderator. The result is contradictory to Sinclair's (2007) study which found that social influence of media as positive and negative messages has a moderating relationship between trust in the Internet and willingness to provide personal information online. However, Sinclair only measured media as moderator, but this study measured three components which are family members, friends and media as the social influence moderating factor. Thus, this may be the reason why social influence as moderator had no influence as a moderator on trust in the Internet and willingness to purchase online.

The results provided no evidence that trust in the Internet structure of social presence increase users' willingness to purchase online although a previous study discovered that social presence is effective in increasing trust in e-commerce (Gefen & Straub, 2004). The results of the study reported here may be compared to the fear or persuasion relationship proposed by Janis (1967) whereby moderate rather than maximum levels of fear are optimal in effecting persuasion. This study extends current e-commerce studies by investigating social influence as a moderating factor. As such, it investigates the differences in the strength of motivation to purchase online between positive and negative messages of

media. Although this study finds social influence is not significant as a moderator between trust in the Internet and willingness to purchase online, it provides meaningful insights for researchers and practitioners. Nevertheless, the e-commerce environment is an ever changing environment. Even though this study shows a consistent result from previous studies conducted, the relationship between variables may change from time to time. This may be due to external factors such as the threats of hackers, resulting in fear in users and dampening their intentions and willingness to purchase online.

For future research, the framework model can be expanded with several additional variables that will influence the willingness to purchase online. Examples include the attractiveness and creativity of the e-commerce website to capture user purchases online, as well as the interactivity of the e-commerce website.

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Notes

Note 1. Labuan comprises one main island and six other smaller ones covering an area of 92 sq. km. It is located off the coast of East Malaysia. The population of Labuan is about 80,000.

Table 1. Cronbach's Alpha for Variables

Variables	No. of Items	No. of Items used	Cronbach's Alpha
All Variables	12	12	0.901
Trust in Internet	4	4	0.877
Social Influence	3	3	0.771
Willingness to Purchase Online	5	5	0.939

Table 2. Means and Standard Deviation

Variables	N	Mean	Standard Deviation
Trust in Internet	115	2.7217	0.85952
Social Influence	115	2.4812	0.92422
Willingness to Purchase Online	115	2.7983	1.07099

Table 3. Willingness to Purchase Online and Trust in the Internet

Variable	R ²	Standardized BETA Coefficients	Unstandardized BETA Coefficients	SIG	Durbin-Watson
Trust In The Internet	0.498	0.706	0.876	0.000**	1.913

Notes: (**) denotes rejection of the null hypothesis and significance at the 5%(1%) level.

Table 4. Willingness to Purchase Online and Social Influence

Variable	R ²	Standardized BETA Coefficients	Unstandardized BETA Coefficients	SIG	Durbin-Watson
Social Influence	0.067	0.260	0.301	0.005**	1.863

Notes: *(**) denotes rejection of the null hypothesis and significance at the 5%(1%) level.

Table 5. Social Influence and Trust in the Internet

Variable	R ²	Standardized BETA Coefficients	Unstandardized BETA Coefficients	SIG	Durbin-Watson
Trust in the Internet	0.150	0.387	0.416	0.000**	1.935

Notes: *(**) denotes rejection of the null hypothesis and significance at the 5%(1%) level.

Table 6. Trust in the Internet and Social Influence

Variable	R Square	Standardized BETA Coefficients	Unstandardized BETA Coefficients	SIG	Durbin-Watson
Social Influence	0.150	0.387	0.416	0.000**	1.935

Notes: *(**) denotes rejection of the null hypothesis and significance at the 5%(1%) level.

Table 7. Determining Social Influence Moderates Trust in the Internet on Willingness to Purchase Online

Variables	Model 1 (Without Moderating Variable)		Model 2 With Moderating (Social Influence)	
	β	Sig	β	Sig
Social Influence	0.706	0.000**	-0.164	0.870
R Square	0.498		0.498	
Sig. F Change	0.000		0.870	

Notes: *(**) denotes rejection of the null hypothesis and significance at the 5%(1%) level.

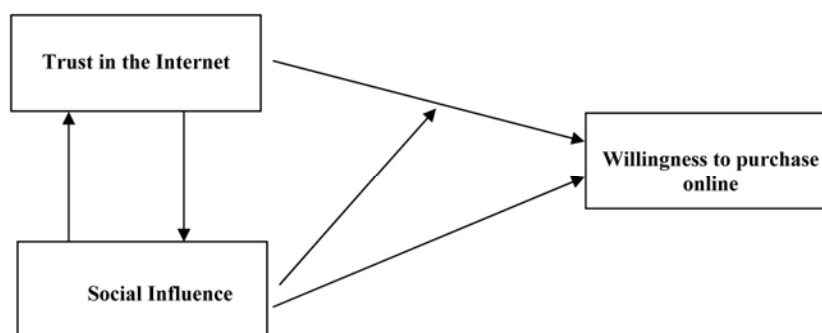


Figure 1. Research Framework



Total Quality Management in Supply Chain

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Abstract

Since 1980's, the competition between enterprises has become the one between supply chains. Therefore, the implementation of total quality management (TQM) in supply chain system but not only in enterprise has become an exquisite premise for the survival of enterprise. This paper discussed the application of the eight modern TQM principles of ISO9000 in supply chain quality management, namely customer focus, leadership, involvement of people, process management, system management, continual improvement, factual approach to decision-making, and mutually beneficial supplier relationships.

Keywords: Supply Chain, Total Quality Management, ISO9000

1. Introduction

In nowadays, the core ideas of TQM set forth by W. Edwards Deming, Joseph Juran, and Kaoru Ishikawa gained significant acceptance and has become something of a social movement. The series standards of ISO9000 are implementing in many industries, such as manufacturing, service, health care, nonprofit organizations, educational institutions, even public bureaucracies. In the introduction of *Quality Management System* of ISO9000:2000, eight principles of TQM are proposed, namely customer focus, leadership, involvement of people, process management, system management, continual improvement, factual approach to decision making, and mutually beneficial supplier relationship [1]. The eight principles generalize the success experience of the advanced enterprises in the developed countries.

In the current buyer's market with global hard competition, enterprises cannot respond rapidly to the customers' demand through traditional operation mechanism. Thereupon, a kind of new operation mechanism, i.e. supply chain management, emerges as the times require [2]. In supply chain circumstance, the majority of enterprises, especially some excellent enterprises, rely on their suppliers more and more heavily. The product quality and manufacturing process of suppliers has great effect on the quality of final product of core enterprise. It means that the emphasis of research and practice of TQM has transferred from enterprise focus to supply chain focus. Not only the high quality of product and service but also the high level of quality control of the whole supply chain system ensures the competition advance. The essence of competition advantages are not pursuing product quality and process quality simply, but the performance of the whole supply chain system. Therefore, the establishment of quality management system of supply chain based on the management ideas of ISO9000 will promote the involvement of all the members and facilitate the implement of quality control of the whole supply chain system.

Up to now, researchers has studied some related problems of quality management in supply chain. For example, Noori investigated the implementation of continuous collaborative improvement activities in the supply chains of Canadian industries, including the automotive, electronics and aerospace sectors [3]. Zhang et al. analyzed effect of product structure on supply chain quality control decision [4]. Mohamed et al. explored the relationship between first, second, and third tier suppliers in the automotive industry and the interconnection between ensuring quality and providing efficiencies in the supply chain [5]. Lin et al. identified the factors that influence supply chain quality management using empirical data collected from Taiwan and Hong Kong and found out that quality management practices are significant correlated with the supplier selection strategy [6]. Stanley & Wisner discussed the association between implementation of cooperative purchasing/supplier relationships, internal service quality, and an organization's ability to provide quality products and services to its external customers [7].

In this paper, we explore the application of the eight modern TQM principles of ISO9000 in supply chain quality

management, namely customer focus, leadership, involvement of people, process management, system management, continual improvement, factual approach to decision-making, and mutually beneficial supplier relationships, so as to promote the improvement of operation efficiency and competition advantage of the whole supply chain system.

2. Supply chain quality management based on the TQM principles

2.1 Customer focus

Customer focus is the core principle and idea of TQM because quality effort comes of customer's needs and ends with customer's acceptance. In supply chain circumstance, customer includes not only the end user but also many in-between users, such as suppliers, manufacturers, sellers, etc. However, more than half of the quality problems in supply chain are resulted by specifications because of the inadequate communications between the members of supply chain. In many cases, the procurement specifications released by buyers are equivocal while suppliers dare not to argue against buyers on the specifications in the bidding process [3]. Therefore, the core enterprise must pay attention to the needs and expectation of end users, and all the members of supply chain must pay attention to the needs and expectation of their backward users. The needs and expectation of end users should be deployed layer upon layer in the whole supply chain system. The end users will satisfy if all the member of supply chain can satisfy the needs of their backward users. Moreover, the operation efficiency of supply chain system can be improved through the satisfaction level of the end users. In supply chain quality management, some traditional tools of TQM are also effective. For example, we can use Quality Function Deployment (QFD) to identify the distinct and potential needs and preferences of users, use Fishbone Chart to investigate the factors affecting the satisfaction level of users and then use Pareto Chart to find out the key factors.

2.2 Leadership

The effective of quality management depend on the effective of leadership because quality effort can get actual effect only with the recognition and support of the leadership. In supply chain circumstance, the core enterprise play as the leadership since it establishes the development strategy and operation targets of supply chain affect the actual efficiency and effectiveness of the quality effort of all the other members. Therefore, the core enterprise must act as leadership to consider adequately the needs and expectation of the other members, establish a clear, realizable and coincident holistic target, and then lead and inspire the other members to strive jointly for the target. At the same time, the core enterprise should foster more leaders of TQM in each layer of supply chain and make them take their responsibility zealously.

2.3 Involvement of people

The exertion of enthusiasm and creativity of all the employees is the precondition of the actual effect of quality management. In supply chain circumstance, an up-and-coming excelsior work atmosphere should be established to inspire the enthusiasm and creativity of the employees of all the members. Each employee should understand his/her role and responsibility in the supply chain system, solve the problems forwardly as mastership, and learn the principles, skills and technologies of TQM and ISO9000. Here, we can foster the ethos of self-motion and self-knowledge in supply chain through 5S, i.e. seiri, seiton, seiso, seiketsu, and shitshke. Furthermore, we can make all the employees participate into supply chain quality management and strive for the satisfaction of users jointly through the establishment of QC teams that cross function or even enterprise.

2.4 Process management

The focus of modern quality view is the process quality management but not the product itself of traditional quality view. It is the requirement of the quality management system of ISO9004:2000 and the essential difference of modern and traditional quality view. In each step of supply chain, there are many correlative processes, such as procurement, logistics, production, inventory, selling, service, etc. These processes have their own independent objectives and programs. There are usually conflicts among the objectives and programs. Therefore, the processes and their mutual effects should be identified and managed to ensure the harmonious operation of supply chain. Then, all the processes, especially the key processes, can realize high quality, i.e. small variation, small waste, and more increment, through the continuous improvement and total quality control in all the nodes of supply chain system, as shown in Figure 1.

Insert Figure 1 Here.

2.5 System management

The application of system approach in quality management is to view the quality management system as a big and holistic system, identify and manage the sub-systems respectively. Then, the coordinated effect and mutual promotion among the sub-systems will make the whole effect greater than the sum of the improvement of each sub-system and improve the validity and efficiency of the realization of final targets [8]. In supply chain circumstance, enterprise should confirm the mutual dependence relationship among the processes in supply chain system, break the boundary among supply chain members, construct and integrate the processes in supply chain system. Then, many well operation sub-systems can be constructed to collocate the resources rationally among the sub-systems. Finally, the whole supply

chain system, including supply, transport, production, distribution, inventory, etc., can realize the target and policy of quality through the optimal operation mode.

2.6 Continual improvement

Continual improvement is one of the focuses of modern quality research and practice. Enterprise must improve the quality of product and service continually and reduce the cost to make customer satisfactory. In supply chain circumstance, the pressure of continual improvement is more and more pressing because the market competition is more and more hard. Not only the core enterprise but also the other members, such as suppliers, sellers, and logistics providers, must improve their product and service respectively so as to construct the continual improvement of products and services all over the supply chain process. Then, the continual, stable and harmonious ability of quality assurance can be established. Furthermore, the core enterprise and other members must find the ways and practices improving performance in or out of supply chain through benchmarking to make the continual improvement speed fast than the one of rivals. However, it is ironical that one of the most important reason in the predicament of Xerox, which initiated benchmarking practices, was exactly its slow reaction with the fast changing environment.

2.7 Factual approach to decision making

The sufficient and adequate data and information is the foundation of making right and effective decisions. Up to now, many enterprises have began to collect and deal with all kinds of data and information by utilizing many advanced information technology, e.g., EDI, MRP II, ERP, POS, Intranet/Extranet/Internet, so as to provide foundation for making effective decision. In supply chain circumstance, enterprise should collect data and information of not only itself but also the other members of supply chain to record and analyze the current operation situation of each member. Therefore, the potential problems in any step of supply chain can be found duly according to the results of data analysis. Then, the corresponding correct and timely decision can be made to avoid or rectify the problem.

2.8 Mutually beneficial supplier relationships

What impact can suppliers have in achieving quality? TQM authorities recommend that organizations work directly with raw material suppliers to ensure that their materials are of the highest quality possible [9, 10, 11]. Currently, at least 50 percent of TQM organizations collaborate with their suppliers in some way to increase the quality of component parts [12]. Often these organizations send out "quality action teams" to consult with their major suppliers. The objective is to help suppliers use TQM to analyze and improve their work processes [13]. Suppliers can contribute to quality in a number of other ways.

Therefore, the organization and its supplier are mutually dependent. Maintaining the mutually beneficial relationships between them can improve the ability of creating value both of them. In supply chain circumstance, the product quality is performed and ensured by all the members of supply chain because the production, sales and service process must be performed by all the members [14]. Therefore, the task of supply chain quality management is not only to establish the product inspection system and comprehensive evaluation system of suppliers, but also to strengthen the mutual beneficial partner relationships with suppliers. The core enterprise must realize the following activities:

- Identify and select the main suppliers, reduce the scale of supply system, and realize small supply base management;
- Investigate the requirements of customers and develop new product jointly with suppliers;
- Share information, technology, and resource with suppliers;
- Admit the improvement and achievement of suppliers;
- Take joint improving activities with suppliers;
- Ensure the conformity of quality system between core enterprise and the other members, including basic conformity (e.g. program files, technology specification, process interface) and advanced conformity (e.g. quality target, quality policy, and quality culture).

In fact, there is a new trend in the international practices of supply chain management. Namely, more and more large-scale enterprises have pay attention to the management and development of suppliers, e.g. providing capital, technology, human resource, equipment and training for suppliers, sending quality teams to help suppliers improve their processes, and sharing the yields of continual improvement with suppliers.

3. Concluding remarks

The series standards of ISO9000 are made for the standardization of quality management and quality assurance. Therefore, in supply chain circumstance, the implementation of ISO9000 is the basic assurance for an enterprise to provide acceptable product or service and improve the quality level in a certain supply chain. The application of the eight modern TQM principles of ISO9000 in supply chain quality management will promote the improvement of operation efficiency and competition ability of the whole supply chain system.

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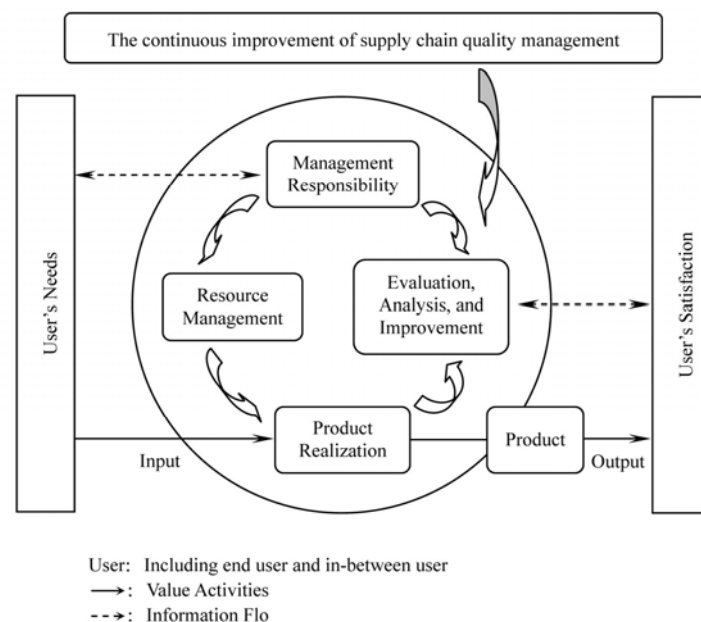


Figure 1. Supply chain quality management system based on the principle of process management



Case Study of Factors Influencing Jobs Satisfaction in Two Malaysian Universities

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Abstract

This work identifies the factors that measure job satisfaction of faculty members at two selected and major universities in Malaysia, using ten major factors corresponding to job satisfaction using the Herzberg Two-factor Theory to determine how these selected factors are related to job satisfaction of Malaysian faculty members. The conclusions drawn from this study are that the major sources of job satisfaction for Malaysian faculty members are shown to be policy, administration, and salary. The relevant sources of dissatisfaction are personal achievement, personal growth, interpersonal relations, recognition, responsibility, supervision, the work itself, and the overall working conditions. This study has a number of practical implications for institutional administrators, because if the educational institution has no instrument designed to measure faculty perceptions of their jobs and work, these administrators could elect to use the same instrument that investigates the areas of job satisfaction to gain similar results.

Keywords: Higher education, Herzberg Two-factor Theory, Job satisfaction, Job dissatisfaction

1. Introduction

The relationship between the individual and the factors determining job satisfaction has been extensively researched in developed countries. In 1992, it was estimated that over 5,000 articles and dissertations have examined the topic of job satisfaction (Cranny et al., 1992), and this is a continuing topic for research. An early assumption can be made that interest in the subject illustrates the significance that employee satisfaction seriously influences the total operation of an organization. Staples et al. (1998) suggest that the reason for this interest is that work takes up such a significant amount of a person's life, and by increasing an individual's overall satisfaction with his or her work life improves the overall well-being of the individual, the organization, and the society where both the individual and the organization reside.

In the United States, job satisfaction and dissatisfaction is a major industrial topic, where academic and other research results and general press articles number in the thousands. (Locke, 1976). Yet despite this vast output, many researchers are dissatisfied with the progress that has been made in understanding and defining job satisfaction. For decades, researchers have tried to understand employee morale and to establish relationships between job satisfaction and productivity, absenteeism, and other independent variables (Cohen, 1974). Although the concept of job satisfaction and its causes and effects have been studied over a great variety of industrial settings, few studies have dealt with institutions of higher education. However, during the past few years, additional studies have been undertaken concerning job satisfaction within these institutions (Neumann, 1978). Fundamental to any study of this type, is the attitude of educators at this level, as faculty members may not tend to consider themselves as workers, and from this, the literature of business and Industry, their models, or the theories used in describing general industrial activities, is mostly considered not applicable by such institutions and their faculty as a whole. Another reason may be one of quantifying the results, as only the number of scholarly publications produced by faculty members and the number of hours per week spent in teaching can be counted, but the quality of educational output and the value of the resulting production is difficult to ascertain and almost impossible to attribute to any other type of industrial organizational

environment (Cohen, 1974). Still, job satisfaction and dissatisfaction in institutions of higher education and the problems of imprecise dependent variables ought not to be overlooked by researchers.

In Malaysia, research on job satisfaction has been carried out in on various industrial sectors. Dawal and Taha (2006) reported factors affecting job satisfaction in two automotive industries in Malaysia. Lew and Liew (2006) explored the antecedents of needs and job satisfaction among employees of a leading bank in Malaysia and the implications for the management of bank employees. Santhapparaj et al. (2005) reviewed job satisfaction among women managers in Malaysian automobile sector and Santhapparaj and Shah (2005) studied the Job satisfaction among academic staff in private universities in Malaysia.

With an expansion of Malaysia's industrial sectors, many teaching staff have moved to jobs in industry (Malaysian Ministry of Higher Education, 2006) and a similar scenario is occurring in Thailand (Pasuwan, 1972). It seems clear that faculty members have left education for industry or have left a given educational institution because of the circumstances found within a given institution. For example, a particular faculty member may seek meaningful experiences in their next position. Another may become mobile as a result of a better offer, and not as a result of dissatisfaction with his current position. However, some faculty members have left because of an institution's failure to manage job satisfaction. Good administrators apparently realize that a high rate of turnover of faculty members results in a faculty of limited commitment, ineffective curriculum development, and general faculty unrest, and it can be costly both to the reputation of the institution and to the well-being of the students (Nicholson and Miljus, 1972).

The literature indicates that job satisfaction is a prerequisite to an educator's long tenure and performance, and overall institutional effectiveness (Wood, 1976). For these reasons it seems wise to identify factors that affect job satisfaction of faculty members within an educational institution, and to positively use these results as part of an ongoing management program.

The underlying purpose of this study is to investigate and analyze the factors affecting faculty job satisfaction at two selected universities in Malaysia. A review of Malaysian literature has indicated that there are a limited number of studies available to researchers that reference this area. Relatively few studies have had as their main concern the morale of academics within the universities of Malaysia. Also, the increasing intensity of the competition for quality staff and quality-demanding and quality-producing students, within higher education is founded upon the reality that the number of public and private higher education institutions has increased worldwide. As found within industry, it has been proven that satisfied employees deliver better service because they are able to better understand their customers, and in the case of a university, its customers are its hard-won and quality-demanding students.

Having identified the challenging problem for higher education, the first section of this paper introduces the current literature regarding human motivation described by Herzberg's and Maslow's theories. The second section provides the academic aspect of two Malaysian universities nominated as University A and University B and discusses and outlines their academic planning strategies. The third section discusses the research methods used to examine both the fundamentals of human needs and the architectural framework proposed by Herzberg's theory (2000), and the fourth section discusses the preliminary findings and the role of the factors that drive employee morale and then establishes a facility that successfully merges the relationship between job satisfaction and productivity. Finally, the fifth section presents conclusions regarding the practical significance of the research results with that of the literature, and establishes the potential business impact of these findings to job satisfaction within both the Malaysian Universities studied.

2. Customer Focus

The idea of being customer-focused, that is, understanding the customer's needs and finding ways to meet these needs, is a new educational concept as it treats education as any other industry, where the quality of the education programs are the primary sources of providing bundles of benefits to its customers. Nevertheless, according to Bateson and Hoffman (1999), it is often impossible for a service organization to differentiate itself from other similar organizations in regards to its offered benefit bundle, as they stress that the contact personnel are the sources of product differentiation in all service organizations. In addition, Lovelock et al. (2002) argue that customer-contact personnel perform a triple role as operation specialist, marketer, and are part of the serviced product itself. Here, there are three relationships considered – student to faculty, student to institution, and institution to faculty, all with two-way communication linkages, and one to the other, as a descriptive triangle.

The ability to retain faculty is becoming a challenging problem for all higher education institutions (Tack & Patitu, 2000) and faculty retention is dependent upon faculty job satisfaction. A 1998 study conducted by William M. Mercer, Inc., concluded that the most objective measures of satisfaction in organizations were reported to be employee retention and turnover (Mercer, 1998). This study also reported that a five percent increase in retention resulted in a ten percent decrease in costs, and, that productivity increases ranging from twenty-five to sixty-five percent are possible (Mercer,

1998). From this, it is important for higher education institutions to know what motivates faculty to stay in their positions, as replacing them is not only difficult but also expensive in unrecoverable costs.

In his original motivational research, Frederick Herzberg investigated the question of why workers stay in their work positions. Taking a different approach, the Mercer study investigated the economic effects of retention versus attrition in the workforce, while Herzberg's inquiries tried to establish what motivated workers to remain in their jobs. Herzberg is the singular motivational theorist who approached the theoretical concept of motivation specifically within the context of employment and justified the contention that business was the dominant institution in society (Herzberg, 1966). Herzberg contended that industry needed to know what motivated workers to remain in a job long enough to become effective in their positions, as only experienced workers were capable of building a strong and cohesive workforce in the organization. His investigations focused upon whether a worker's attitude toward his job would affect their productivity or willingness to remain in their position (Herzberg, 1966).

A worker's unwillingness to remain in their job is found to be both inefficient and expensive for industry (William M. Mercer, Inc. (1998)). Employees who are unwilling to remain in their positions represent an unrecoverable loss for industry as it is a function of the losses of revenue during their training and orientation. Workers who did not remain in their jobs did not become proficient at their jobs, and is the same for teachers when evidenced in higher education (Herzberg, 1966).

On the other hand, Abraham Maslow's (Maslow, 1943) theory, which is considered relevant and applicable today, observes human motivation factors, it is comprehensive and did not focus on an exclusive framework, but concerned the fundamental fulfillment of human needs. However, these needs may be satisfied outside work and questions are raised as to the applicability of this theory to industry, although subsequent writers have applied the self-actualizing approach to an industrial setting. Maslow's original five different levels of human needs are enumerated as follows.

- 1) Lower order needs, that include the biological and physiological needs (including but not limited to desires for food, water, air, sleep, and sex),
- 2) Safety needs (the desire for security and protection against danger),
- 3) Social needs (the desire to fulfill the need for belonging, love, and affection).
- 4) The higher order needs included needs for esteem (self-esteem and esteem from others) and
- 5) Self actualization, defined as the need for self-fulfillment or striving to realize one's full potential.

Herzberg's theory and Maslow's theory are contrasts. Herzberg's theory was built upon two separate sets of conditions, satisfiers and dis-satisfiers. The dis-satisfiers in Herzberg's theory corresponded to the lower order human needs enumerated in Maslow's theory. The satisfiers correspond to the higher order human needs in Maslow's theory. However, unlike Maslow, Herzberg coined his own terminology and assigned new definitions to terms previously carrying universal associations (Herzberg, 1966; Maslow, 1943). Herzberg's theoretical scheme employed a two-dimensional design, firstly, featuring hygiene factors or dis-satisfiers, which were incapable of providing motivation or satisfaction, and secondly, motivators, which served as satisfiers. Dis-satisfiers included company policy, supervision, working conditions, interpersonal relations, salary, status, job security, and personal life. Satisfiers included achievement, recognition, the work itself, responsibility, advancement, and growth (Herzberg, Mausner, & Snyderman, 1959).

The initial results of this work indicate a contradiction with Herzberg's conclusions, in that compared with the Herzberg Two-factor Theory, Herzberg's motivator or intrinsic factors contributed more to dissatisfaction than satisfaction of Malaysian University faculty members. It was also found that two hygiene factors, namely salary, and policy and administration, acted as significant contributors to the satisfaction of faculty members. However, since the values of the Likert ratings fell in the neutral area, it may be appropriate to conclude that the meaning of neutrality in the measurement of satisfaction and dissatisfaction partially supported the Herzberg Two-factor theory. This is apparently due to the differences between European and Asian cultural influences or even the differences in the manner of the construction of educational occupations with similar titles but differing work loads and responsibilities as found in other cultures and cultural education organization.

From this a priori conclusion, the job satisfaction of two universities faculty members in this study were reflected by the presence of some hygiene factors, while job dissatisfaction was reflected by the absence of motivators. The ten factors selected from the Herzberg Two-factor Theory used in the survey may not be adaptable to the measurement of satisfaction of teaching staff of the two Malaysian universities concerned, probably due to cultural factors.

In Herzberg's theory, dissatisfaction did not automatically result in a lack of satisfaction, and dissatisfaction did not automatically control the behavior of the person as these two factors are independent. In contrast, in Maslow's paradigm, the lowest order unmet need would dominate the behavior of the subject and nullify any positive aspects of a satisfied higher order need, as satisfaction of a higher order need was dependent upon the satisfaction of lower order

needs and the fulfillment of the two were inextricably intertwined (Herzberg, Mausner, & Snyderman, 1959; Maslow, 1954).

3. Research Objectives

The purpose of this study is to determine what selected factors are related to faculty job satisfaction at two selected Malaysian universities. It is an attempt to find out how faculty members feel about their jobs, what pleases them in their work, what are the intrinsic rewards of their work, and what brings negative reactions or tends to frustrate them. The knowledge gained by examining such factors may be used in various ways, for example - as a managerial guide for administrators in area of faculty retention. If certain factors appear to be related to the formation of positive job attitudes, institutional administrators can manipulate the environments in such a manner as to promote a reasonably high level of job satisfaction. These factors may also provide:

- 1). Relevant information for influencing prospective students to consider careers in university teaching, research and administration.
- 2). Insight into those variables associated with the formation of job satisfaction attitudes of Malaysian faculty members.
- 3). An awareness of factors associated with work or job satisfaction and dissatisfaction.

3.1 Theoretical Framework of the Study

In developing the theoretical framework, this work elects to deal with the Herzberg Two-factor Theory of job satisfaction (Herzberg et al. 1959). In this regard, the study draws 10 major factors corresponding to job satisfaction and dissatisfaction in the Herzberg Two-factor Theory to determine whether or these selected factors are related to job satisfaction of Malaysian University faculty members.

This study answers the following questions:

- 1). Do the selected factors measure job satisfaction of Malaysian faculty members in the two selected universities?
- 2). What are the characteristics of those most satisfied and the least satisfied groups?
- 3). Are Malaysian faculty members in significant agreement on the factors measuring their job satisfaction?
- 4). Is the pattern of job attitudes of Malaysian faculty members similar to the pattern found in the Herzberg job satisfaction model?
- 5). Is it possible to conclude that the two-factor theory is adaptable to the teaching staff in institutions of higher education in Malaysian?

3.2 Basic Assumption

The basic assumptions for this study include the following:

- 1). There are certain factors that affect job satisfaction of university faculty members.
- 2). That the random sample of 200 faculty members is representative of the population of faculty members in the two selected Malaysian universities.
- 3). Because data used in this study were collected through an anonymous survey questionnaire, it is assumed that respondents were truthful in expressing attitudes towards their jobs.
- 4). The value of the findings will be increased considerably if the effects of the factors that cause dissatisfaction can be minimized or eliminated and the factors that increase faculty job satisfaction can be maintained or maximized within these two institutions.

3.3 Hypothesis

The following null hypotheses were tested:

- 1). H_I: There are no significant differences among faculty members of different age levels regarding the factors measuring their job satisfaction.
- 2). H_{II}: There is no significant difference between male and female faculty members regarding the factors measuring their job satisfaction.
- 3). H_{III}: There is no significant difference between married and unmarried faculty members regarding the factors measuring their job satisfaction.
- 4). H_{IV}: There are no significant differences among faculty members with different number of years of service regarding the factors measuring their job satisfaction.
- 5). H_V: There are no significant differences among faculty members with different levels of formal education regarding the factors measuring their job satisfaction.

6. HVI: There are no significant differences among faculty members engaged in teaching and research, and the faculty members engaged in academic administration regarding the factors measuring their job satisfaction.

7. HVII: There are no significant differences among faculty members of different academic ranks regarding the factors measuring their job satisfaction.

3.4 The Selection of Sample

The random sample of faculty members was selected from two universities around the capital of Malaysia, Kuala Lumpur. Although the two institutions may not constitute a large enough sample to be representative of all colleges and universities in Malaysia, it was felt they might provide a sufficiently large sample size of faculty within the range and diversity typically found within the universities located within Malaysia. Because faculty members are the primary focus of this study, the two institutions were selected to assure that different types of university faculty could be studied and also the same types of faculty across these two universities.

3.5 The Sample

For this study, 100 faculty members of the two universities were randomly selected from the university's personnel files. The following criteria were used in selecting the sample and these criteria for sample selection were determined for the purpose of gaining a representative sample from each university.

All the faculty members were full time employees.

Each chosen faculty member had to have at least three months employment with the given university and it was found that most had an employment record of more than one year.

All responses were coded and analyzed by computer using the programming of Statistical Packages for Social Sciences (SPSS).

The results will be presented in two sections: general characteristics of the sample, and the results of statistical tests of the null hypotheses.

3.6 General Characteristics of the Sample

The initial section of the instrument asked the sample to respond to seven personal variables: age, sex, marital status, number of years employed, highest level of formal education, professional rank, and primary responsibility. Table 1 summarizes these data.

<Insert table: 1 General Characteristics of the Sample of Each University >

4. Tests of the Hypothesis

Hypothesis I: There are no significant differences among faculty members of different age levels regarding factors measuring their job satisfaction.

A one way analysis of variance and Scheffe test were used to measure the significance of the different age levels of a faculty member's response to each major factor. Table 2 represents the means and standard deviations of all age levels and F statistic for each major factor.

An examination of Table 2 indicates a highly significant statistical difference in the responses to the salary factor. In addition, an analysis by means of Scheffe method also reveals a significant difference ($p = .05$) in satisfaction with salary between Group 5 (41 and over) and all the other age groups.

<Insert table: 2: The means of major factors measuring job satisfaction for five age groups>

Based on the mean differences, Group 5 (age 41 years and over) tends to be less satisfied with the salary factor than the other age level groups. The null hypothesis is then rejected for this factor.

Because no significant differences are noted in the faculty member's responses for the other major factors, the null hypothesis is not rejected for other major factors.

Hypothesis II: There is no significant difference between male and female faculty members regarding the factors measuring their job satisfaction.

<Insert table: 3: Comparison of male and female faculty members regarding factors measuring their job satisfaction >

The results of the data analysis of this hypothesis are found in Table 3. A t-test was conducted on the mean differences between male and female faculty members' responses for each of the ten factors. The t-formula for pooled variance was used in this evaluation.

An examination of this table indicates no significant statistical differences reported between male and female faculty members regarding the major factors affecting their job satisfaction, therefore, the null hypothesis is not rejected.

Hypothesis III: There is no significant difference between married and unmarried faculty members regarding the factors measuring their job satisfaction.

The t-test was conducted on the mean differences between married and unmarried faculty member's responses for each of the major factors.

A significant statistical difference between married and unmarried faculty members was found in the working conditions. As the table shows, the mean of married (2.6866) was lower than that for unmarried (2.8530). Based on the mean differences, married faculty members were more dissatisfied with working conditions than their unmarried counterparts. The null hypothesis is rejected for this factor.

Because no significant statistical difference is noted between married and unmarried faculty members' responses to other factors, the null hypothesis is not rejected for the other factors of the study.

<Insert table: 4 Comparison of married and unmarried faculty members regarding factors measuring their job satisfaction >

No significant statistical difference between married and unmarried faculty members was found for all major factors. The mean of married (2.7169) was lower than that for unmarried (2.8270). Based on the mean differences, married faculty members were slightly more dissatisfied with working conditions than their unmarried counterparts.

Because no significant statistical difference is noted between married and unmarried faculty members' responses to all the factors, the null hypothesis is not rejected for this study.

Hypothesis IV: There are no significant differences among faculty members with different number of years of service regarding the factors measuring their job satisfaction.

An analysis of variance and the Scheffe test were employed for testing of this hypothesis. Table 5 represents the means of all groups of years employed and the F statistic for each major factor.

Again, there is only a significant statistical difference in the faculty members' responses to the salary factor. Results of the Scheffe method also support similar significant difference ($p = .05$) in satisfaction with salary between Group 4 (11 years and over) and other age groups.

<Insert table: 5: The means of major factors measuring job satisfaction for four groups on the number of years employed >

An inspection of Table 5 indicates that Group 4 (11 years and over) has the lower mean and is thus less satisfied with salary factor than other groups. Thus, the null hypothesis is rejected for this factor. As for the rest of the factors, the null hypothesis is not rejected.

Hypothesis V: There are no significant differences among faculty members with different levels of formal education regarding the factors measuring their job satisfaction.

A one way analysis of variance and the Scheffe test were used in the testing of this hypothesis. Table 6 shows the mean of each highest level of formal education group and the F statistic of each major factor.

<Insert table: 6: The means of major factors measuring job satisfaction for three educational level groups>

An inspection of Table 6 reveals a highly significant difference in salary factor among the groups having different levels of formal education. The results of the Scheffe method also support similar significant difference between Group 2 (Master's degree) and Group 3 (Doctoral degree). Group 2 has the lower mean and is thus less satisfied with the salary factor than the other groups. The null hypothesis for this factor is rejected.

Because no significant differences are produced for the other major factors, the null hypothesis is not rejected for those factors.

Hypothesis VI: There is no significant difference between faculty members engaged in teaching and research, and faculty members engaged in academic administration regarding the factors affecting their job satisfaction.

A one way analysis of variance and the Scheffe test were employed for testing this hypothesis. Table 7 gives the means and standard deviations of each group of assigned responsibility and the F-statistic for each factor.

An examination of Table 7 indicates no significant differences in the responses of each group regarding factor affecting their job satisfaction. Thus, the null hypothesis is not rejected.

<Insert: Table 7: The means of major factors measuring job satisfaction for five groups on the basis of primary responsibility>

Hypothesis VII: There are no significant differences among faculty members of different academic ranks regarding the factors measuring their job satisfaction

<Insert: Table8: The means of major factors measuring job satisfaction for four groups on the basis of academic ranks>

A one way analysis of variance and the Scheffe test were employed to measure the significance of four groups of faculty members with different academic ranks regarding the factors affecting their job satisfaction. Table 8 presents the mean of each group of academic rank and the F-statistic for each major factor.

An examination of Table 8 discloses the following:

A significant statistical difference among the groups with different academic ranks is found in the recognition factor. An F-value of 3.107 is recorded Group 3 (associate professors) has the lower mean and is thus more dissatisfied with recognition than other groups.

A highly significant statistical difference among the groups is found in the salary factor. This factor has an F-value of 5.016. The Scheffe method also reveals a significant difference ($p = .05$) in satisfaction with salary between Group 3 (associate professors) and Group 2 (assistant professors), and between Group 3 (associate professors) and Group 1 (tutors). Inspection of Table 8 shows that lowest level of satisfaction with the salary factor is reported by Group 3 (associate professors).

A significant statistical difference among the groups is also found in working conditions. An F-value of 2.998 is recorded. Again, Group 3 (associate professors) has the lower mean and is more dissatisfied with working conditions than the other groups.

Although the Scheffe method does not substantiate the result of the one way analysis of variance on recognition and working conditions, the null hypothesis is rejected for recognition, salary, and working conditions. The data obtained were analyzed to differentiate between the two groups of faculty members relative to the rating factors. All null hypotheses were tested using a t-test, an analysis of variance, and the Scheffe test.

5. A Summary of the findings of this survey

The major sources of job satisfaction for Malaysian faculty members were policy and administration, and salary. The relevant sources of dissatisfaction were achievement, growth, interpersonal relations, recognition, responsibility, supervision, work itself, and working conditions.

Among the major sources of job satisfaction, age, number of years employed, formal education level, and academic rank of faculty members were salary. The findings disclosed that the age group of 41 years and over were least satisfied with salary than the other groups. Those who were associate professors as well as those who have been employed for more than 11 years were the groups found to be least satisfied with salary. However, when formal education levels were considered, those with a doctoral degree were found more satisfied with their salary as compared with other groups of less formal education.

Among the major sources of job dissatisfaction, marital status and academic rank of faculty members were affected by working conditions and recognition. Married faculty members were more significantly dissatisfied with working conditions than the unmarried co-workers. Also, associate professors were found to be significantly more dissatisfied with working conditions and recognition than the other groups of faculty members with different academic ranks.

Sex and the primary responsibility of faculty members were found to have no significant differences regarding the major factor measuring faculty job satisfaction.

In comparison with the Herzberg Two-factor Theory, the motivator or intrinsic factors contributed more to dissatisfaction than satisfaction of faculty members. Conversely, it was found that two hygiene factors, those of salary, and those of policy and administration, acted as significant contributors to the satisfaction of faculty members in this study. However, since the values of rating factors fell in the neutral area, it may be appropriate to conclude that the meaning of neutrality in the measurement of satisfaction and dissatisfaction supported, in part, the Herzberg No-factor theory.

Because the job satisfaction of Malaysian university faculty members in this study was reflected by the presence of some hygiene factors while job dissatisfaction was reflected by the absence of motivators, the ten factors selected from the Herzberg Two-factor Theory for use in the assessment instrument may not be adaptable to the measurement of satisfaction or dissatisfaction of teaching staff in the two selected Malaysian universities. Some deviations from the two-factor theory could be due to cultural or occupational differences or both between Professor Herzberg's population and the population of this study.

6. Conclusions and Implications

The finding of this sample of faculty members only offers partial support of the Herzberg Two-factor Theory. This study shows that all motivator factors are related to job dissatisfaction, while some of the hygiene factors, in fact, lead to job satisfaction. These "motivators" in Herzberg's words including advancement, recognition, responsibility,

achievement, and the work itself attained low value for Malaysian faculty members, showing a trend in the direction of job dissatisfaction. Two "hygiene" factors, policy and administration, and salary were low in Herzberg's model, but appeared high for Malaysian faculty members, disclosing a trend in the direction of job satisfaction. This study also suggests that cultural background differences may have an impact on employee's reaction to job satisfaction, as the pattern of job attitudes for Malaysian faculty members is not similar to that in the Herzberg job satisfaction model.

This study has a number of practical implications for the institutional administrators. If the educational institutions in Malaysia have no instrument designed to measure faculty perceptions, the administrators may elect to use the same instrument to investigate the areas of job satisfaction. However, some changes in the instrument may be made to meet the local needs. It is recommended that the administrators of the two selected institutions in this study conduct a series of follow-up studies to determine whether faculty attitudes have changed within a succession of short terms, perhaps at least annually in each institution.

Since findings reveal that all motivator or intrinsic factors are strongly related to job dissatisfaction, concerted efforts should be made to improve job satisfaction in each of the motivator or intrinsic factors. Jobs should be enriched and emphasis should be placed on motivator or intrinsic areas to allow the faculty to reach towards self-actualization and satisfaction. Improvement in areas rated low would lead to improvements in education 'production' as well. If motivator or intrinsic factors could be improved to provide more flexibility and more adaptability to changing conditions, if interpersonal relations are improved so as to facilitate better teaching, and if working conditions are improved, the resulting quality of education would most certainly have to increase along with faculty satisfaction. Further, it may be beneficial to the institution in terms of the selection and recruitment process, as an institution's ability to attract and retain able faculty members may well depend upon the degree of satisfaction the institution provides its faculty.

In summary, this study provided the means to perceive factors that measure Malaysian university faculty member's job satisfaction. It is recommended that each selected institution utilize the results from this study to improve the job satisfaction of each individual faculty member according to his or her indicated needs. In addition, the disclosing factors that affect faculty job satisfaction should be documented to assist with general and long-range plans for improvement.

6.1 Limitations

As stated in the above, the conclusions of this study cannot be generalized to all faculty members across Malaysia. The results are restricted to the two universities from which the samples were drawn.

Recommendations for Future Research

Based on the results of this study, the following recommendations are made for further study of factors measuring Malaysian faculty job satisfaction:

The present study might be replicated by using the critical incident method employed by Professor Herzberg as a parallel verification study for the structured questionnaire.

The replication of the study on factors measuring Malaysian faculty job satisfaction with larger sample groups coverings all universities in the country is needed to substantiate the effects of both significant and non-significant factors in the present study. The problem areas could be further investigated, the findings of which might possibly indicate what could be done to increase faculty job satisfaction in the universities of Malaysia.

This instrument is based heavily on the motivator and hygiene factors in the Herzberg Two-factor Theory. It is recommended that more attempts need to be made in developing a standardized research instrument to measure factors related to job satisfaction in Malaysia.

With the development of such an instrument, research of the cooperative type could be undertaken. These may be some of the challenges and the needs which lie ahead for job satisfaction researchers

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Table 1. General Characteristics of the Sample of Each University

Characteristics	University A		University B	
	No.	%	No.	%
Age :				
25 or less	3	4.2	1	1.2
26 - 30	6	8.3	11	13.6
31 - 35	28	38.9	19	23.5
36 - 40	21	29.2	15	18.5
41 or over	14	19.4	35	43.2
Totals	72	100.0	81	100.0
Gender :				
Male	49	68.1	58	71.6
Female	23	31.9	23	28.4
Totals	72	100.0	81	100.0
Marital Status :				
Married	65	90.3	77	95.1
Single	7	9.7	4	4.9
Totals	72	100.0	81	100.0
Number of Years Employed :				
Less Than 1 year	1	1.4	2	2.5
1 - 5 years	5	6.9	9	11.1
6 - 10 years	32	44.4	12	14.8
10 - 15 years	23	31.9	24	29.6
16 years or longer	11	15.3	34	42.0
Totals	72	100.0	81	100.0
Highest Level of Education :				
Bachelor's degree	0	0.0	0	0.0
Master's degree	14	19.4	9	11.1
Doctoral degree	58	80.6	72	88.9
Totals	72	100.0	81	100.0
Academic Rank :				
Tutors	1	1.4	2	2.5
Lecturers	26	36.1	29	35.8
Associate Professors	41	56.9	38	46.9
Professors	4	5.6	12	14.8
Totals	72	100.0	81	100.0
Primary Responsibility :				
Teaching	15	20.8	6	7.4
Research	2	2.8	4	4.9
Teaching and Research	45	62.5	57	70.4
Academic Administration	2	2.8	5	6.2
Teaching & academic Administration	8	11.1	9	11.1
Totals	72	100.0	81	100.0

Table 2. The means of major factors measuring job satisfaction for five age groups

Major factor - Age	25 or less	26-30	31-35	36-40	41 over	F Statistics
Achievement	2.3620	2.6912	2.6209	2.6120	2.6094	0.803
Growth	2.6263	2.6760	2.6841	2.7437	2.8750	0.587
Interpersonal relation	2.3542	2.5295	2.4984	2.4037	2.3103	0.900
Policy and administration	3.1250	3.2650	3.1027	3.0281	3.0063	1.092
Recognition	2.6570	2.9200	2.7000	2.7182	2.7385	0.591
Responsibility	2.5250	2.8520	2.6287	2.7568	2.6246	1.157
Salary	3.5417	3.5067	3.3378	3.2697	2.8375	4.648
Supervision	2.9687	3.1717	2.9748	3.0407	2.8784	0.689
Work itself	2.3438	2.6567	2.5278	2.6204	2.6211	0.637
Working condition	2.2656	2.5826	2.5321	2.4389	2.3320	0.147
Overall job satisfaction	2.5000	2.8182	2.7895	2.7150	2.6852	0.289

Table 3. Comparison of male and female faculty members regarding factors measuring their job satisfaction

Major factors	Group	Mean	Standard Deviation	Pooled t-value
Achievement	Male	2.6275	0.328	1.0954
	Female	2.6421	0.405	
Growth	Male	2.6799	0.619	0.0726
	Female	2.749	0.628	
Interpersonal relation	Male	2.4116	0.512	1.0853
	Female	2.3609	0.631	
Policy and administration	Male	3.0102	0.522	0.0676
	Female	3.103	0.515	
Recognition	Male	2.669	0.427	1.4277
	Female	2.7177	0.561	
Responsibility	Male	2.6213	0.536	0.6641
	Female	2.7421	0.61	
Salary	Male	3.1061	0.798	0.6588
	Female	3.2077	0.697	
Supervision	Male	2.7016	0.737	0.4112
	Female	2.9412	0.678	
Work itself	Male	2.6501	0.556	0.4562
	Female	2.5662	0.608	
Working condition	Male	2.3578	0.506	0.0691
	Female	2.1544	0.513	
Overall job satisfaction	Male	2.6352	0.758	0.3308
	Female	2.7842	0.809	

Table 4. Comparison of married and unmarried faculty members regarding factors measuring their job satisfaction

Major factors	Group	Mean	Standard Deviation	Pooled
Achievement	Married	2.6193	0.482	0.2535
	Unmarried	2.6741	0.458	
Growth	Married	2.7711	0.560	0.4106
	Unmarried	2.9451	0.607	
Interpersonal relation	Married	2.3866	0.621	0.2936
	Unmarried	2.5217	0.658	
Policy and administration	Married	3.0421	0.598	0.4299
	Unmarried	3.1155	0.548	
Recognition	Married	2.6897	0.680	1.1672
	Unmarried	2.8765	0.851	
Responsibility	Married	2.6457	0.645	0.3725
	Unmarried	2.7431	0.694	
Salary	Married	3.0854	0.681	0.5206
	Unmarried	3.2145	0.754	
Supervision	Married	2.9574	0.875	0.9286
	Unmarried	3.0120	0.721	
Work itself	Married	2.6875	0.621	0.6364
	Unmarried	2.7251	0.703	
Working condition	Married	2.3801	0.612	0.5496
	Unmarried	2.6423	0.547	
Overall job satisfaction	Married	2.6212	0.712	1.1062
	Unmarried	2.7710	0.564	

Table 5. The means of major factors measuring job satisfaction for four groups on the number of years employed

Major factors	< 1 year	1-5 years	6-10 years	> 10 years	F Statistics
Achievement	2.7721	2.6120	2.8128	2.8847	0.917
Growth	2.5910	2.6012	2.6911	2.6239	0.547
Interpersonal relation	2.3571	2.2911	2.4326	2.6312	1.311
Policy and administration	3.1120	3.2140	3.1201	3.0021	0.851
Recognition	2.1422	2.5142	2.7716	2.6470	1.329
Responsibility	2.8102	2.5664	2.8712	2.5121	1.482
Salary	3.1120	3.1941	3.3060	2.8754	4.127
Supervision	2.9612	3.0215	3.0121	2.8416	0.852
Work itself	2.7412	2.6512	2.6102	2.6530	0.154
Working condition	2.5336	2.5247	2.4671	2.3201	0.971
Overall job satisfaction	3.1250	2.6652	2.8114	2.5641	0.715

Table 6. The means of major factors measuring job satisfaction for three educational level groups

Major factors	Bachelor's Degree	Master's Degree	Doctoral Degree	F Statistics
Achievement	2.9457	2.7712	2.9871	0.917
Growth	2.1458	2.4120	2.6120	0.471
Interpersonal relation	2.6078	2.9921	3.0814	0.914
Policy and administration	3.1121	3.2189	3.0410	0.551
Recognition	2.6612	2.7145	2.4712	1.24
Responsibility	2.7450	2.6210	2.7810	0.847
Salary	3.1020	2.9914	3.6278	3.984
Supervision	2.8971	2.8952	3.1600	0.745
Work itself	2.7811	2.6410	2.5870	0.541
Working condition	2.4510	2.4415	2.3918	1.118
Overall job satisfaction	2.8142	2.8874	2.7731	0.771

Table 7. The means of major factors measuring job satisfaction for five Groups on the basis of primary responsibility

Major factors	Teaching	Research	Teaching and Research	Administration	Teaching and Administration	F Statistics
Achievement	2.7814	2.4782	2.8142	2.9945	2.7941	1.305
Growth	2.9541	2.8142	2.8454	2.9210	2.7769	1.542
Interpersonal relation	2.5411	2.8721	2.6145	2.6782	2.5121	1.121
Policy and administration	3.2141	3.1274	3.1190	3.1784	2.9945	0.897
Recognition	2.8745	2.7721	2.7985	2.7885	2.7813	1.023
Responsibility	2.7894	2.6154	2.6878	2.9987	2.5212	1.978
Salary	3.1540	3.8871	3.3162	3.3710	3.1285	1.219
Supervision	3.1678	3.1010	3.1335	3.0109	2.9412	0.987
Work itself	2.4215	3.2156	2.5515	2.6615	2.4815	1.654
Working condition	2.4725	2.1712	2.4412	2.5123	2.4017	1.419
Overall job satisfaction	2.8812	3.2106	2.9916	2.8745	3.1024	2.742

Table 8. The means of major factors measuring job satisfaction for four groups on the basis of academic ranks

Major factors	Tutors	Lecturers	Associate Professors	Professors	F Statistics
Achievement	2.7819	2.6689	2.5512	2.2456	2.247
Growth	2.7754	2.8714	2.9412	2.5417	0.154
Interpersonal relation	2.7814	2.6140	2.2184	2.5141	0.915
Policy and administration	3.1514	3.1121	2.7125	2.8810	2.117
Recognition	2.9125	2.8702	2.5140	2.7714	3.107
Responsibility	2.7128	2.7716	2.1625	2.2741	2.391
Salary	3.4120	3.2116	2.2142	2.4362	5.016
Supervision	2.9812	3.1125	2.5145	2.6745	2.001
Work itself	2.8714	2.7125	2.4102	2.6915	0.978
Working condition	2.6150	2.4156	2.2151	2.3912	2.998
Overall job satisfaction	2.9146	2.7981	2.6234	3.0021	2.012



Audit Firm Tenure and Auditor Reporting Quality: Evidence in Malaysia

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Abstract

The main purpose of the study is to examine the relationship between audit firm tenure and auditor reporting quality in Malaysia. This study employs well-established going concern model of logistic regression. Our findings show that audit firm tenure is positively significant relationship with auditor reporting quality. Future research should consider other importance variables that may affect the auditor reporting quality such as non-audit services, and audit partner tenure. However, in sum, this study is in line with the recent decision by the regulators not to regulate a mandatory audit firm rotation in Malaysia. This study provides a very importance implication and as a cornerstone to the regulators and policy makers in a developing country as the issue continues to be strong interest among them in improving the auditor independence.

Keywords: Audit firm tenure, Auditor reporting quality, Malaysia

1. Introduction

In the past few years, auditors had been blamed due to their role in the mega corporate scandals such as Enron, WorldCom, Global Crossing, ImClone Systems and Tyco International. The criticism had raised lots of questions regarding auditors' independence. Besides, such criticism was leveled against auditors because they audit their clients for a long time and subsequently concentrated more on non-audit services rather than audit. For example in the case of Enron, Andersen was the auditor since Enron was set up until collapsed. Therefore, there has been a call for sweeping changes in the auditing profession to ensure independence and therefore improve their audit quality ("Auditing Profession", 2002).

The issue of an audit firm compromise their independence if they audit their client for a long time has been a subject of debate in the United States, which can be traced back at least 50 years ago (Mautz & Sharaf, 1961). Later, the issue

seems to be pertinent international recurring debate among regulators, auditors and academicians (Shockley, 1981; Arrunada & Paz-Ares, 1997; Geiger & Raghunandan, 2002; Johnson, Khurana & Reynolds, 2002). Such long-term relationships could, in reality or be perceived to, make the audit firms too committed or beholden to the companies, thereby undermining its independence, compromising its objectivity, and reducing its effectiveness ("Auditing Profession", 2002). Therefore, several countries in European Union such as Italy and Spain have required the mandatory audit firm rotation (Geiger & Raghunandan, 2002).

However, even in such a mandatory auditor rotation regime, there is insufficient evidence to suggest that audit quality is improved by this means. For example, the scandal involves a company namely Parmalat in Italy complied with a law that requires companies to change their auditors every nine years. The discovery of losses amounting to RM41.8 billion in Parmalat has provoked outrage across continent of Europe and proves that the law of auditor rotation still does not help to improve audit quality. ("Scandal", 2003).

Following the corporate scandals in the United States, the regulators in Malaysia such as the Malaysia Securities Commission (SC) and the Bursa Malaysia became more concerned with the mandatory audit firms rotation. In view of the importance of the issue in question, the Malaysian Institute of Accountants (MIA) and the Malaysia Institute of Certified Public Accountants (MICPA), who are the accounting governing bodies in Malaysia, agreed to establish an MIA/MACPA joint Taskforce on Auditor Independence in May 2002. Both institutes agreed that the overall disadvantages of mandatory rotation of audit firms, including exorbitant costs, disruption and loss of accumulative knowledge, and a restriction on the freedom of companies to choose their own auditors, outweigh the benefits that may be derived from such rotation of audit firms. (Malaysian Institute of Accountants, 2002)

However, the MIA suggested a more lenient way to regulate auditor independence. A call of mandatory auditor rotation involve only audit partner rotation but not in the case of the audit firm as a whole. The MIA recommended that there should be a mandatory rotation of the audit partners responsible for the audit of listed companies after a period of not more than five years. Furthermore, the audit partner rotating after such period should not resume the role of audit engagement partner for the audit client until two years have elapsed. Prior to this pronouncement, in 1999, the MIA under its former president, Datuk Hanifah Noordin, called for a mandatory rotation of external auditors in every three or five years. ("MIA", 1999).

There is very limited empirical evidence regarding the long audit firm tenure impairs auditor independence by compromising auditor reporting quality in developing countries such as Malaysia. Most of the studies were done in developed countries. Furthermore, a strong interest of debate among regulators in the developed countries caused the regulators and policy makers in developing countries to review back their audit legislation. However, it is still not clear whether the issue arise in such developing countries. Besides, recent studies in the developed countries do not support the contention that there should be a mandatory audit firm rotation (Johnson et al., 2002; Geiger & Raghunandan, 2002; Myers, Myers & Omer, 2003; Carcello & Nagy, 2004; Ghosh & Moon, 2005). Therefore, the purpose of the study is to examine the effect of auditor-client relationship, namely audit firm tenure on auditor reporting quality, proxies by going concern opinion in Malaysia environment. Thus, this study tries to support whether the suggestion of auditor rotation can be used in the current situation in Malaysia using Malaysian companies listed on the Bursa Malaysia (Main Board and Second Board).

Our sample is companies listed in the Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange, KLSE). Prior to 1998, the Malaysian Institute of Accountants (MIA) did not adopt the International Auditing Guideline (IAG) 23 on assessment of going concern assumption. Later, in 1998, the MIA adopted ISA 570 Going Concern in which issued by the International Federation of Accountants (IFAC). Then the standard revised in the year of 2000 and became operative from January 2002. Among significant changes between IAG 23 and ISA 570 include provision to assess going concern assumption in every audit engagement and additional prescription to guide practitioners in detecting going concern problem.

In sum, our result shows that a positive relationship between audit firm tenure and auditor reporting quality is in line with the recent decision by Malaysian regulators not to regulate mandatory audit firm rotation in public listed companies. Our results are also consistent with prior studies based in developed countries (Geiger & Raghunandan, 2002) and add to the growing body of literature on mandatory audit firm rotation. The results from this study are useful for the regulators as a feedback to improve the auditor independence in Malaysia. The regulators must emphasize the impact of auditor tenure to the audit quality especially if there is a negative relationship between auditor tenure and audit quality. If this happens, it can be said that long time auditors are deemed to impair their independence when auditing their clients.

The remainder of the paper is organized as follows. In section 2, we present the arguments supporting and opposing long audit firm tenure and develop the hypothesis. Methodology for this research is discussed in section 3 whereas in section 4, we discuss our data and findings and finally our conclusions are presented in final section of the paper.

2. Literature review and hypothesis development

Auditor reporting quality is a basic ingredient to enhance the credibility of financial statements to those interested parties. However, this could not be seen if the auditor is not independent. Without independence, the process of auditing can be argued to the extent that the auditor would give bias opinion to their clients. One of the factors that would adversely influence auditor independence in giving their opinion is a close relationship between auditor and clients, namely long audit tenure. For example, Deis and Giroux (1992) found that the longer the auditors audit their clients the larger that lead to such close relationship between the audit firms and clients and consequently decrease audit quality.

Prior studies have documented two viewpoints of the effect of audit tenure on the credibility of financial statements; regulators view and economic view (Geiger & Raghunandan, 2002). In the point of regulatory view, long association between a client and an audit firm may lead to impair their independence (Geiger & Raghunandan, 2002). For example, in the United States, the Metcalf Committee report argued that long association between a corporation and an accounting firm may lead to such close identification of the accounting firm with the interests of its client's management that truly independent action by the accounting firm becomes difficult. Therefore, the report suggested a mandatory auditor rotation as a way for the accounting profession to bolster their independence from clients (Geiger & Raghunandan, 2002). Furthermore, if we go back to 50 years ago, Mautz and Sharaf (1961) noted that long association with the same client can lead to the auditor independence problems due to the fact that a slow, gradual and honest disinterestedness would be the greatest factors that impaired auditor independence. Therefore, a mandatory auditor rotation regime would improve audit quality by reducing client's ability to adversely influence the auditor judgments (Brody & Moscovice, 1998) and minimize the auditor independence threats. (Geiger & Raghunandan, 2002)

Deis and Giroux (1992); O'Keefe, Simunic and Stein (1994); and Raghunandan, Lewis and Evans (1994) found that the long auditor tenure would decrease audit quality. Similarly, Vanstraelen (2000) found negatively relationship between auditor tenure and opinion and then again provide support for a mandatory audit firm rotation. Also, evidence shows that the shorter auditor tenure the more likely the clients receive a disclaimer going concern opinion (Anandarajan, La Salle & Anandarajan, 2001). In an experimental setting, Dopuch, King, and Schwartz (2001) found the auditors are less likely to impose a biased report if rotation is required, but it also increases the magnitude of investment to improve financial reporting quality. Furthermore, in Malaysia, Teoh and Lim (1996) found that retention of auditors for over five years would influence and impair audit independence. The Malaysian perceived audit firm rotation would improve auditor independence. (Teoh & Lim, 1996)

However, more recently, in the United States, the General Accounting Office (GAO) states, "mandatory audit firm rotation may not be the most efficient way to strengthen auditor independence" (GAO 2003, Highlights). Yet, the GAO leaves a flexibility to revisit the mandatory audit firm rotation if the Sarbanes-Oxley Act's requirements do not lead to improved audit quality (GAO 2003, 5). Moreover, other regulators report in the United States, suggest that a voluntary basis for the clients to change their auditors for a specific of time (New York Stock Exchange, 2003, 11; Commission on Public Trust and Private Enterprise, 2003, 33; and TIAA-CREF, 2004, 9). Under the Sarbanes-Oxley Act, the auditor independence is regulated through audit partner rotation but not for the case of audit firm rotation. The lead audit or coordinating partner and the reviewing partner must be rotated in every 5 years. Similarly, in Malaysia, the MIA only regulated all public listed companies' lead audit partner to be rotated every 5 years.

In the second viewpoint, maintaining the same audit firm for a long period is considered more economic to the clients due to high start up cost when the clients rotate the auditors. According to Geiger and Raghunandan (2002), audit firms tend to reduce their audit fees in the early year of engagement to attract clients. The practice of low-balling requires audit firm to seek for longer audit engagement with their clients so that they could recover back their loss in the early year. Long association between audit firm and its client does not really impair auditor independence. Auditor's independence was impaired only in the early year of audit engagement and not for the whole audit engagement. (Geiger & Raghunandan, 2002)

Similarly, Stice (1991) found the relationship between auditor tenure and a lawsuit against the auditor. In the study, he found that auditor tenure was shorter for those audit engagements that resulted in a lawsuit against the auditor. This happened in the case of control sample that matched only on time period. However, it is not true when compared to an industry pair-matched control sample.

De Angelo (1981) also mentioned that the quality of auditors divided to two parts. First is to detect anything misleading in financial statements of the client and secondly is to report the misleading information. The first quality is regarding the competence and skills of the auditors to detect any fraud while the second one is related to the auditors' independence. In the case of long time auditor, it is argued that the auditor's independence will be reduced because the auditor feels comfortable with the clients whether in term of revenue and also their expertise on the clients' system. Subsequently they will not report any misleading information to ensure there is no any change of auditors. In that case, an unqualified report (clean report) will be issued.

The studies on auditor tenure could not be separated from the auditor switching studies. Many studies found that financially distressed firms were more likely to switch auditors than non distressed companies due to the reason that these types of companies need to hire a new quality of auditor compared to the previous one (Krishnan, 1994; Krishnan & Stephens, 1995). Sinason, Jones, and Shelton (2001) found that auditor tenure is longer for clients who received unqualified or unqualified-modified opinions. Interestingly, in Malaysia, Ismail (1998) found such behavior is less apparent using data from 1975-1995. In one extreme case, the auditor was not even replaced after issuing five consecutive times of a disclaimer opinion to a client. But, the results statistically equivalent, meaning that no evidence exists to indicate that auditor tenure is longer for clients with unqualified opinions.

Similarly, Krishnan (1994); Krishnan & Stephens (1995) found that switching companies were no more likely to have their modified report removed than were similar companies that did not switch auditors. Therefore, it is argued that if the financially distressed firms still maintain the same auditors and by the same time, if an unqualified report is issued, it may be perceived that the auditors' independence is impaired.

It is often argued that mandatory audit firm rotation is one of the solutions to solve auditor's cozy relationship with their clients. Auditor firm rotation supporters argue that its benefits stem from greater audit independence, which in turn improves audit quality. However, the cost of imposing mandatory audit firm rotation would lead to higher start-up cost, impedes learning curve, as well as the failures to attract new-blood to the accounting profession and lower investment from the audit firms to enhance knowledge and expertise in certain industries (Petty & Cuganesan, 1996). In the case of Malaysia where foreign direct investment is still a major economic contributor, the country looks less attractive than its neighboring counterparts especially Singapore since the appointment of auditors is usually for the company affairs and not for regulators as stated under Section 9 (6) of the Malaysian Companies Act 1965. For example, the Monetary Authority of Singapore (MAS) has requisitioned all banks incorporated in Singapore to change their audit firms every five years under a new ruling. The new audit requirement is one of a series of control measures on corporate governance introduced by the Singapore authorities ("Bank", 2002). According to Ravi Menon, executive director of the authority's supervisory policy and banking departments, the mandatory audit firm rotation would help prevent audit firms from having excessive focus on maintaining long-term commercial relationships with the banks they audit. However, in Malaysia there is no regulation binding the banks or the companies to change the audit firms within a certain period.

Since the auditor is an agent to the shareholders in monitoring managers' duties to create wealth for the principals (shareholders), auditor's failure to inform shareholders on the going concern of the principal's business is a serious matter. With the introduction of the US Sarbanes Oxley, auditor's relationship with the client is now being regulated to at least of the engagement audit partner's tenure.

In contrast, Petty and Cuganesan (1996) argued that when mandatory auditor rotation is regulated, clients might be forced to accept a lower quality of service from an auditor who is a generalist, especially if fewer auditors invest in specialized industries such as banking, insurance or natural resources. Moreover, Louwers (1998); Johnson, Khurana, and Reynolds (2002) found no evidence of reduced financial quality for longer audit firm's tenures. Recently, Geiger and Raghunandan (2002) studied a sample of 117 bankrupt companies and suggested that auditors may be more influenced by their newly obtained clients in the earlier years of the engagement. In addition, Chi and Huang (2004) found that audit firm tenure helps to produce higher earnings quality due to familiarity effect, but excessive familiarity results in lower earnings quality. Furthermore, they found that audit firm tenure plays a key role in the transmission of learning experience. Thus, audit independence issue or audit competence issue is crucial and problematic in early years of engagement and not in later years.

Overall, prior researches suggested that there should not be any fast rules on mandatory audit firm rotation. In United States, many auditors have served their clients for more than twenty years (Geiger & Raghunandan, 2002) and some since listed in the stock exchange. In such cases, auditors would be under greater pressure from clients and thus would unlikely issue a going concern opinion. However, auditors may be argued to have in-depth knowledge and thus would be able to defend themselves if such difficult situation arises. In addition, they would be able to advise their clients if going concern assumption is no longer appropriate. Therefore, the derived hypothesis as follows (in alternate form):

H1: *Ceteris paribus*, there is a positive relationship between audit firm tenure and the issuance of going concern opinion.

3. Research method

3.1 Sample and data

The sample comprises all listed non-finance distressed companies identified using a list of financial indicators under ISA 570 (revised) Going Concern. The data is primarily from annual reports of public listed companies in Bursa Malaysia. The year of 2002 is selected since the ISA 570 (revised) came into force from 1 January 2002. We found 187 companies, which fulfilled the distress characteristics.

3.2 Explanations of the Model

This study replicates the model from the previous established studies in going concern audit opinion. (Louwers, 1998; Geiger & Raghunandan, 2002)

The research model (in logistic form) is as follows:

$$GC = \alpha + b_1 \text{TENURE} + b_2 \text{BIGFIVE} + b_3 \text{ACOM} + b_4 \text{ZFC} + b_5 \text{DFT} + b_6 \text{LOGASSETS} + e$$

The measurements of the variables are as follows:

Dependent Variable Measurement

GC = 1 if auditor issued going-concern opinion, else 0

Hypotheses Variables

TENURE = Audit firm tenure in number of years

3.3 Control variables measurement

BIGFIVE = Dummy variable, 1 if the auditor is the Big Five firm, and else 0

ACOM = Dummy variable, 1 if the audit committee is comprised of all non-executive directors, else 0

ZFC = Probability of bankruptcy calculated from Zmijewski Financial Condition (1984)

DFT = Dummy variable having a value of 1 if the company is in default, else 0

LOGASSETS = Natural log of total assets of clients

e = Error term of residual

α_i = constant ($i = 0$)

b = coefficients ($i = 1, 2, 3, 4, 5, 6, 7$)

3.4 Variables definition and discussion

3.4.1 Tenure

Tenure is the first hypothesis variable measured by the length of years which audit firms audit their clients (Louwers, 1998; Vanstraelen, 2000). Similarly, we argue that auditors are in greater pressures from clients especially if the auditors have served the clients since the clients listed in the stock exchange for many years. Due to the mixed theories and empirical findings, we do not provide direction for this relationship.

3.4.2 Big Five

DeAngelo (1981) theorized that larger audit firms have superior audit quality since they invest more in audit technology and training. Thus, in term of audit competence, it could be argued that larger audit firm would be more accurately able to detect problems related to going-concern assumption than smaller audit firms. In term of audit independence, larger audit firms have more spreads of clients' base when auditing listed companies than smaller audit firms (Md. Yusof & Che Ahmad, 2000) and thus have less dependence on a particular client. In addition, Palmrose (1988) found that the larger audit firms were less likely to be involved in audit-related litigation than the smaller one. Alternatively, Big Five firms have greater risk of losing reputation, which may motivate them to be more objectivity when making an audit reporting decision. Anandarajan *et al.* (2001) however, found no evidence of auditor size effect on auditor going concern reporting. Such finding warrant a further study, perhaps in Malaysia, since the public perceive differences exist in many aspects of auditing between larger firms and smaller firms including going concern assumption. In addition, this variable is never tested in Malaysia environment. (Md. Yusof, Md. Saleh & Abdul Hamid, 2002).

3.4.3 Audit committees

Audit committee has been made mandatory in Malaysia since 1993. (Note 1) It is more likely that interaction between audit committee with external auditors may influence auditor's choice of issuing going-concern. (Note 2) An independent audit committee could help mitigate such pressure by supporting the auditor in disputes with management (Knapp, 1987). Hence, we expect some characteristics of board of directors, especially non-executive directors, as public watchdog and audit committee will influence auditor's choice in going-concern. Knapp (1987) found that in a major audit disputes, audit committee members tended to support the auditors rather than the management. Similarly, Md. Yusof and Che Ahmad (2000) found evidence that independent audit committee is associated with going concern opinion.

We argue that placing strategic executive directors on the committee may shadow a measurement of independence of audit committee by proportion of outside directors. We believe a higher independence of audit committee, which is measured by non-existence of powerful directors especially the managing director and executive directors (Carcello & Neal, 2000) would lend better support for auditors. Thus, independent audit committees will ensure that the audit opinion really gives a picture the situation of that company.

3.4.4 Probability of bankruptcy

Several studies found that a positively relationship between going concern opinion and probability of bankruptcy of a company. This is due to the fact that, the higher probability of bankruptcy, the higher the need of the auditors to issue going-concern opinion. Regardless of whatever bankruptcy model being employed in prior researches (Hopwood, McKeown & Mutchler, 1989; Vanstraelen, 2000) in going concern opinion, the results suggest that auditors do assess distress condition of their clients. Prior research in Malaysia by Md. Yusof *et al.* (2002) used Zmijewski Financial Condition (ZFC) that suggested by Zmijewski (1984) and they found significant result. Similarly, we employ ZFC to measure financial distress of the companies. Kleinman and Anandarajan (1999) suggested that a score, which exceed 0.28, is considered as financial distress. Therefore, there is a positive association between probability of bankruptcy and going concern opinion.

3.4.5 Default

In this present study, a company is classified a default company if the company is either in payment default or technical default or has breached loan covenants. Therefore, we employ dichotomous variable as suggested by Chen and Church (1992). Going concern is associated with default status. This due to the fact that default status would send strong bad signal which potential and successful negotiation with banks or other creditors would be unlikely. In the absence of such supports, companies under financial distress would hardly stay as going-concern company in the future accounting period. Thus, there is a positive association between default status and of going-concern opinion.

3.4.6 Client Size

Total assets is used in the present study due to the amount of assets, that more consistent before and after the 1997 crisis compared to revenues. However, Md. Yusof *et al.* (2002) found no evidence that size of clients measured by total assets has association with the type of going concern audit report. Other measurements of client size include market capitalization and a mixture of sales and assets. This variable is transformed to logarithmic data to control for non-normality. Consistent with the previous research, a negative relationship between this independent variable and going concern opinion is expected. (Geiger & Raghunandan, 2002)

4. Results and discussions

4.1 Descriptive results

From 187 non-finance companies, Arthur Andersen (AA) and Ernst Young (EY) audited 42.17% of distressed companies. Since the merger between those firms in July 2002, almost half of these troubled companies lie with this new EY. All Big Five accounts 70.28% of the Bursa Malaysia troubled firms. This figure is comparable with their total shares of the Bursa Malaysia companies (Md. Yusof & Che Ahmad, 2000). 77.5% or 145 of these companies received going concern audit opinion. Thus many problems and critics would lie in the case of non-receiving going concern opinion.

Variance Inflation Factor (VIF) figures are closed to unitary and thus conclude that multicollinearity poses minimal threat to further regression analysis. (Note 3) In addition, further inspection using the condition index proves prior VIF test. Besides,

Going concern opinion has strong and significantly correlation with audit tenure ($r = 0.229$), default status ($r = 0.647$), outside audit committee ($r = 0.154$) and probability of bankruptcy ($r = 0.171$). In contrast, correlation analysis does not show any significant relationship between Big Five variable and going concern opinion variable. As mentioned above, univariate results should be read with caution and act as a complement to multivariate analysis of logistic regression.

4.2 Multivariate regression

The result does not support the frequent arguments of negative audit tenure effects made by public and business community. However, our finding reveals that if a client never changes its auditor since listed in stock exchange, then the possibility of receiving clean opinion is higher. These results support Chi and Huang (2004) who suggested that familiarity effect produce higher earnings quality, but excessive familiarity results in lower earnings quality (even the situation are difference between this study and Chi & Huang, 2004, similar proxy of audit firm tenure was used by both studies to examine the role of audit firm whether in going concern opinion or earning aspect).

Moreover, there is evidence that audit firm size as surrogated by Big Five and non-Big Five dichotomous classifications have significant influence over auditor reporting decision. This is consistent with Behn, Kaplan and Krumwiede (2001). Thus, argument of perceived high quality by DeAngelo (1981) is apparent as generally supported in the case of audit fees research.

However, audit committee independence variable is not significantly auditor going concern opinion. This may suggest that non-executive director variable should be replaced with independent director variable as a proxy of outside audit

committees due to the fact that independent director is more likely accurate in term of the whole outside audit committee without any relationships with the company.

77.55% of the sample is companies, which have audit tenure of five years or more. In order to examine the robustness of the model and results, sensitivity analyses have been conducted. The sensitivity analysis is done by first changing the measurement of TENURE to a dichotomous value of TENURE (coded as 1 if the tenure is seven years above and ten years above). Finally, by changing the measurement of TENURE to logarithm. Overall, it can be said that the general results in Table 4 still hold and robust.

The call for mandatory audit rotation may not yield what it hopes for. We would say our results do not support audit firm rotation and thus change of auditor should be made for necessary and reasonable grounds such as in the event of non-performance of auditors or change of substantial and controlling shareholders and others.

Our results are also consistent with Md. Yusof et al. (2002) that related to debt-default status and serious financial distress variable. Both variables are strong determinants of auditor's decision in issuing going concern in Malaysia. These findings also contribute to high pseudo R^2 but it is still comparable with prior researches (Geiger & Raghunandan, 2002 had pseudo R^2 0.33; Louwers, 1998 had pseudo R^2 0.44). In addition, assets of the companies are proved to be insignificant factor whether in the main results or in the sensitivity analyses. There are several explanations. First is the auditor may investigate the quality of the assets and not just "any assets". It is quite possible, if the distressed company has significant portion of assets, which have higher market value and demand such as investment in listed shares or has properties of high value that would make the company more "survive" than others. Thus auditor may not issue a going concern opinion to such companies. Secondly, a better proxy for size in the case of going concern opinion such as revenue or turnover of the companies may yield better results.

Interestingly, it seems that in Malaysia, auditors are skeptical or very conservative on going concern assumption made by directors and thus they made lower type II error compare to type I error. High type I error may lead to self-fulfilling theory which suggest that their clients may face difficulties in obtaining credit or financing facilities from bankers or investors. The auditors do take to the account these factors in their going concern opinion decision. Such events may cause higher cost to the auditors i.e. clients switch their auditors but Ismail (1998) found that going concern opinion alone would not precipitate such effect. Future research on value relevance of going concern audit opinion may unveil this effect.

5. Conclusions

Mandatory audit rotation debates came from the arguments that long audit tenure would create cozy relationship between auditors and clients and thus would lead to audit failure such as in the case of going concern opinion. We found no market wide evidence to support that argument in Malaysia but instead we found that longer audit tenure has positive significant association with auditor's reporting decision. In addition, we found that auditors in Malaysia made less serious error (type II) or audit failure compared to our model. However, we did not test on other type of audit failure such as qualified opinion of non-going concern issues. In this study, we did not discriminate the different types of going concern opinion including modified opinion, qualified opinion or disclaimer opinion as stated in ISA 570 (revised 2000).

Our results also show that if a client never changes its auditor since listed in Bursa Malaysia, there is a tendency to issue a clean opinion though the client suffers apparent financial problems. Therefore, we echo the importance of self-regulation and Laissez-faire practice in Malaysia as a better alternative than a mandatory auditor rotation. Perhaps current national undertakings by regulators such as strengthening audit committee in term of independence and competence and peer audit review process by the MIA would inhibit unethical audit process in Malaysia.

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Notes

Note 1. Beginning 31 August 1993, companies seeking listing on Bursa Malaysia are required to have audit committee under s15A of Bursa Malaysia listing requirement.

Note 2. Among main functions of audit committee are reviewing audit planning and audit procedures and discussing audit findings and report (MIA recommended practice guide on Audit Committee & section 344A Bursa Malaysia listing requirements).

Note 3. VIF ranges from 1.0408 to 1.441.

Note 4. Two assumptions of heteroskedasticity and autocorrelation are considered and corrected in the multivariate regression analysis.

Table 1. Studies of audit tenure on auditor reporting

Studies	Measurement of audit tenure	Country	Sample	Audit tenure to auditor reporting
Geiger and Raghunandan (2002)	Natural log of number of years	U.S.	117 stressed & bankrupt companies	Positive
Anandarajan, La Salle and Anandarajan (2001)	Dichotomous value, 1 for audit tenure of three years or less & 0 otherwise	U.S.	Two partition of 216 for financial service & 307 from non-financial service industry	Negative
Vanstraelen (2000)	Number of years	Belgium	146 match sample of stressed & non-stressed non-bankrupt companies	Negative
Louwers (1998)	Number of years	U.S.	808 stressed non-bankrupt companies	Not significant

Table 1 shows relevant studies on the audit tenure variable in relation to the auditors' reporting. It can be said that, in empirically studies, the audit tenure variable is still new though debates on audit tenure have gone through times and tides for four decades. Results are inconclusive like many other researches in auditing. Thus prompting for a need of a new study in a new environment especially in new emerging markets like Malaysia.

Table 2. T-test of Big Five and Non-Big Five

Variables	Big Five (means)	Non Big Five (means)	t-value	Sig.
TENURE (in years)	10.5	7.26	2.820	0.005
GOING CONCERN	0.82	0.70	1.863	0.064
ACOM	0.33	0.26	0.910	0.364
DFT	0.66	0.61	0.657	0.512
ZFC	15.63	22.99	-0.805	0.422
TOTAL ASSETS (RM)	679,922,418	471,684,583	0.767	0.444

T-test in the Table 2 confirms this preliminary finding that Big Five is different than non Big Five in terms of audit opinion and tenure. Big Five generally have longer audit tenure and issued a slightly more going concern opinion than non-Big Five. However, this is only a univariate test-result, which needs to be interpreted with caution. Therefore, a model that combines multiple variables such as regression procedure would unveil whether such relationship holds true in a multivariate analysis.

Table 3. Pearson's correlation among independent variables

	TENURE	BIGFIVE	ACOM	ZFC	DFT	LOGASSETS
TENURE	1	.201(**)	.122	-.033	.249(**)	.085
BIGFIVE	.201(**)	1	.039	-.060	.043	.055
ACOM	.122	.039	1	.154(*)	.114	.039
ZFC	-.033	-.060	.154(*)	1	.199(**)	-.101
DFT	.249(**)	.043	.114	.199(**)	1	-.055
LOGASSETS	.085	.055	.039	-.101	-.055	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 3 of Pearson's correlation shows that multicollinearity is minimal. The results in Table 3, suggest that the largest absolute value is only 0.249 between TENURE and DFT with significant level at 0.01.

Table 4. Summary of logistic regression for going concern opinion, n = 187

Variables	Sign	Coefficient (Standard Error)	t-ratio
TENURE	?	.9300516409E-02 (.27108288E-02)	3.431***
BIGFIVE	+	.1102186779 (.59473496E-01)	1.853*
ACOM	+	.8920864604E-01 (.51379021E-01)	1.736*
ZFC	+	.8595481481E-03 (.35859263E-03)	2.397**
DFT	+	.1655871558 (.94579344E-01)	1.751*
LOGASSETS	-	-.1827234697E-01 (.39940892E-01)	-.457
Constant	+/-	.6116888266 (.33447508)	1.829*
<i>p-value</i>		.00000	
<i>Cox & Snell R²</i>		0.464	
<i>Nagelkerke R²</i>		0.714	
<i>Correctly classified</i>		88.8%	
<i>Durbin-Watson</i>		1.95250	

Notes:

a. Dependent Variable: GC

b. Predictors: TENURE, BIGFIVE, ACOM, ZFC, DFT, LOGASSETS, Constant.

*** significant at 0.0001 level (2-tailed)

** significant at 0.05 level (2-tailed)

* significant at 0.1 level (2-tailed)

Table 4 shows that audit firm tenure has statistically positive significant relationship (at-two-tailed) with the issuance of going concern opinion. (Note 4). The results are similar as Geiger and Raghunandan (2002). This means that the longer an audit firm audits a client the higher probability the auditor issuing going concern opinion.

Table 5. Classification table for going concern opinion^a

Auditor's actual opinion	Model's predicted opinion		
	Standard	Going concern	Percentage correct
Standard	32	9	78.0
Going concern	12	134	91.8
Overall percentage	37.5%	6.7%	88.8%

a. The cut value is .500

Table 5 shows minimal improvement in term of accuracy from Md. Yusof et al. (2002). The model has high prediction power of 88.8%. Type II (6.7%) is lower than type I (37.5%) error, which is deemed not a serious problem. Type II error leads to auditors to give a clean opinion whereby they should give a going concern opinion. Thus we can say that most of distressed companies in Malaysia received "warning" from their auditor by issuing a going concern opinion.



An Empirical Study of the Relationship between Transportation and Economic Growth in Xinjiang Province

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Abstract

Along with the development of socialist market economy and the improvement of transportation facilities, the driving effect of transportation industry on economic growth tends to be more significant. The transportation industry is the lifeline of national economic growth and the backbone of material activities and community communication, signaling the development of national economy. Highly- developed transportation industry has important strategic meanings for a country's economic prosperity, cultural development, strong defense, and people's well-off life. Based on the grey system theory and econometrics, this paper analyzes the contributing effect of the transportation industry on Xinjiang's regional economic growth, and studies the relationship between indexes of Xinjiang's transportation industry and economic growth, supplying references for researching Xinjiang's regional economic development.

Keywords: Transportation industry, Economic growth, Correlation, Grey system

1. The relationship between transportation industry and economic growth

Transportation is a basic industry for national economic development, which associates with other industries interdependently and closely. On one hand, the development of transportation industry is an important precondition for maintaining the fast growth of national economy, which exerts a "pulling effect" on economic development. On the other hand, the fast development national economy needs developed transportation industry as the infrastructure. Economic development exerts a "pushing effect" on transportation industry. Therefore, for a long period, the research on the relationship between transportation industry and economic growth is always the focus of domestic and foreign scholars in the field.

Many foreign scholars have made theoretical and empirical analyses on this issue. At the first half of 19th century, Freidrich Liszt, as the founder of historical school of Germany bourgeois economists, in perspective of developing capitalist industry and commerce, advanced the national productivity theory that focuses on transportation studies. In his opinion, to develop the transportation industry can drive the prosperity and development of economy. Post and transportation are the source of productivity. William Petty took Holland as an example and concluded that the specialization of transportation tools improves the effect of wealth by decreasing transportation fees and saving labors. The French scholar Thunen, a theoretical forerunner of modern western production location and industry distribution, regarded the production cost, transportation fee, and price as the decisive factors of production allocation. In his eyes, the primary principle of production allocation is to decrease the production cost and transportation fee and realizes the minimum price. Adam Smith, an economist, thought: (1) Transportation is vital for national economic development. "The development of one country's commerce completely relies on powerful public facilities, including roads, bridges, canals, and ports. (2) "The development of infrastructure should be in accordance with the economic development.". Besides, in his book *An Inquiry into the Nature and Causes of the Wealth of Nations*, he discussed the effects of transportation on labor division and market development. He thought that the economic efficiency origins from labor division, but the labor division is restricted by market scope and transportation. The improvement of transportation conditions can not only decrease the transportation fee but also explore a wider market. As for the relationship between transportation and market supply and demand, Marx drew a penetrating conclusion that: "The development of transportation tools can shorten the spatial and time distance from production to market, change the commodities' spatial and time relative state, and enlarge the supply and demand of commodity market."

Some domestic scholars also analyzed the relationship between transportation industry and economic growth. In 2006, Liang Yu in his "An analysis of highway traffic on regional economy" analyzed the pushing effect of transportation industry on resources allocation in regional economic operation, starting from the essential issues of economy. He pointed out that the transportation industry is the lifeline of national economy, and developed transportation industry is meaningful for the national or regional economy, especially for industry allocation, industry structure optimization, and

regional trade development. In 2007, Wei Xu and Minsheng Huang in their “Quantitative analysis of relationship between transportation and economic development in Fujian” made a correlation analysis of the relationship between Fujian transportation and national economic development by correlation coefficient and grey comprehensive correlation, and concluded that there is a high correlation between Fujian transportation and Fujian economic development. Besides, by a grey dynamic model and transportation elastic coefficient, they analyzed the adaptation of Fujian transportation and Fujian economic development, concluded the practical conditions of Fujian transportation at present, and advanced relevant policy suggestions.

2. Set a correlation model

Indexes for national economic growth are Gross Domestic Product (GDP), Gross National Product (GNP), total product of society, industrial and agricultural product, and household consumption. Indexes for transportation industry include freight volume, freight turnover, passenger volume, passenger turnover, length of railway, length of highway, and total mileage of freshwater shipping. According to the relationship between Xinjiang transportation and Xinjiang regional economic growth, and the data from Xinjiang Statistical Yearbook, we mainly take Xinjiang gross product y_1 (100 million Yuan), household consumption y_2 (Yuan per capita), freight volume x_1 (10,000 ton), freight turnover x_2 (100 million tons kilometer), passenger volume x_3 (10,000 people), passenger volume x_4 (100 million tons kilometer) as indexes for quantitative model analysis.

2.1 Correlation coefficient matrix

Suppose x_1, x_2, \dots, x_m as the correlated factor indexes. After observing these factors for n times, we get the sample data $x_i(k) (k=1, 2, \dots, n)$. Then, the matrix is:

$$R = \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1m} \\ r_{21} & r_{22} & \cdots & r_{2m} \\ \cdots & \cdots & \cdots & \cdots \\ r_{m1} & r_{m2} & \cdots & r_{mm} \end{bmatrix}$$

$$\text{Here, the correlation efficient } r_{ij} = \frac{\sum_{k=1}^n (x_i(k) - \bar{x}_i)(x_j(k) - \bar{x}_j)}{\sqrt{\sum_{k=1}^n (x_i(k) - \bar{x}_i)^2 \sum_{k=1}^n (x_j(k) - \bar{x}_j)^2}}, \quad \bar{x}_i = \frac{1}{n} \sum_{k=1}^n x_i(k)$$

$0 \leq r_{ij} \leq 1$, it reflects the correlation of x_i and x_j . The more r_{ij} is close to 1, the stronger the correlation between x_i and x_j is. As r_{ij} is close to 0, there is no correlation between x_i and x_j . According to statistical data of Xinjiang from 1993 to 2007, we get the matrix of Xinjiang gross product y_1 , household consumption y_2 , freight volume x_1 , freight turnover x_2 , passenger volume x_3 , and passenger volume x_4 as follow.

$$R_1 = \begin{bmatrix} 1 & 0.981546 & 0.996654 & 0.992757 & 0.994644 \\ & 1 & 0.986275 & 0.991092 & 0.983126 \\ & & 1 & 0.995360 & 0.997179 \\ & & & 1 & 0.996328 \\ & & & & 1 \end{bmatrix}$$

$$R_2 = \begin{bmatrix} 1 & 0.990705 & 0.982890 & 0.982887 & 0.978929 \\ & 1 & 0.986575 & 0.991092 & 0.983126 \\ & & 1 & 0.995360 & 0.997179 \\ & & & 1 & 0.996328 \\ & & & & 1 \end{bmatrix}$$

2.2 Correlation analysis

From the correlation coefficient matrix, we notice that the correlation coefficients of R_1 and R_2 are larger than 0.95. It means the development of Xinjiang gross product y_1 and household consumption y_2 has a close relationship with the development of freight volume x_1 , freight turnover x_2 , passenger volume x_3 , and passenger volume x_4 . We can conclude that the development of Xinjiang transportation industry contributes a lot to Xinjiang regional economic development. In perspective of numbers, the correlation coefficient of freight turnover and Xinjiang gross product is 0.996654, larger than the correlation coefficient of freight volume, passenger volume, and passenger turnover. It indicates that the freight turnover has more significant effect on Xinjiang gross product. From the correlation coefficient matrix R_2 , we notice that the correlation coefficient of freight volume and household consumption is 0.990705, which means the freight volume has more significant effect on household consumption comparing with other indexes.

3. Multi-dimensional grey dynamic model

3.1 A brief introduction of the model

Suppose $X_1^{(0)} = (x_1^{(0)}(1), x_1^{(0)}(2), \dots, x_1^{(0)}(n))$ is the system's characteristics data sequence, while,

$$X_2^{(0)} = (x_2^{(0)}(1), x_2^{(0)}(2), \dots, x_2^{(0)}(n))$$

.....

$$X_N^{(0)} = (x_N^{(0)}(1), x_N^{(0)}(2), \dots, x_N^{(0)}(n))$$

is the system's correlated factor sequence. $X_i^{(1)}$ is $X_i^{(0)}$'s first-order accumulative sequence (1 – AOG) ($i=1, 2, \dots, N$).

$Z_1^{(1)}$ is $X_1^{(1)}$'s generated mean sequence of consecutive neighbors. Then, $x_1^{(0)}(k) + aZ_1^{(0)}(k) = \sum_{i=2}^n b_i x_i^{(1)}(k)$ is GM (1, N)

model. In this model, a is the system development coefficient, b_i , the system driving system, namely the coordinative

development coefficient, and $\hat{a} = [a, b_2, \dots, b_N]^T$, the parameter sequence.

$$\text{If } B = \begin{bmatrix} -Z_1^{(1)}(2) & x_2^{(1)}(2) & \dots & x_N^{(1)}(2) \\ -Z_1^{(1)}(3) & x_2^{(1)}(3) & \dots & x_N^{(1)}(3) \\ \dots & \dots & \dots & \dots \\ -Z_1^{(1)}(n) & x_2^{(1)}(n) & \dots & x_N^{(1)}(n) \end{bmatrix}, Y = \begin{bmatrix} x_1^{(0)}(2) \\ x_1^{(0)}(3) \\ \dots \\ x_1^{(0)}(n) \end{bmatrix}, \text{ then the parameter sequence } \hat{a} = [a, b_2, \dots, b_N]^T \text{ 's least}$$

square satisfies $\hat{a} = (B^T B)^{-1} B^T Y$. Suppose $\hat{a} = [a, b_2, \dots, b_N]^T$, then $\frac{d x_1^{(1)}}{dt} + a x_1^{(1)} = b_2 x_2^{(1)} + b_3 x_3^{(1)} + \dots + b_N x_N^{(1)}$ is

$x_1^{(0)}(k) + aZ_1^{(0)}(k) = \sum_{i=2}^n b_i x_i^{(1)}(k)$'s shadow equation.

Here as we use the N dimensional system model setting theory to study the coordination relationship between Xinjiang transportation and Xinjiang regional economic growth, we mainly make quantitative analysis of the system development coefficient a and the driving coefficient b_i , and $x_i^{(1)}(k)$ in the model. If a is smaller than 0, the system has certain development competence. If a is larger than 0, the system has no development competence. According to the statistical data of Xinjiang gross product y_1 and household consumption y_2 has a close relationship with the development of freight volume x_1 , freight turnover x_2 , passenger volume x_3 , and passenger volume x_4 from 1993 to 2007, we calculate GM (1, 5).

$$\frac{dy_1^{(1)}}{dt} - 0.9283y_1^{(1)} = 1.10032x_1^{(1)} + 0.93203x_2^{(1)} + 0.54311x_3^{(1)} + 0.34002x_4^{(1)}$$

$$\frac{dy_2^{(1)}}{dt} - 0.86025y_1^{(1)} = 0.92016x_1^{(1)} + 0.41035x_2^{(1)} + 0.01032x_3^{(1)} + 0.45120x_4^{(1)}$$

Apparently, a is smaller than 0, it means the system has certain development competence. Therefore, the development of transportation industry has a positive promoting effect on economic growth. Besides, the coordinative development coefficient (the driving coefficient) is larger than 0, which means in Xinjiang the freight volume, freight turnover, passenger volume, and passenger turnover develop in coordination and the transportation internal component factors are reasonable. The coordinative development of transportation internal component factors exerts a significant pushing effect on Xinjiang regional economic growth.

3.2 Grey correlation analysis

The essence of grey correlation analysis is to judge the relationship by the similarities of sequences' curves. The closer the curve is, the more significant the correlation of relevant sequences is. By means of grey correlation analysis, we can identify what factors exert more effects on the system and what less effects on the system, what serves as proofs for us finding the relationship between Xinjiang transportation indexes and Xinjiang regional economic growth influencing factors. According to the statistical data of Xinjiang gross product y_1 and household consumption y_2 has a close relationship with the development of freight volume x_1 , freight turnover x_2 , passenger volume x_3 , and passenger volume x_4 from 1993 to 2007, we get the grey correlation table (Table 1) as follow (r_i is the grey correlation degree).

According to this table, the contribution of freight turnover to Xinjiang gross product is the largest and that of freight volume to Xinjiang household consumption is the largest, what is in accordance with the conclusion drawn by us in the correlation model analysis. It is determined by Xinjiang's location. Xinjiang locates in western China. Most materials are chiefly imported from the inland. The development of Xinjiang transportation drives the regional trade between Xinjiang and the inland to a great degree, satisfying Xinjiang people's increasing needs for materials and cultures, improving Xinjiang people's living consumption level, and promoting Xinjiang's regional economic development.

4. Conclusion and suggestion

From the empirical relationship between Xinjiang transportation industry and Xinjiang economic growth, we can conclude that there is a bilateral interactive relationship. Only when there is effective transportation system, can it realize regional development and associate all national economic branches together and improve an area's regional economic competence. The transportation net can promote the urbanization process, reduce the gap between rich and poor, and increase regional employment. According to general laws of economy history development, the development of transportation industry can bring about a series of chain effect on the development of related industries. It can promote the optimization and upgrade of industrial structure, help to supply a favorable external environment for regional economic development, and make enterprises generate external economic benefit. Besides, transportation industry shows its irreplaceable effects on promoting Xinjiang's reasonable industry allocation, decreasing wastes of resources caused by unreasonable industry allocation, reducing market transition costs and information asymmetry, and absorbing foreign investments. Finally, it can promote the whole economic industrialization process and drive the economic development.

This paper analyzes the development of Xinjiang transportation industry from a macro aspect. In order to supply useful references for Xinjiang regional economic development, the author advances several suggestions as follow.

(1) Improve the modernization level by depending on scientific and technological progresses. Considering the fact that the transportation is a capital and technology intensive industry, we can promote the transportation scientific and technological fruits actively, popularize new materials, new crafts, new technologies, and new methods, and speed up the transform from scientific and technological fruits to practical productivity. Besides, along with the coming of knowledge economy, information has already become a strategic resource and a unique production factor for economic development. To accelerate the construction process of transportation information is a long-term and urgent task for promoting the sustainable, fast, and healthy development of transportation industry. At present, Xinjiang's transportation industry lags behind in fields of information resource development, application, and share. Lots of information is coming from manual labors. Therefore, we should improve the scientific and technological level, emphasize on talent cultivation and employee quality improvement, creating a favorable condition for transportation industry pushing the development of Xinjiang regional economy.

(2) Continue the reform of transportation management system. We can establish the responsibilities of the central government and the local government and set up internal and external supervision institutions. Besides, we can introduce foreign latest transportation management system, legalizing the transportation management.

(3) Constitute regional difference strategy for transportation development. After completely understanding and mastering the relationship between regional transportation and regional economic development, by developing transportation infrastructure differently, we can achieve an effective match between transportation development and regional economic activity, thoroughly exerting the positive effect of transportation industry on regional economic operation, and finally realizing the optimization of transportation industry and regional economic development.

(4) Promote the marketization process of transportation and imperfect the transportation market system. Gradually perfect the legal system, regulate the transportation construction and operation, and build up scientific and reasonable "market entrance" standards and requirements. Take the railway as a breakthrough, break the industrial monopoly and regional restriction, further open the transportation market, decrease the entrance and quit standards, and drive the formation and development of unified transportation market. Perfect the transportation's pricing mechanism that is mainly based on the market supply and demand, and affected by the government, applying the classified guidance and management to transportation prices.

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Table 1.

	r_1	r_2	r_3	r_4	Order
y_1	0.507359	0.620408	0.477927	0.551378	$r_2 \succ r_4 \succ r_1 \succ r_3$
y_2	0.585451	0.557232	0.575624	0.56183	$r_1 \succ r_3 \succ r_4 \succ r_2$



Assessing Knowledge Sharing Behaviour among Employees in SMEs: An Empirical Study

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Abstract

The purpose of this study is to present and tests the key factors of knowledge sharing behavior of employees in the SMEs in Malaysia. A survey was designed and interview conducted with employees in the manufacturing companies from Melaka and Johor states. Survey questions designed from the literature to examine employee perceptions of all variables were identified. Data from 305 respondents were used to validate the measures and test our research model. The results of the study show that reward system, culture, trust and technology are the four key factors which influencing the knowledge sharing behavior in the firms. Finally, the recommendation for HR executives are discussed in this research may help the firms in guiding their efforts to build knowledge based firms in Malaysia.

Keywords: Knowledge sharing, Behaviour, SMEs, Malaysia

1. Introduction

Malaysia has shifted its agriculture-based economy to industry based in order to stand with the challenges of the twenty first century. The latest industrial initiative taken by the Malaysian Government after 1997 was to encourage firms to be more knowledge-intensive rather than production-intensive in order to transform Malaysia into a knowledge-economy (K-economy).

In today's knowledge-intensive economy, knowledge management plays an important role in an organization and knowledge management has become very popular. According to Nonaka and Konno (1998) knowledge management is defined as a method for simplifying and improving the process of sharing, distributing, creating, and understanding company knowledge. Knowledge is considered as an asset which has to be valued, developed, and managed (Bogdanowicz & Bailey, 2002). The sharing of knowledge between individuals and departments in the organization is considered to be a crucial process here (O'Dell & Grayson, 1998).

Knowledge sharing is a process where the individual exchange his/her knowledge and ideas through discussions to create new knowledge or ideas. Hislop (2002) argued that the relationship between attitudes and behaviors of workers to knowledge sharing and the workers who are willing to share their knowledge are a two way reciprocal process between attitudes and behavior of the relationship between the workers' willingness to engage in the knowledge sharing. This is a crucial process for an organization to become successful.

Recently many organizations are encouraging the knowledge sharing behavior among their employee in order to meet the organization's objective and goals. There are some organizations which gain benefit after implementing knowledge sharing (O'Dell & Grayson, 1998). They found that companies such as Buckman Laboratories and Texas Instruments and a great saving in Dow Chemical and Chevron have huge gain of profit for knowledge sharing process. Cheng (2002) stated that, knowledge sharing can helps employees to new understanding their jobs and bring personal recognition within the department. Once the knowledge is built, companies will be able to have sustainable competitive advantage.

There are many employees who are unwilling to share their knowledge they have (Chow, Deng, & Ho, 2000). They added that this phenomenon happens is because the employees scared of the loss of valuable knowledge. Although many organizations apply technology to support knowledge sharing behavior, the problem still exists and is far from being successful (Grumbley, 1998). It is a problem to encourage the employees to share their knowledge because the knowledge is with them and is a sign of power to them (Grumbley, 1998). Due to the situation, Mason and Pauleen (2003) noted that this represents a formidable challenge for most managers.

This paper addresses this gap. It focuses on the knowledge sharing behavior of knowledge workers in Malaysia. This study provides empirical evidence and discusses the factors influencing knowledge sharing behavior. We investigate a relationship between these factors and knowledge behavior. ICT industries were chosen for this study. The results of this study indicate that some factors have clear impact on knowledge sharing behavior.

2. Research Model and Hypotheses

The conceptual model tested in this paper contains constructs that have demonstrated theoretical support, based on a number of researches done in this area in different countries, particularly in knowledge management area (Scarbrough & Carter, 2000; Kugel & Schostek, 2004; McDermott & O'Dell, 2001; Connelly & Kelloway, 2003; Sharratt & Usoro, 2003; Yaacob & Hassan, 2005). The model examines the factors that would possibly affect the knowledge sharing behavior. The conceptual model is shown in Figure 1.

The schematic diagram of the theoretical framework in Figure 1 is to show the relationship between the dependent and independent variables. Essentially, the theoretical framework shown is the foundation on which the entire research is based upon.

Knowledge sharing behavior is the dependent variable in this research. The dependent variable is analyzed in this research in order to find out the answers or solution to the problem i.e., what are the factors that influence knowledge sharing behavior of employees in the SMEs in Malaysia? In this situation, the study will be testing six independent variables i.e. commitment, reward system, culture, social interaction, trust and technology as possible variables that are believed to have influence towards the dependent variable (knowledge sharing behavior).

Commitment: The commitment of the employees in the organization is one of the key issues in making the employees to share their knowledge. In order to make knowledge management successful, the level of commitment and capability to encourage knowledge sharing are strongly related (Scarbrough & Carter, 2000). According to Hislop (2002) the level of commitment will, in turn, influence employees attitudes and behaviors to sharing their knowledge for the benefit of the organization. When employees levels of commitment is high then they are more willing and work effectively for the organization. Hislop (2002) argued that commitment is important because workers with high levels of organizational commitment are less likely to leave, are more likely to be highly motivated, and will probably be more willing to provide extra discretionary effort and be generally more willing to share their knowledge within the organization. Therefore, commitment is taken into consideration as one of the factor that affects knowledge sharing behavior. Thus the following hypothesis needs to be substantiated:

Hypothesis 1: There is a significant relationship between commitment and knowledge sharing behavior.

Reward system: Reward is also one of the effective factors which will encourage people to share knowledge with others. Kugel & Schostek (2004) study found that knowledge is shared only because monetary rewards are obtained, and when the rewards system is withdrawn, the knowledge sharing behavior will decrease (. Rewards or bonuses are extrinsic motivation (Stenmark, 2003). Employees will generally act in a way that they perceive as being rewarded - this is not merely pay but the outcomes that will make an individual feel that they are achieving their intrinsic or extrinsic needs (Palardy, 1994; Mullins, 2002). Grumbley (1998) stated that one way of helping to convince them of their value to the organization is to offer inducements in a form that is linked to the well-being of the organization as share or share options that shape of performance or profit-based schemes. Syed-Ikhsan and Rowland (2004) study reveals that

organizations which provide “reward” systems will definitely encourage employees to share the knowledge. It is also found that one of the strategies that could foster knowledge sharing is by introducing incentive schemes for knowledge sharing (Matusik & Hill 1998; Trussler, 1998). The companies have to reward the employees who are willing to share their knowledge with others. Hariharan and Cellular (2005) emphasize that the management should announce reward and recognition schemes to measure and reward knowledge sharing and replication with demonstrated business results. Thus, reward system is included in the theoretical framework of this research, as follows:

Hypothesis2: there is a significant relationship between reward system and knowledge sharing behavior.

Culture: Researches have investigated the importance of organization culture. It is one of the main factors that make the knowledge management and knowledge sharing a success in an organization (Tuggle and Shaw, 2000). Strong culture and the attitudes of the employers and employees could help the company become successful. So, it is important to have a culture of sharing knowledge. Schein (1985) has defined culture as the shared values, beliefs and practices of the people in the organization. Culture exists in a deeper level as well for example how people act, what they expect of each other and how they make sense of the opposite party’s action (McDermott & O’Dell, 2001). McDermott and O’Dell (2001) added that people are often acting in ways consistent with its underlying or core values. From the definition it could be concluded that in an organization with knowledge sharing culture, people would share their ideas and exchange knowledge with others because they treat this culture as natural, rather than they are force to share their knowledge with others. Therefore, the hypothesis is:

Hypothesis 3: There is a significant relationship between culture and knowledge sharing behavior.

Social interaction: Knowledge sharing can occur without our realization. Knowledge sharing behavior or knowledge transfer is actually has been occur at that time of communicating or talking with people. Even the employees having a cup of coffee at a coffee shop or talking about their work; some knowledge has been exchanged among them (Connelly & Kelloway, 2003). This behavior not only applies to the employees, this could be possible to the upper management as well. The employees and the employers should interact more in order to gain knowledge. When both employees and employers communicate, it indirectly reduces the status differentials. This reducing nature of status differential may encourage social interaction among them which may increase the knowledge sharing (Connelly & Kelloway, 2003). Employees will not share their knowledge among all groups of the members if the organization is constrained by hierarchies and status differentiations among them (Connelly & Kelloway 2003). Thus, many organization encourage to motivate their employees to interact more among them by providing rest rooms or provide food or drinks for them (Flaherty, 2000). This leads to the fourth hypothesis:

Hypothesis 4: There is a significant relationship between social interaction and knowledge sharing behavior.

Trust: Trust is the most effective and least costly method that can encourage people to share their knowledge (Dyer & Singh, 1998). Many people are willing to share their knowledge with others if they feel that the person is honest and can be trusted (Sharratt & Usoro, 2003). This has become a tool to motivate people to share knowledge. According to Sharratt and Usoro (2003), when one views a community as upholding trustworthy values such as mutual reciprocity, honesty, reliability and commitment, there is likely to be greater degree of motivation to participate and share one’s knowledge. Thus it concludes that high level of interpersonal trust correlate with high levels or willingness to knowledge sharing (Kalantzis & Cope, 2003). Thus, the hypothesis is:

Hypothesis 5: There is a significant relationship between trust and knowledge sharing behavior.

Technology: Many organizations increase the knowledge sharing behavior among the employees by introducing and using technology (Yaacob & Hassan, 2005). The organizations create or acquire database or “knowledge repository” where the employees can contribute their expertise in a way that can be accessed by other employees as well (Ruggles, 1998). Through technology, employees not only can share their knowledge internally but they can share even across a wide geographical separation (Connelly & Kelloway, 2003).

Knowledge sharing technology may provide a visible symbol of management’s support for the knowledge sharing (Connelly & Kelloway, 2003). Technology makes people easily to access and more willing to share their knowledge because it suits for those who are shy or very busy and prefer to avoid face to face interaction (Connelly & Kelloway, 2003). This leads to the sixth hypothesis:

Hypothesis 6: There is a significant relationship between technology and knowledge sharing behavior.

3. Research Methods

A survey instrument was formulated to obtain feedback from the employees of SMEs in Malaysia, assessing their knowledge sharing behaviour. In order to focus on SMEs, lists were sought from the Small and Medium Industries Development Corporation (SMIDEC) in Malaysia web site. As such, the surveys sent out were personally addressed to the owner and or manager of each of SMEs and requesting them to distribute the questionnaires to their employees.

3.1 Data Collection

The population of this study comprises of all SMEs from service sectors in Melaka and Johor in Malaysia. These are registered under Small and Medium Industries Development Corporation (SMIDEC). Data were gathered based on mail and personal administered questionnaire. A packet of 500 survey instruments, enclosing a return envelop were sent to randomly selected SMEs from the list of SMIDEC. The respondents for this study were targeted to be any employees who are working in the organizations for more than two years. It was assumed that those employees working in that organization for more than two are already familiar with the culture of the organizations.

To maximize the return rate, three subsequent reminders were sent over telephone and the mail lists maintained by SMIDEC after the initial surveys were mailed. Telephone inquiries were conducted only three weeks later as a last resort for those SMEs that had not responded. The response rate for the survey was 64.8 per cent (324 responses). Due to missing values for at least two sections of the responses 19 samples were discarded from this research and finally 305 samples were then processed and analysed using SPSS.

Table I presents a breakdown of the respondents' demographic situation. The majority of the respondents were male (60.0 percent), Chinese group was the highest contributors of the total respondents (61.31 percent) and the second highest group is represented by Malays (26.51 percent). Majority of the respondents were in the service organisations and most of the SMEs are local. In terms of position held by the respondents, majority of them were mid level manager.

The questionnaire was operationalised using the literatures on knowledge sharing behavior (Scarborough & Carter, 2000; Hislop, 2002; Kugel & Schostek, 2004; Palardy, 1994; Mullins, 2002; Grumbley, 1998; Matusik & Hill 1998; Trussler, 1998; Tuggle and Shaw, 2000; Connelly & Kelloway, 2003; Dyer & Singh, 1998; Connelly & Kelloway, 2003). The first part of the questionnaire included questions about the demographic characteristics of the respondents such as gender, race and working experience. The second part consisted of questions measuring the factors influencing knowledge sharing behavior on a Likert scale ranging from 1= strongly disagree to 5 = strongly agree.

3.2 Measures

Table II shows the number of items comprising each scale: the reliability reported by Moore and Benbasat (1991) for the scale and Cronbach's alpha for scale reliability obtained for our sample. Reliability from our sample showed a reasonable level of reliability ($\alpha > 0.70$).

3.3 Hypotheses Testing

The strength of the proposed relationship was assessed using the respective statistical analyses summarized in Tables III.

Hypothesis 1: *There is a significant relationship between commitment and knowledge sharing behavior.*

The results of this study show that the association between commitment and knowledge sharing behavior is not significant. The multiple regression result shows commitment has $\beta = .093$; $p\text{-value} = .140$. The results prove that, the null hypothesis that there is no relationship between commitment and knowledge sharing behavior can not be rejected. In this situation, the employees those are working in the SMEs perceived commitment as a less important factor for knowledge sharing behavior.

Hypothesis 2: *There is a significant relationship between reward system and knowledge sharing behavior.*

Reward is one of the effective factors that will encourage employees to share knowledge with each other in the organization (Kugel & Schostek, 2004). The results of this study show that there is a significant association between reward system and knowledge sharing behavior. It is significant at .05 levels. Accordingly, the hypothesis 2 could not be rejected. In addition, the direction of the associations is positive in which it indicates that the higher the reward system in the organization, the higher will be possibility of knowledge sharing among the employees.

Hypothesis 3: *There is a significant relationship between culture and knowledge sharing behavior.*

Researches have investigated the importance of organization culture. It is one of the main factors that make management and knowledge sharing successful in an organization (Tuggle and Shaw, 2000). Culture factor is an important factor that has a positive effect on knowledge sharing behavior. Referring to Table II, the third hypothesis tested the relationship between culture and knowledge sharing behavior. The regression result ($\beta = .180$, $t\text{-value} = 2.662$, $p\text{-value} = .01$) indicates that the association between culture and knowledge sharing behavior is significant at .01 level ($p = .008$). In term of direction, the result shows that there is a positive direction between the two constructs. This study also confirmed by another study by McDermott and O'Dell (2001).

Hypothesis 4: *There is a significant relationship between social interaction and knowledge sharing behavior.*

The results of this study show that the association between social interaction and knowledge sharing behavior is not significant. The multiple regression result shows social interaction have $\beta = .018$; $p\text{-value} = .779$. The results prove that, the null hypothesis that there is no relationship between social interaction and knowledge sharing behavior could

not be rejected. From this situation, many organization start to motivate their employees to interact more among them by providing rest rooms or provide food or drinks for them (Flaherty, 2000).

Hypothesis 5: *There is a significant relationship between trust and knowledge sharing behavior.*

Table II shows the association between trust and knowledge sharing behavior is significant at 0.01 level and the beta = .131 and t-value = 2.016 ($p=0.045$). The support for hypothesis 5 reflects the similar arguments in previous studies (Dyer & Singh, 1998; Sharratt & Usoro, 2003 ; Kalantzis & Cope, 2003) found that trust have greater impact on the knowledge sharing behavior.

Hypothesis 6: *There is a significant relationship between technology and knowledge sharing behavior.*

The higher levels of technology are associated with knowledge sharing behavior among the employees in the Malaysian SMEs. Multiple regression analysis shows results of (beta= .273, p-value= .000), implying that there is a positive and significant correlation between technology and knowledge sharing behavior. This research therefore further proves the earlier findings that showed technology as having a positive and significant influence on knowledge sharing behavior (Connelly & Kelloway, 2003).

4. Conclusion

The research was done under theoretical framework developed based on the previous study. The multiple regression analysis shows that reward system, culture, trust and technology are significant elements of knowledge sharing behavior of the employees in the SMEs in the two states in Malaysia. The model explains 32 per cent of the variance in companies' knowledge sharing behavior. As we know exchanging knowledge with other people will indirectly help the management to create some new idea or knowledge and Malaysian government trying to develop knowledge based management, an understanding of the factors that influence knowledge sharing behavior is invaluable. Knowledge is also very crucial in order to compete among business organization in today's world. An assessment of the validity of the findings presented in this paper would be especially valuable.

Like other empirical studies, this study is not without its limitations. Our sample consisted of SMEs in Melaka and Johor state in Malaysia may limit the generalizability of the results. The sample size itself is relatively small. The study can be strengthened by increasing the sample size and including participants in other geographical areas. With an increased sample size, a more detailed empirical analysis among the independent variables and the variables that have multiple categories can be performed. Potential correlations between some of the independent variables (e.g. gender, race, working experiences, educational level) need to be reported in a future study.

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Table 1. General Information

No	Demographic Variables	No. of Respondents	%
	Sex		
	Male	183	60.0
	Female	122	40.0
	Race		
	Malay	81	26.56
	Chinese	187	61.31
	Indian	32	10.49
	others	05	1.64
1.	Working place		
	Manufacturing	114	37.37
	Services	191	62.63
2.	Ownership of the SMEs		
	Local	269	88.20
	Foreign	36	11.80
3.	Respondents position		
	Manager	40	13.12
	Mid level manager	181	59.34
	Executive	84	27.54

Table 2. Reliability Analysis

Variables	Coefficient Alpha
Knowledge sharing behavior	0.835
Commitment	0.896
Reward system	0.885
Culture	0.792
Social interaction	0.768
Trust	0.831
Technology	0.808

Table 3. Regression Results

Variables	Beta	t-value	p-value
Commitment	.093	1.483	.140
Reward system	.136	2.110	.036
Culture	.180	2.662	.008
Social interaction	.018	.280	.779
Trust	.131	2.016	.045
Technology	.273	4.316	.000

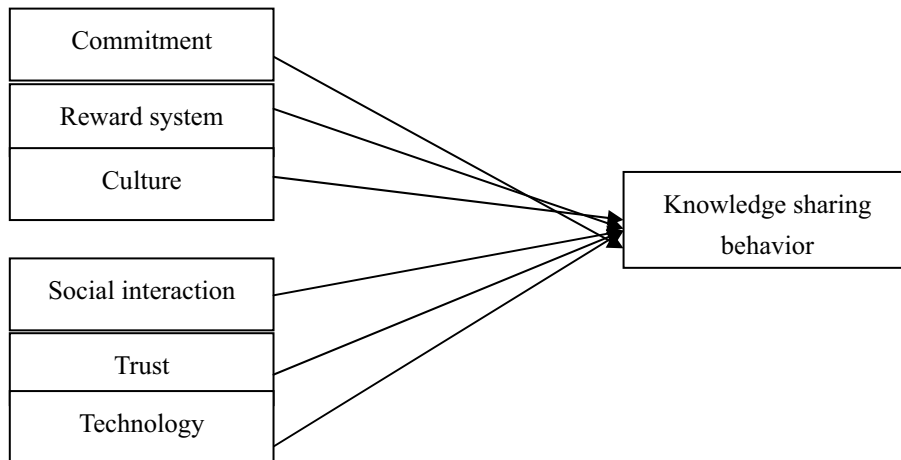


Figure 1. A schematic diagram of the conceptual framework



Ethical Investment and the Social Responsibilities of the Islamic Banks

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Abstract

While ethics and financial investments seem to be mutually exclusive, ethics have recently become an important issue in the financial field. There is an increased emphasis on the role of faith and religious beliefs on ethical business practices for some investors who not only seek profits through their investments but they also require the achievement of a moral duty beside the quest of wealth accumulation.

Since investors become more aware of the benefits of Ethics and socially responsible investment, the interest in Islamic investing and ethically based banking is also increasing.

Among the most important objectives of the Islamic finance in general and particularly the Islamic banks, is the establishment of justice and elimination of exploitation in business transaction. This can be done by the prohibition in of all sources of illegal “unjustified” enrichment and the prohibition of dealing in transactions that contain excessive risk or speculation. The paper seeks to explain that the Islamic bank services represent an example of ethically and socially responsible investment.

Keywords: Ethical investment, Social responsibility, Islamic banking, Poverty alleviation

1. Introduction

Generally investment decisions are based solely on financial criteria such as risk and returns. However, over the last few years many investors have started taking into account a new dimension, that is, the ethical nature or, more generally, the social responsibility attached to their investments.

If the role played by the religion and spirituality in the modern world is weak, it would be because other forces have squeezed them out, either assuming their role or making fulfilment of their purpose impossible.

There are an increasing number of investors who seek to align their investments with their principles through ethical and socially responsible investment.

Ethics are a set of values and principles accepted by any person or a group. Religion is seen as playing an important role in determining these values and principles, in shaping personality and behaviour of individuals, in particular on some aspects of investment decision-making.

Ethical practices, in the Islamic banking framework, are derived from religious teaching. Islamic banking is one form of integrating religious principles in investment decisions. The basic tenet of Islamic banks is that the investor should invest his or her assets to reflect the Islamic principles that govern his or her daily life.

In the following, the terms ‘ethical investments’ and ‘socially responsible investments’ are used interchangeably.

The paper is organized as follows. In section 2 we give a quick review of the phenomenon of ethical investment followed by a short definition of what is Ethics, with some explanation of Ethics in Islam. In section 3 we clarify the Relationship between ethical investment and Islamic principles. We then attempt to identify the essential foundations of the Islamic Banks and its principles with an emphasize on the Social role and Social Effects of Islamic Banking.

2. The phenomenon of ethical investment

The concept of ethical investment is based on the philosophical, religious or moral convictions of individual or collective investors, who exclude from their investment universe all stocks in fields which they consider contrary to their convictions.

Ethical investing is growing phenomenon; it deals with the questions of what is considered to be right and what is wrong.

In an economic context, ethical investments are meant to achieve monetary gains and outcomes, however it relies much more on some other objectives different from those guided only by maximizing the expected utility from pecuniary wealth or income (Note1).

Ethical investors are firstly concerned about the characteristics of the companies in which the funds are placed and then about the financial returns on their portfolios and the risks involved. This is essentially due to the “feel good” factor for those investors, which can make them having a good conscience about the returns on their assets.

The motivations for Ethical and socially responsible investment could have two sources. Subjective source are linked to personal ethics, to the application of superior moral principles with which there can be no compromise.

As for the objective motivations, they reflect apprehension about the social losses or gains arising from the firm's activities (for example pollution, smoking, work-related illnesses, etc.) (Note 2).

It should be possible, theoretically, to define an ethical investment objectively on the basis of the criteria used to select investment. Ethical investment can result from negative screening. It's most common form is the selection of an investment universe which excludes companies that operate in what are considered to be “sinful” industries: companies implicated in the production of alcohol, tobacco, nuclear energy or gambling for example. Negative screening can also exclude companies based in countries in which the political regimes do not guarantee fundamental human rights

Ethical investment can also be the result of positive screening by selecting an investment universe based on good practices in a particular field, such as in human rights or the protection of the environment, for example. Some investment universes result from the combination of both negative and positive screening (Note 3).

3. What is Ethics?

Ethics is a set of moral principles that distinguish what is right from what is wrong. Ethics evaluates human practices by calling upon moral standards; also it may give prescriptive advice on how to act morally in a given situation.

3.1 Financial Ethics “invest your money where your values are”

Financial Ethics is the branch of Ethics that examines ethical rules and principles within the financial context; the various moral or ethical problems that can arise in a business setting; and any special duties or obligations that apply to persons engaged in commerce. Generally speaking, business ethics is a normative discipline, whereby particular ethical standards are formulated and then applied. It makes specific judgments about what is right or wrong, which is to say, it makes claims about what *ought* to be done or what *ought not* to be done. Generally speaking, business ethics is concerned with the study of what is good and bad, right and wrong, and just and unjust in business (Note4). Ethical investing has ancient origins and is rooted in religious traditions Jewish, Christian, and Islamic teachings.

3.2 Ethics in Islam

All the monotheistic religions have their own sets of divine values and norms with regard to human behaviour, in particular economic behaviour.

Islam has very clear prescriptions about how business should be done with special focus on the social and ethical dimensions of business.

Islam requires Muslims to lead their lives according to the Islamic legal code of ‘Shariah’ that Muslims worldwide are expected to follow to the extent possible given their circumstances. The Shariah, or divine guiding principles, is the Islamic law of human conduct which regulates all matters of the lives of Muslims. It is based on God's holy word in the *Qur'an*, the deeds and sayings of the prophet Mohammed (*Sunah*), and the consensus of Islamic religious scholars).

Islam places the highest emphasis on ethical values in all aspects of human life. In Islam, ethics governs all aspects of life.

Islamic teachings strongly stress the observance of ethical values and moral principles in human behaviour which are repeatedly stressed throughout the Holy *Qur'an* and the numerous teachings of the Prophet (PBUH).

The most important of the basic Islamic values of life are the believe in the existence of God-the creator, temporary life on earth, accountability of all actions on the Day of Judgment, and reward by the All-Aware according to the real motive of every human action. Among the principle pillars of an Islamic society are love and fear of God, honesty, and justice (Note5).

Islamic finance flows from the principle that religion cannot be divorced from any aspect of life, including business.

The business relations in the Islamic framework are mainly ethics based originating from religious beliefs, trust and faith. Religious norms/values and beliefs are supposed to regulate human behavior in society.

The Islamic finance embraces the philosophy of risk sharing, ethical and religious goals, including a quest for justice, and the promotion of social and economic welfare which extends beyond profit maximization.

4. Relationship between ethical investment and Islamic principles

All the religions share the same basic purpose, Socio-economic justice. In an Islamic framework, an individual not only lives for himself, but the range of his activities and responsibilities extend beyond him to the welfare and interests of society at large.

In Islam, the rights and obligations of individuals and organizations with respect to others are clearly defined by religion, this is considered to make Islam a stronger and more effective basis for ethical values. Despite the presence of many schools of thought in Islam, there is agreement on basic matters of principle. Responsibilities of members of society to each other are well defined, do not change over time and are not affected by different theoretical frameworks.

In the Islamic context, the ethical investments and the social responsibilities of individuals that are derived from the *Shariah*, also apply to firms. Similarly, the main purpose of an Islamic business is to satisfy the will of God, through following the *Islamic teachings*. Islam considers work to be part of the worship of God.

Islamic ethics are based essentially on its conception of man in relation to God, his own self, the universe and the Society.

According to Islamic law an individual has the right to get return for utilizing his/her capital in an economic venture, but the issue is how it can be acquired.

It is legal for a business to achieve profits, but this goal should be pursued according to *Shariah*. Since *Shariah* defines the norms of human conduct, and how business has to deal with its external environment, businesses claiming to comply with *Shariah* should be clearer about their roles in society. Social justice and ownership are central to social relations.

Islam stresses the concept of social responsibility. All Muslims are considered to be brothers and should take care of each other, and no cheating or exploitation is allowed, whatever the reasons.

Islamic ethics create a sense of responsibility and accountability in the mind of the believer who must be guided by conscious purposes.

The Islamic perspective concerning social responsibility and justice has implications on business practices. The fundamental codes of moral behavior involve truthfulness, trustworthiness, generosity and leniency, fair treatment of workers and avoidance of evil practices such as, interest (*Riba*), fraud, cheating, deceit, exploitations, etc. in accordance to the Islamic jurisprudence concerning the lawful and unlawful which are the crucial elements of social responsibility and justice in Islam.

The permissible range of choices of Islamic investment is wide. It involves investments in companies and businesses which undertake to deploy funding on a permissible "*halal*" basis, these include interest free bank deposits. Investments to be avoided and regarded as *haram* include conventional bank savings and investment deposits, the purchase of interest yielding bonds, and the acquisition of shares in companies involved in alcohol production or distribution or in pork products.

5. Islamic Banking: An Overview

The choice of the Islamic banks, as a case of study of the ethical investment, can be justified by the fact that Islamic banking is an essential component of everyday Muslim business life. Islamic banks perform in accordance with the conscience or practical interests of believing Muslims. They are similar to socially responsible funds in the west. It is thus felt that the research will make a useful contribution to the Ethical Investment theory and practice. The Islamic banks constitute a highly prominent sector in the Islamic finance. Already operating at a global level, the Islamic banking system is currently spreading fast throughout the world.

Its success is indicated by the rapid growth in number of banks, branches, accounts, and sums of money it handles. Western glorious conventional financial institutions such as Citigroup, HSBC, JF Morgan, Barclays, Kleinwort Benson, Deutsche Bank, Lloyds, JP Morgan, Royal Bank of Scotland, Algemene Bank Nederland (ABN) AMRO, Goldman Sachs, American Express, ANZ, Grindlays, United Bank of Switzerland (UBS), Commerzbank, Société Général and BNP Paribas have started introducing interest-free products to their customers.

Banking is one of the most sensitive businesses all over the world. Banks play a very positive and important role in the economy of a country.

Like any conventional bank, an Islamic bank is a financial intermediary and trustee of people's money with the difference that the Islamic banks reject the receipt and payment of interest on any of its operations. This prohibition of dealing with the interest rate leads them to payoff to all its depositors a share in profits and losses. This difference

introduces an element of mutuality in Islamic banking, making its depositors as customers with some ownership rights inherent within it.

Islamic banks provide investment and financing activities for Muslims who are keen to adhere to Islamic law in their business transactions; Islamic banks also offer their clients a variety of financial products that are in accordance with *Shariah*.

What distinguishes an Islamic bank from a conventional one is that the Islamic bank keeps in view certain social objectives intended for the benefit of society. The Islamic banks aim to establish distributive justice free from all sorts of exploitation. From the Islamic point of view, business transactions can never be dissociated from the moral objectives of the society.

Islamic banking aims the social justice through forbidding all forms of economic activities which are morally or socially injurious, ensuring ownership of wealth legitimately acquired, allowing an individual to retain any surplus wealth and seeking to prevent the accumulation of wealth in a few hands to the detriment of society as a whole through its laws of inheritance.

Islamic banks are mainly concerned about justice and fairness and prohibit the extracting of a surplus value in an unfair way through the practice of paying and receiving interest regardless of the purpose for which loans are made and the rates at which interests are charged.

5.1 Principles of Islamic banks

The goals of the Islamic finance are not mainly materialistic but are based on the concepts of human well being and achieving a good life overall. It emphasises on community values, socio-economic justice and a balance between the material and spiritual needs of its followers.

The main principles of Islamic banks include:

- The prohibition of taking or receiving interest: Financial transaction should be free from interest (*Riba*) and directly or indirectly linked to a real economic transaction. Profit from indebtedness or the trading of debts is seen to be unethical. Profit from indebtedness or the trading of debts is seen to be unethical. Instead, the investor and investee should share in the risks and profits generated from a venture, an asset or a project.

The prohibition of interest "*Riba*" (Note 6) is the central tenet of the Islamic economy. This prohibition is based on arguments of social justice, equality and property rights. Interest, according to the Islamic view, violates the principle of social justice, in that it rewards people who neither make an effort nor participate in the risks of the projects financed.

The Holy Qur'an prohibits the charging and the payment of interest. Technically, *Riba* refers to the addition in the amount of the principal of a loan according to the time for which it is loaned with the amount of the loan.

Islam is not against the earning of money, but it prohibits the earning of money through unfair trading practices and other socially harmful activities.

Islam seeks to build up an economic environment based on fairness and justice through the prohibition of interest "*Riba*". From an Islamic point of view, it is much fairer that the provider of funds shares the profits and the losses with the entrepreneur (borrower) than the receipt of a fixed return provided by the loan to the lender regardless of the outcome of the project. The idea of fairness in this situation has more than one dimension. The provider of capital has the right to a return, but this return should be equivalent to the risk and effort involved in the project for which the finances are supplied. Therefore, the *Shariah* prohibits not fixed returns but predetermined returns.

- A financial transaction should not lead to the exploitation of any party of the transaction; parties to a financial contract should share in the risks and rewards derived from such financing or investment transaction.

- The ban on unlawful assets: no financial transaction should be directed towards economic sectors considered unlawful such as investments in businesses dealing with tobacco, alcohol, gambling industries, drugs, harmful substances, pork as well as all enterprises for which financial leverage (indebtedness level) would be deemed excessive (including conventional financial activities) or anything else that the *Shariah* considers unlawful are deemed undesirable and prohibited "haram" or sinful activities (Note 7).

- Prohibition on transactions involving *Maisir* (speculation or gambling); and a prohibition on *gharar*, hazardous or excessive ambiguity in transactions or uncertainty about the subject-matter and terms of contracts – this includes a prohibition on selling something that one does not own. The financial transactions involving elements of speculation are forbidden, such as purchasing goods and services at a low price and selling them for a higher price in the future. This is due to the fact that speculators generate their profits at the expense of the society at large. Thus, speculation, which necessarily entails artificial risk in any market be it in money, gold, commodities and the like, is not permissible in an Islamic setting.

- Islamic business principles include respect for the environment and human welfare, fair and transparent dealing, and fair and just employment.
- Any financial transaction should be based on a tangible, identifiable underlying asset.

5.2 How does an Islamic bank differ from a non-Islamic bank?

Unlike conventional banks, Islamic banks objectives should include social dimensions. Capital must have social and ethical purposes beyond pure, unfettered return. The moral principles and objectives play a more important role in the operations, missions and objectives of an Islamic bank than in a non-Islamic bank.

Islamic banks have an Islamic (religious) board, to ensure that the bank's practices are in line with the Shariah, and a strong social solidarity division.

5.3 The Shariah board:

One distinct feature of the modern Islamic banking movement is the role of the *Shariah* board, which forms an integral part of an Islamic bank. A *Shariah* board monitors the workings of the Islamic bank and every new transaction that is doubtful from a *Shariah* standpoint has to be cleared by it. These boards include some of the most respected contemporary scholars of *Shariah* and the opinions of these boards are expressed in the form of fatwas. In addition, the International Association of Islamic Bankers, an independent body, supervises the workings of individual *Shariah* boards while its Supreme Religious Board studies the fatwas of the *Shariah* boards of member banks to determine whether they conform to *Shariah*. *Shariah* law is open to interpretation and *Shariah* boards often have divergent views on key *Shariah* issues. In this regard, there is no practical guide as to what constitutes an acceptable Islamic financial instrument. A document or structure may be accepted by one *Shariah* board but rejected by another *Shariah* board.

The board should not include directors or significant shareholders of either the sponsor or the bank manager.

The selection of respected members of the community is essential because this board will bring reputation and credibility to the bank.

Broadly speaking, the three key functions of Shariah boards are:

- To provide advice to Islamic bank;
- To supervise and audit transactional procedures of Islamic bank; and
- To supervise and actively participate in the creation of innovative Shariah compliant investment and financing products and services.

5.4 Goals of Islamic Banking

The ethical dimension of the Islamic banks makes them more attractive even to non Muslims who are ethically-conscious investors. Islamic banks have a major responsibility to shoulder. The ultimate goal of an Islamic bank is to serve God. The Islamic banks have to build up its own corporate culture, the central purpose of which is to get a collective morality and spirituality which, when combined with the production of goods and services, contribute to the reaching of the major socio-economic goals by emphasizing on the ethical, social and moral elements of wealth creation, with a view to enhancing equality and fairness for the society as a whole.

a. The Social Role and Social Effects of Islamic Banking

Among the social goals of the Islamic banks, the reduction of inequality between the rich and the poor, the establishment of justice and transparency in all transactions, and the allocation of society's resources to the needy and unfortunate.

The concern over ethical investment is also relevant to Islamic banks. As a business entity established within the respect of the Islamic Law (*Shariah*), which emphasize, among other, on the principle of social justice and wellbeing.

The several prohibitions such as interest, gambling, excessive risks, etc aim to provide a level of protection of the interests and benefits of all parties involved in market transactions and to promote social harmony.

Islamic banking strives for a just, fair and balanced society as envisioned by the Islamic law.

Islamic banking perform in accordance with their ethics and social responsibility commitment as being more enduring since they are ultimately based on divine revelations.

b. Role of the Islamic banks in alleviating poverty:

Poverty is seen, from an Islamic point of view, as a threat to human's believes and to the security and stability of the society as a whole. The objectives of Shariah in preserving faith, human soul, progeny, property and mind will be difficult to fulfil in the state of poverty (Note 8).

These objectives require the provision of basic human needs so that people may not be forced to cross the limits of religion and morality. Islam has made the state as well as the community responsible for reducing poverty from the society.

According to the Islamic principles of social responsibility and justice, Islamic bank must care for the less fortunate in society to maintain equilibrium and social justice.

There are different methods of wealth distribution. One of these methods is called *Zakat* (tax). *Zakat* is the wealth tax paid annually on non-working capital, savings, and all types of wealth. It is one of the five basic pillars of Islam (Note 9).

Every Islamic bank thus has to establish a *Zakat* fund for collecting the tax from investors and depositors and distributing it to the poor. The purpose of the *Zakat* is to provide the less fortunate with minimum standard of good life.

The mandatory payment of Islamic tax, *Zakat*: The term 'Zakat' is derived from the Arabic word meaning pure. This tax is one of the five basic tenets of Islam; it is seen as a method for the redistribution of income and wealth among a society to provide equality and a fair standard of living.

The goal of the Islamic bank in alleviating poverty can be achieved by expanding their activities and services into rural areas and small communities, increasing resources mobilization through the collection of Muslims *Zakah* and *Sadaqah* and directing them to provide the poor with their basic needs and improving their standard of living.

Zakah and *Sadaqah* (charity) are two of the main sources of finance for poverty alleviation used by the Islamic banks. *Sadaqah* is a voluntary act of giving for the cause of God "Allah". *Zakat* is the yearly obligation of wealthy Muslims to poor and it is the share of the poor in the property and wealth of the rich. It is considered an obligatory form of "charity". It is a fixed proportion collected from the surplus wealth and earnings of a Muslim after subtracting the basic living expenses. *Zakah* has a deep humanitarian and social-political value.

Islamic banks can play a major role in managing the *Zakah* and *Sadaqah* fund which can be used to finance poverty alleviation activities.

Also an equitable wealth distribution can be done through *Qard-al-Hasan* (benevolent loans) which is a zero return of loan that the Islamic teachings urge Muslim to make available to those who need them. , the borrower then is required to pay-back the principal amount of the loan on maturity without an increment or interest. When no maturity is stipulated, the loan is repaid when asked by the lender, again without any increment. The applicant provides collateral (gold) as security for the principal amount of the loan.

Due to the strong emphasize on the ethical dimensions in Islam such as confidence, solidarity and trust, these loans display high repayment rates.

Besides this, *Qard-al-Hasan* is used for meeting short-term funding requirements. Whereas some Islamic banks only offer *Qard-al-Hasan* to clients, who also have investment account with the bank, other banks provide any needy person with this form of an interest-free loan.

c. Purposes of Qard-al-Hasan

Islam insists on enhancing brotherhood among the Muslims. The main principle of brotherhood is to care about each-others and help other who need money or do not have enough. The main objectives of *qard al-hasan* are: helping the needy fellow people.

- The elimination of social and economical discrimination from the society trough the establishment of better relationship among poor and the rich.
- The mobilization of wealth among all people in the society which may enhance a helpful society.
- To facilitate the poor to create new jobs market and business ventures by using their merits, skills and expertise and thus eradicates unemployment problem from the society.

Islam intends to establish justice and eliminate exploitation in the society and tries to avoid the accumulation of wealth in the hands of few ones. The *Qard al-Hasan* as it is an interest free loan for humanitarian and welfare purpose may ensure the proper movement of wealth amongst all classes of people in the society. That is why, the Qur'an and the Sunnah have much emphasized and encouraged for the implementation of *Qard al-Hasan* in the Muslims society.

6. Conclusion

This research is located in the topic area of Ethics and social responsibilities in the financial field with a particular emphasise on the Islamic banking industry.

Islamic finance in general and the Islamic banking particularly can be seen as new ideas and applications to bring ethics and social justice into the financial and economic fields.

The Islamic financial system has ethical foundations which are based on achieving prosperity and fair distribution of income and wealth among the society.

The principles of Islamic banking were derived from the Shariah law (Islamic law). According to the Islamic finance the ethical investment is based on a moral filter which defines the levels of halal (permissible) and haram (prohibited and undesirable) promoting a positive social climate for society, and providing an expedient legal framework.

In prohibiting transactions based on the interest rate, Islam seeks to establish a society based upon fairness and justice.

Islamic law besides prohibiting the payment and/or collection of interests also prohibits financing activities which conflicts with the moral value system of Islam such as dealing with liquor, pork, gambling, a casino, a night club or any other activity which is prohibited by Islam or known to be detrimental to society and anything which Islamic law deems Haram (unlawful).

One way of manifesting the social role of Islamic banks is the alleviation of poverty by providing finance (through Zakat distribution) to the poor to increase their income and wealth, or by offering Qard-al-Hasan.

The Islamic banks could play an important role in promoting socially desirable investment through its strong emphasis on the ethical and moral dimensions of doing the business and selecting the activities/ commodities to be financed.

Islamic banks have involves various values such as commitment to the social interest, promotion of human welfare, care for the environment and concerns for economic and social justice.

Financial services directed towards helping the poor still limited and do not have significant contribution to poverty alleviation.

This can be improved by expanding the Islamic banking activities into rural areas and small communities and increasing financial resources mobilization through the collection of Muslims' Zakah and Sadaqah which have to be directing to the poor. The Islamic banks could also maintain close contacts with the poor directly and/or indirectly, through its cooperation with other governmental and non-governmental institutions.

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Note 6. A term literally meaning an excess and interpreted 'as any unjustifiable increase of capital whether in loans or sales'.

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Note 9. The five basic pillars of Islam are: (1)- Acceptance of Shahadatane, (2)- Prayer, (3)- Zakat,(4)- Fasting and (5)-Hajj= Pilgrimage to Mecca

Glossary of Islamic Finance Terms

Quran: the book of revelations from God and taught to the prophet Muhammad "peace be upon him".

Sunnah: the collection of "*hadith*" describing the Prophet' Muhammad (PBUH) sayings, actions, deeds, approvals and disapprovals. The Sunnah is the most important source of the Islamic faith after the Quran.

Hadith: sayings, deeds and reactions of Prophet Muhammad (PBUH) narrated by his Companions.

Shariah: literally, it means 'a road' refers to Islamic law as ordained by Allah, or the Law of Allah, most include in this category the Quran and Sunnah. Shariah governs both secular and religious life of devout Muslims. It covers religious rituals and many aspects of day-to-day living, politics, economics, banking, and law.

The Shariah is the legal and social modality of a people based on the revelation of their prophet. The last Shariah in history is that of Islam. It abrogates all previous Shari'ahs. It is, being the last, therefore the easiest to follow, for it is applicable to the whole human race wherever they are.

Riba: usury, Increase, addition, expansion or growth. The meaning of this Arabic word is close to the charging of interest, which is forbidden by the Quran. Riba also connotes a loan in which the borrower makes a return to the lender that is more or better than what was borrowed. No financial transaction should be based on the payment or receipt of the interest. Profits from indebtedness or the trading of debts is seen to be unethical. Instead the investor and investee should share in the risks and profits generated from the project.

However, not every increase or growth is prohibited by Islam. Under the Shariah, Riba technically refers to the premium that must be paid without any consideration.

Islamic banking: is a banking system consistent with Islamic law (Shariah) principles and guided by Islamic economics. In particular, Islamic law prohibits the collection and payment of interest. Generally, it also prohibits trading in financial risk (seen as a form of gambling). It also prohibits investing in businesses considered *haram* (prohibited, forbidden), such as those selling alcohol or pork.

Fatwa: an authoritative legal opinion based on the Shariah law sources.

Halal: permissible

Haram: prohibited

Zakat: obligatory alms. The Muslims' wealth tax: One must pay 2.5% of one's yearly savings above a certain amount to the poor and needy Muslims. The Zakah is compulsory on all Muslims having wealth above an exemption limit, or have saved (at least) the equivalent of 85g of 24 carat gold at the time when the annual Zakah payment is due.

Qard-al-Hasan: A loan granted for welfare purposes or to bridge short-term funding requirements; it could also take the form of a non-remunerated deposit account. The borrower is required to repay only the principal. It's Loans fixed for a definite period of time without interest or profit sharing.

Gharar: Uncertainty, hazard, chance or risk, ambiguity and uncertainty in transactions or in the terms of contract. Technically, the sale of something which is not present at hand or the sale of something where the consequences or outcome is not known. It can also be a sale involving risk or hazard in which one does not know whether it will come about or not, such as fish in water or a bird in the air; or an event where assurance or non-assurance is subject to chance and thus not known to parties of a transaction. Can also mean uncertainty or a hazard that is likely to lead to a dispute in a contract. Consequently is forbidden. Therefore, financial derivatives are usually not permissible under Shariah compliant finance.

Maisir: Gambling. Literally means getting something too easily.

Profit and loss sharing: System where profit and loss are shared between contracting parties.

Sadaqah: is a voluntary act of giving for the cause of Allah: charity.

The ban on unlawful investments: No financial transaction should be directed towards economic sectors considered unlawful with reference to the Shariah, such as tobacco, gambling wine...



The Analysis of Developed and Developing Countries Textile Exports under the Current Trading System

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Abstract

Global textile and clothing (T&C) export restraints had been enforced for nearly 50 years under the Short-Term Arrangement, Long-Term Arrangement, and the Multi-fibre Arrangement. This paper analyses the T&C exports from developed and developing countries under the Multi-fibre Arrangement and Agreement on Textile and Clothing from 1990 to 2004 and reveals that there existed a gradual shift of increasing T&C exports by developing countries. The scenarios for the 20 leading global T&C. Results showed that developed countries were seriously affected in the past 15 years and some developing countries would likely become potential global leaders in T&C exports with the abolishment of quotas.

Keywords: Textile, Developing countries, Trade

1. Introduction

Global textile and clothing (T&C) trading was put under restraint by multilateral co-ordinations for nearly 50 years when the United States first negotiated the concept of market disruption under General Agreement on Tariffs and Trade (GATT) discussion in 1959 (Liu and Sun, 2004). The well-known trade regime regarding international trade in textiles, known as the Multi-Fibre Arrangement (MFA) entered into force on January 1, 1974. This quantitative restriction-imposed quotas on the T&C exports of developing countries for market entry to the developed countries. With the conclusion of the Uruguay Round of trade talks, it was agreed that all T&C quotas would be abolished in 2005. As an interim measure, T&C trade in the 10- year transitional period under the Agreement on Textiles and Clothing (ATC) was implemented with the formation of the World Trade Organization (WTO) on January 1, 1995.

Despite the imposition of export quotas by developed countries under the MFA, export statistics has demonstrated a gradual shift of T&C exports by developing countries and emerging economies with increasing world shares. In order to provide a scenario analysis on the worldwide export trade, this paper reviews the changing global patterns of T&C exports by the top 20 exporting countries from 1990 to 2004. Time series regression modeling was employed for analyzing the trends on the world shares of T&C exports for selected countries during the prescribed period. Furthermore, changes in the T&C exporting patterns for the developed and developing countries during this 15-year trade-restraint period were also investigated.

2. From Protectionism to Trade Liberalization

The international T&C markets have been the most distorted among manufactured commodities (Yang, 1999). The global T&C export trading has been subjected to strong protectionism for decades, given that the developed countries have already imposed export restraints since the 1950s. The first sign of a wider protectionism measure in the textile trade was marked by the Short-Term Arrangement of July 1961 as textile exports from the Asian region began to penetrate the

developed country markets (Jimenez, 1997). Witnessing that textile exports from developing countries increased rapidly with trade deficit in western textile industries widened, an extension of textile trade restrictions, i.e., the Long-Term Arrangement was introduced in 1962 (Azis, 2000). Effective from January 1, 1974, the MFA lasted for two decades and split into four stages of MFA I-MFA IV. The MFA provides guiding principles for member nations regarding trade in T&C. Under this system, the United States and other developed countries negotiated bilateral trade agreements with major developing countries supplying T&C products to their markets (Au and Chan, 2003). Facing with growing restrictions on T&C exports in MFA IV, many of the developing countries chafed and made it clear that they would not proceed with the new Uruguay Round of trade talks unless trade restraints on their textile exports were lowered (Dickerson, 1999). Thus, the Uruguay Round lasted for eight years from 1986-1994 and culminated in the formation of the WTO in 1995. In line with WTO agreement, the MFA regulatory framework governing import quantities of T&C products into developed countries was replaced by the ATC. The agreement stipulates the eventual elimination of quotas in T&C trade over 10 years in a three-stage transitional phasing out period, indicating that the global T&C trade would be liberalized by 2005 (Hughes, 1995). This posted the signal for the liberalization of world T&C trade with the anticipated application of free trade norms. Moreover, it was witnessed that the MFA quota restriction trade regime has helped to expand the global T&C production and also the export trading. Since certain parts of the international T&C trade were not restricted under the MFA regime and the trade restrictive levels also varied among countries, the unrestricted markets or the less MFA-restrained exporting countries thus had better advantages in T&C exports to the developed markets. This trend prompted the new exporting countries to enter into global T&C exports. Bangladesh is a prime example of this. In 1980, the country had practically no clothing production and exports. However, a substantial boost has registered since the mid-1980s, and now she becomes one of the leading exporters in the international T&C export trading. Other similar cases are also seen in Sri Lanka, Turkey, and other non/less-MFA restricted country exporters. Given that the international T&C trade has been one of the most contentious trade issues between the developed and developing countries, many studies have examined the changing trade patterns and the implications of the MFA trade restrictions (Dicken, 1998; Norrds, 2004; Ritzer, 1992; Trela and Whalley, 1990). It is evident that there has been a gradual shift of T&C production from developed countries to the first-tier developing economies and further to second-tier developing economies. Nowadays, the developing exporting countries have actively engaged in the global T&C export trade, and accounted for a significant world shares. This study intends to examine statistically the dynamic trading pattern of selected leading T&C suppliers during the period of 1990-2004.

3. Methodology

Export values and the corresponding world shares of textile and clothing exports (SITC 65 and 84) for the top 20 exporters' were collected and compiled from the COMTRADE database of the United Nations Statistics Division. Time-series regressions using the Least Square Estimation were performed to test the export data of the selected leading T&C exporters from 1990 to 2004 (Mason, 1999). The purpose of this approach is to scrutinize T&C export trends of the selected countries and to further identify the economies that were seriously affected in their world's T&C exports during the study period. In the time-series regression analysis, T&C export trends of the selected countries were identified fitting well in general with the linear trend, quadratic trend, and cubic trend functions.

4. Performance Review of the Top Twenty Global Textile and Clothing Exporters

For the period from 1990 to 2004, global textile trade increased by 87% while clothing trade outperformed its textile counterpart and demonstrated an increase of 141%. Textile and clothing export-trading values attained US \$195 bn and \$258 bn respectively in 2004.

4.1 Leading textile exporters

For textile export, the top 20 exporters assumed a fairly high and consistent share of the world textile exports, attaining 83% in 1990 and 90% in 2004. In 1990, there were six developing economies" on the top 20 textile-exporting nations, and these increased to seven in 2004. Developing exporters have gained significance in the world's textile export market as their aggregated world shares increased from 33% to 42% during the 15-year period and also ranked in higher positions in general. During this 15-year period, the most remarkable gainer was China, which shifted from the 4th position in 1990 to the top position in 2004 after gaining the performance of Number one global textile exporter in 1994. While Germany, the largest textile exporter in 1990, declined to the 4th position in 2004.

From the time-series regression analysis, results indicated that 11 out of 20 top exporters were showing an overall decreasing trend from 1990 to 2004. They are Japan, Italy, Germany, France, Belgium, the UK, the Netherlands, Hong Kong, Chinese Taipei, Republic of Korea, and Thailand. The R^2 values, which measured the variability explained by the fitted models, were generally high (except the Netherlands), from 0.604 to 0.969. For Japan, Italy, France, Belgium, the UK, and the Netherlands, their decreasing trends could be described by a linear trend, while quadratic decreasing trends had to be used in modelling the textile export world shares of Hong Kong, Chinese Taipei, Germany, and Republic of Korea. In addition, cubic decreasing trend was used to describe the textile export trend of Thailand,

modeled with a very high R^2 value (Table 1). Dissimilar with the gentle decrease in world textile export shares for the four Asian countries/region, the world export shares of the seven developed countries (Japan, Italy, Germany, France, Belgium, the UK and the Netherlands) decreased sharply during this 15-year period.

The seven countries, including China, India, Turkey, the US, Spain, Canada, and Mexico all showed an overall increasing trend in their world shares in textile exports. While only two countries, Indonesia and Pakistan demonstrated a fluctuating trend for textile exports. The R^2 s for all these countries (except Indonesia and Pakistan) were reasonably high, ranging from 0.795 to 0.972, indicating that the models well described the countries' textile export shares during 1990-2004. The increasing textile export trends for India, Turkey, and Spain could be illustrated by a linear equation. Also quadratic expressions were used to describe the increasing textile export trends of Canada and Mexico, while that of China and the US could be modeled in cubic trends (Table 2). The F-values for the regression models of all countries or regions were significant at 0.05 level and some export countries even attained the 0.001 level, showing that the models generally provided a good fit to describe the data, and the parameters tested were highly significant. The export trends of some countries with significant increase or decrease in textile exports were shown in the appendix [Figures 2(a)-(f)]. The sharp increase of textile exports from the US, Canada, and Mexico was mainly caused by the signing of Canada-US Free Trade Agreement in 1989 and the implementation of North America Free Trade Agreement (NAFTA) in 1994. Under the NAFTA agreement, all tariffs on trade among Canada, Mexico, and the US are to be eliminated in a 15-year period and therefore the intra-trade among this region has become much intensified (Au and Chan, 2002).

4.2 Leading clothing exporters

Unlike textile trading, the total world share held by the top 20 leading clothing exporters slightly reduced from 81% in 1990 to 77% in 2004. Although the same number of developed economies was found in the top 20 list in 1990 and 2004, their relative positions had shifted downward generally. The top three leading clothing exporters (China, Hong Kong, and Italy) in 1990 and 2004 were the same, though their rankings changed. The most noticeable gainers during this 15-year period were Mexico and China. Mexico elevated from below the top 20 ranking to the 7th position as clothing exporter and China elevated from the 3rd position to the first leading exporter during the period 1990-2004.

Again, time-series regression analyses were also applied for testing the trends of the clothing export data of the selected 20 leading exporters. The results indicated that 11 out of 20 exporting nations, including Hong Kong, Chinese Taipei, Republic of Korea, Thailand, Italy, Portugal, the Netherlands, Germany, France, the UK, and the US were having an overall decreasing trend during 1990-2004. The R^2 for all these countries/regions were very high, ranging from 0.745 to 0.983. The decreasing trends of Hong Kong, Italy, the Netherlands, and the UK could be described by a linear trend, while quadratic expressions have to be used in modelling the decreasing clothing export trends of Chinese Taipei, Portugal, Germany, France, and the US. Whereas, Republic of Korea and Thailand could be modelled in cubic decreasing trends (Table 3).

On the other hand, eight countries including India, Romania, Spain, Bangladesh, China, Belgium, Turkey, and Mexico indicated an overall increasing trend in their clothing exports. The R^2 for all these countries (except India) were higher than 0.7 and the F-values for the regression models of all countries or regions were significant at 0.05 level and most even attained the 0.001 level. The increasing trend of China, Belgium, Turkey, and Mexico's exports could be explained by a cubic trend, while linear models were used to describe the sharp increase in clothing exports for India, Romania, and Spain. For Bangladesh, her world share of clothing export could be modelled in quadratic increasing trend during 1990-2004 (Table 4). Indonesia was the sole country showing a fluctuating trend for clothing exports for the same period. The export trends of some countries with significant increase or decrease in clothing exports were illustrated in the appendix [Figures 2(g)-(i)].

5. Discussion

From the above time-series regression modelling, countries, which demonstrated decreasing trend in either textile or clothing exports during 1990-2004, are all developed nations. Exporters including Italy, Germany, France, the UK, the Netherlands, Hong Kong, Chinese Taipei, and Republic of Korea even experienced an overall decreasing trend in both T&C export trade during the same period. On the other hand, most of the countries showing an overall increasing trend in T&C exports are developing countries. China, India, Turkey, and Mexico all indicated strong increases in both T&C exports, while Romania and Bangladesh had significant increase in clothing exports. This observed trade scenario could be explained by Vernon's International Product Life Cycle (Vernon, 1966).

Figure 2 Textile export performance of selected developed and developing countries, 1990-2004 [Figures 2(a)-2(f)] (a) Belgium's textile export performance, (h) Germany's textile export performance, (c) Republic of Korea's textile export performance. (d) Turkey's textile export performance, (e) Canada's textile export performance. (f) China's textile export performance. Clothing export performance of selected developed and developing countries, 1990-2004 [Figures 2(g)-2(i)]. (g) Hong Kong's clothing export performance, (h) Germany's clothing export performance, (i) Republic of Korea's clothing export performance, (j) Romania's clothing export performance, (k) Bangladesh's clothing export

performance. (I)China's clothing export performance.

Developed countries with higher productivity and technology ownership advantage, were the world's leading T&C exporters in the early decades. However, with rising production costs and wages, the export competitiveness in T&C by the developed countries has gradually deteriorated in recent decades. Western T&C firms began to pursue outsourcing strategies and delocalized their production to low-cost developing regions in order to rationalize the production cost. Far East Asia such as China, Bangladesh, India, and Central and Eastern Europe including Romania and Turkey have emerged to become popular outsourcing destinations for many western firms. These developing countries, as a result, have gradually acquired the technology know-how of T&C production and hence gained importance in the global T&C trade. It was further witnessed that developing exporting countries have improved their trading prospects with more textiles and clothing product exports and thereby created better employment opportunities (Anson, 2005).

Despite the fact that developed countries continued to lose brilliance in their shares of global T&C trade, they are still important T&C exporters. For instance, Italy and France are perceived as the world's fashion hub, still maintaining top positions in the world's T&C exports. These developed countries have a comparatively higher R&D/GDP ratio when compared with other emerging T&C supplying countries, thereby implying that the country has input more resources in innovative investment. European Union (EU) countries, for instance Belgium, Germany, and the UK have re-structured their local T&C industry from mass-produced commodity types into high-end products. In order to prosper in the competitive T&C trade environment, these advanced countries must continue to move up the value-chain by building their competitiveness on new technologies, innovations, and designs (Keenan et al., 2004). In light of this, the developed T&C exporting countries are still able to enjoy their comparative advantage in exporting high value-added T&C products, and export values have shown that there are 14 developed economies in the top 20 T&C exporters list in 2004.

To quite some extent, the directions and patterns of the global T&C trade have been influenced by the formation of trade blocs and the free trade areas (Au and Chan, 2003). with the beneficial trade terms brought by the NAFTA, the US and Canada were the two developed countries that showed amazing increase in textile exports in intra-trade, though no obvious growth in their clothing exports was identified during the period. In addition, the remarkable T&C export performances of Turkey and Romania over the last decade can be explained by the preferential trade policies of EU. Under the trade regime, member countries enjoyed privileged market access to EU in T&C exports. The export shares of Turkey and Romania boosted from 2.2% and 0.2% to 3.9% and 1.2%, respectively during the 15-year period under study.

Furthermore, the dramatic growth of T&C exports of China, especially in the millennium years, can be explained by her WTO accession in 2001. Upon admission, China became a party to the ATC with her T&C exports enhanced since the last stage of quota phase-out. As a WTO member, the quotas on China's T&C exports had increased by 25% in 2001, and a further 27% as in 2002. Despite a sluggish global economy, T&C exports of China amounted to US \$62 bn in 2002, an increase of 16% immediately after WTO accession. In the following two years, her annual growth rate in T&C exports was above 20% with an export value approaching US \$100 bn in 2004.

6. Conclusion

Export performance and statistical analysis have indicated that China is a preferred T&C supplier, as is generally speculated, to become the "supplier of choice" for most overseas buyers. However, further export growth is limited by the quota restraint of the US and other non-trade restrictive measures. The China-US T&C trade agreement was signed in November 2005 restricting 32 categories of T&C products of China for importing to US until the end of 2008. One other gainer would be India, which has demonstrated strong growth in T&C exports since the 1990s. Good prospects would also be linked with Turkey, an associate member of the EU and entitled to certain trade privileges within the Union. Mexico, as a member of NAFTA, would continue to enjoy the free trade arrangement with the US and Canada. While the losers may rest with Hong Kong and other developing economies that are deficient in raw materials and other input factors of production. Price competition after the "presumed" quota-free era has been very intense and the T&C trading environment is certainly meant for the survival of the fittest.

The analysis also shows that T&C has distinct trading patterns. Textile supply is still strong with some of the developed countries, especially for products of high value adding and specialty end uses. This has owed much to the research and development efforts of the developed countries. Clothing production is generally regarded as labour intensive and the rag trading has been dominated by developing countries. The future market would be a tough one faced with fierce global competition. Certainly, the globalization trend and the low entry barrier for the clothing industry would result in much harder struggle in order to sustain growth and maintain export market shares for some less developed countries.

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Table 1. Textile export trends for countries/regions showing overall decreasing trend, 1990-2004

Country/Region	Model	f-value	R	Coefficient
Japan	$Y = \beta_0 + \beta_1 T + \varepsilon_t$	65.9	0.835	-0.176 (t=-8.0)
Italy		33.9	0.722	-0.074 (t=-5.8)
France		86.7	0.870	-0.115 (t=-9.3)
Belgium		282.6	0.956	-0.163 (t=-16.8)
UK		84.3	0.866	-0.993 (t=-9.18)
Netherlands	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \varepsilon_t$	5.1	0.282	-0.055 (t=-2.26)
Hong Kong		9.13	0.604	$\beta_1 = 1.875$ (t = 4.2), $\beta_2 = 0.105$ (t = -3.8)
Chinese Taipei		38.28	0.864	$\beta_1 = 0.653$ (t = 7.1), $\beta_2 = -0.045$ (t = -8.1)
Germany		190.1	0.969	$\beta_1 = -0.950$ (t = -9.5), $\beta_2 = 0.032$ (t = 5.3)
Republic of Korea		52.3	0.897	$\beta_1 = 0.751$ (t = 9.4), $\beta_2 = -0.049$ (t = -10.1)
Thailand	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3 + \varepsilon_t$	30.58	0.893	$\beta_1 = 0.219$ (t = 7.0), $\beta_2 = -0.026$ (t = -5.8), $\beta_3 = 0.010$ (t = 5.2)

Table 2. Textile export trends for countries showing overall increasing trend, 1990—2004

Country/Region	Model	f-value	R	Coefficient
India	$Y = \beta_0 + \beta_1 T + \varepsilon_t$	98.4	0.883	0.125 (t = 9.9)
Turkey		315.4	0.960	0.142 (t = 17.8)
Spain		50.4	0.795	0.060 (t = 7.1)
Canada	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \varepsilon_t$	62.0	0.912	$\beta_1 = 0.131$ (t = 5.6), $\beta_2 = -0.0055$ (t = -3.2)
Mexico		44.5	0.881	$\beta_1 = 0.245$ (t = 6.2), $\beta_2 = -0.010$ (t = -4.3)
China	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3 + \varepsilon_t$	129.3	0.972	$\beta_1 = 1.28.1$ (t = 3.4), $\beta_2 = -0.205$ (t = -3.5), $\beta_3 = 0.012$ (t = 4.8)
US		24.7	0.871	$\beta_1 = -0.638$ (t = -2.7), $\beta_2 = 0.125$ (t = .1.7), $\beta_3 = -0.005$ (t = 3.9)

Table 3. Clothing export trends for countries/regions showing overall decreasing trend, 1990—2004

Country/Region	Model	f-value	R	Coefficient
Japan	$Y = \beta_0 + \beta_1 T + \varepsilon_t$	77.6	0.856	-0.454 (t= -8.8)
Italy		60.0	0.822	-0.261 (t= -7.7)
France		49.1	0.804	-0.057 (t= -7.0)
Belgium		37.9	0.745	-0.086 (t= -6,2)
UK		219.6	0.945	$\beta_1 = -0.395$ (t = -8.9), $\beta_2 = -0.011$ (t = 4.2)
Netherlands		192.0	0.973	$\beta_1 = -0.266$ (t= -8.3), $\beta_2 = -0.008$ (t= 3.9)
Hong Kong		119.8	0.970	$\beta_1 = -0.731$ (t = -10.9), $\beta_2 = 0.033$ (t = 8.1)
Chinese Taipei	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \varepsilon_t$	92.8	0.952	$\beta_1 = -0.286$ (t= -8.3), $\beta_2 = 0.012$ (t= 5.6)
Germany		162.7	0.939	$\beta_1 = 0.831$ (t= 17,0), $\beta_2 = -0.053$ (t= -17.9)
Republic of Korea	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3 + \varepsilon_t$	215.4	0.983	$\beta_1 = -1.171$ (t= -9.2), $\beta_2 = 0.153$ (t= -5.7), $\beta_3 = -0.005$ (t= -4.4)
Thailand		26.1	0.877	$\beta_1 = 0.450$ (t = 2.4), $\beta_2 = -0.084$ (t = -1.2), $\beta_3 = 0.003$ (t = 3.1)

Table 4. Clothing export trends for countries showing overall increasing trend, 1990-2004

Country/Region	Model	f-value	R	Coefficient
India	$Y = \beta_0 + \beta_1 T + \varepsilon_t$	15.7	0.547	0.044(t= 4.0)
Turkey		307.1	0.959	0.113 (t= 17.5)
Spain		146.7	0.919	0.080(t= 12.1)
Canada	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \varepsilon_t$	49,76	0.892	$\beta_1 = 0.271$ (t = 5.3), $\beta_2 = -0.10$ (t = -3,2)
Mexico		103.3	0.966	$\beta_1 = 3.569$ (t= 6.0), $\beta_2 = 0.414$ (t= -4.8), $\beta_3 = 0.017$ (t = 4.9)
China	$Y = \beta_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3 + \varepsilon_t$	18,6	0.835	$\beta_1 = -0.199$ (t= -2.3), $\beta_2 = 0.031$ [t = 2.6), $\beta_3 = -0.168$ (t= -2.2)
US		9.9 260.3	0.730 0.986	$\beta_1 = 0.413$ (t - 2.4), $\beta_2 = -0.054$ (t= -2.2), $\beta_3 = 0.002$ (t= 2,3) $\beta_1 = -0.337$ (t= -2.3), $\beta_2 = 0,144$ (t= 7.0), $\beta_3 = -0.007$ (t=-8.9)

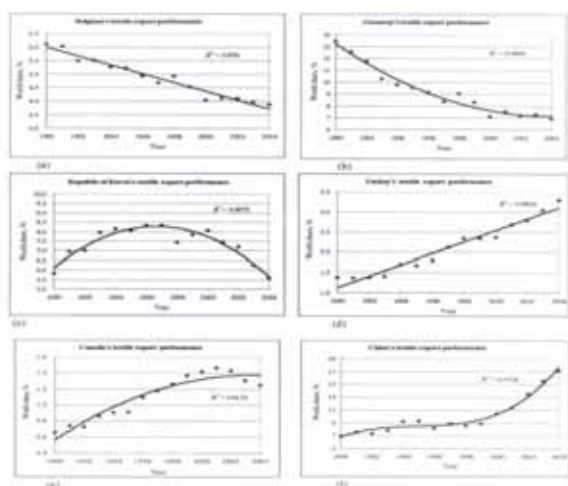


Figure 1.

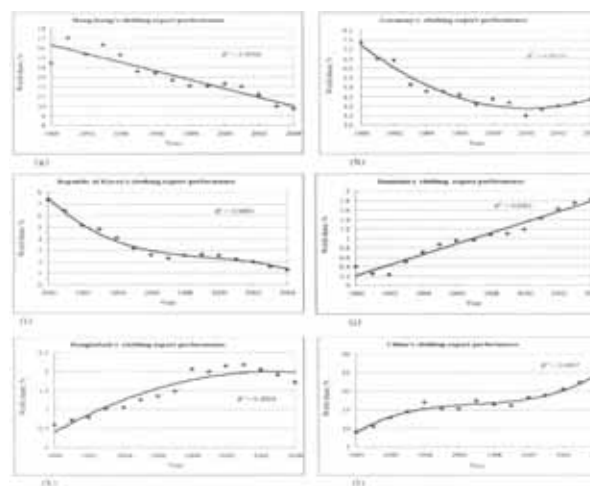


Figure 2.



In the Name of Independence: with Regard to Practicing Non-Audit Service by External Auditors

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Abstract

External auditors are very important for third parties because they add credibility to financial statements and third parties can make decisions in accord with financial statements audited. In recent years, the auditing and accounting profession faced scrutiny because of auditing scandals. Recent high profile accounting controversies such as Enron and WorldCom have highlighted the continuing debate about whether and how auditors can be independent of their clients (Kosmala, 2003). In the view of the fact, nowadays because of non-audit services, the audit practice is questionable, whereas third parties believe that without independence, there is no value for accounting and auditing practices. In this paper the author concluded that the non-audit services impair audit independence and audit objectivity.

In this situation, the author believes that both the professional and academic should be redefined non-audit services and also limited such services for audit and accounting professions; therefore national and international professions should be taken more reactions regarding to clarify of non-audit services to auditors as well as third parties.

Keywords: Auditor, Independence, Non-Audit Services (NAS)

1. Introduction

The potential conflicts of interests among owners, managers, and other security holders create an environment in which an outside auditor may contribute significant value to investors. So, the demand for auditing arises from the potential conflict of interest that exists between owners and managers.

The contractual arrangement between these parties normally requires that management issue a set of financial statements that purports to show financial position and results of operation of the entity. In order to properly evaluate the financial statements, the parties to the contract must agree on a benchmark or criteria to measure performance. Without an agreed upon criteria, it is impossible to measure the fair presentation of the financial statement. Therefore, external auditor plays a vital role in this condition. External auditor serves several purposes. It can act to monitor the performance of management on behalf of shareholders or as a demonstration by management to existing and potential shareholders of their effort and performance. The external system of audit, with its final product, the audit opinion, adds credibility to the financial statements so that users can rely on the information presented and, as a result, the entire system of financial reporting is enhanced.

However, during the last 30 years, the audit practice became undermined, because of practicing non-audit services, which many professionals, practitioners, and academic researchers have criticized the practice whereby external auditors providing non-audit service. The impairment or lack of auditor independence is a main cause of many corporate collapses and corporate scandals across the world, including the US case of Enron. Most of the concern has focused on the potential harm that the activity has had on the "appearance" of independence, as opposed to the loss of independence "in fact" (Terry, 1996). The failures of Enron and WorldCom, both among the major industrial players in the world, and the subsequent collapse of Anderson, one of the world's largest accounting firms, has prompted the global corporate society to reconsider the dependability of accounting and audit professionals in providing their services. Many have started to re-evaluate the level of trust they put to audit as to provide assurance for investment and financial information, and the trend of solely depending on audit as the best source of credibility for such information may have now become defunct. In this paper the author briefly explains about independence as well as factors affecting to independence, and factors affecting to independence, which the author focused on non-audit services.

2. Independence

One of the key factors of the auditor's is independence, without independence users of financial statements cannot rely on the auditors report. In short, the external system of audit, with its final product, the audit opinion, adds credibility to

the financial statements so that users can rely on the information presented and, as a result, the entire system of financial reporting enhanced (Sucher et al 2004). Furthermore, independence is the core of this system.

The concept of audit independence is fuzzy, the rules governing it are complex and burdensome, and a reexamination is long overdue (Elliott and Jacobson, 1992).

DeAngelo (1981) defined auditor independence as "the conditioner probability of reporting a discovered bridge".

Arens et al. (1999) defined "independence in auditing" as taking an unbiased viewpoint in the performance of audit tests, the evaluations of the results and the issuance of audit reports. Independence includes the qualities of integrity, objectivity and impartiality. Knapp (1985) states the independence in a different angle. He viewed it as "The ability to resist client pressure". According to Flint (1988) "Independence, therefore, is not a concept which lends itself to universal constitution prescription, but one for which the constitution prescription will depend on what is necessary to satisfy the criteria of independence in the particular circumstances".

The ISB (2000) defines independence as: Freedom from pressures and other factors that impair, or are perceived to impair, an auditor's willingness to exercise objectivity and integrity when performing an audit it is the absence of certain activities and relationships that may impair, or may be perceived to impair, an auditor's willingness to exercise objectivity and integrity when performing an audit. (ISB 2000: 44).

There are two approaches of audit independence have commonly been referred to as independence of fact and independence of appearance.

2.1 independence: in fact and appearance

According to Mautz and Sharaf (1964) there are two aspects of independence: firstly, the real independence of the individual practitioner in the performance of his/her works and secondly, the apparent independence of auditors as a professional group. These two concepts of independence have been referred to as 'practitioner independence' and 'professional independence' respectively.

Independence may be a state of mind or a behavior. According to AUP 32, independence requires a freedom from bias, personal interest, prior commitment to an interest, or susceptibility to undue influence or pressure (AUP, 2001). This suggests that an auditor possessing the requisite state of mind will act in the correct fashion. In this context, auditors should not be independent in fact, but more importantly they should be seen to be independent in examining and attesting clients' financial statements (Stevenson 2002). Precisely, auditors are expected to be able to independently decide on reporting strategies without any influence from their clients' management (Cullinan, 2004).

Orren (1997) states that independence in fact refers to the actual, objective relationship between auditing firms and their clients whereas independence in appearance is the subjective stated of that relationship as perceived by the clients and the third parties. Church and Zhang, (2002) argue that independence in fact is necessary to enhance the reliability of financial statements. On other hand, independence in appearance is necessary to promote public confidence such that users will rely on audited financial statements.

The issues of independence in fact and appearance have also been acknowledged by the standard setting bodies. The AICPA acknowledged the importance of perceptions of auditor independence- 'Independent auditors should not only be independent in fact; they should avoid situations that may lead outsiders to doubt their independence' (AICPA 2001). The current AICPA Code of Professional Conduct (1988) explicitly requires not only actual independence from audit clients but also the appearance of independence to third parties. The SEC defined independence in fact and independence in appearance as separate but equally necessary factors in establishing the auditor's objectivity and integrity when certifying financial statements filed with the commission by an issuer of securities (Olazabal and Alwer, 2001).

According to Mautz and Sharaf (1964), there are three dimensions of auditor independence which can minimize or eliminate potential threats to the auditor's objectivity:

(I) Programming independence includes:

Freedom from managerial interference with the audit program; freedom from any interference with audit procedures; and freedom from any requirement for the review of the audit work other than which normally accompanies the audit process,

(II) Investigative independence en com passes:

free access to all records, procedures, and personnel relevant to the audit; active co-operation from management personnel during the audit examination; freedom from any management attempt to specify activities to be examined or to establish the acceptability of evidential matter; and freedom from personal interests on the part of the auditor leading to exclusions from or limitations on the audit examination.

(III) Reporting independence includes:

Freedom from any feeling of obligation to modify the impact or significance of reported facts; freedom from pressure to exclude significant matters from internal audit reports; avoidance of intentional or unintentional use of ambiguous language in the statement of facts, opinions, and recommendations and in their interpretations; and freedom from any attempt to overrule the auditor's judgment as to either facts or opinions in the internal audit report.

The immediate objective of the audit is to improve the reliability of information used for investment and credit decisions according to Elliott and Jacobson (1998) the principles of independence as follows:

Audit independence improves the cost – effectiveness of the capital market by reducing the likelihood of material bias by auditors that can undermine the quality of the audit. Therefore, they play vital role in economic sector. However, some factors may have negative affection to independence, which these factors should be identified by professionals and take sever action to reducing such a factors.

3. Factors Affecting To Independence

Several situations may impair the auditor's independence, such as contingent fee arrangements, gifts, auditor's with personnel or operations, non-audit services (NAS), outsourcing, opinion shopping, reporting relationships, and others.

Among the factors that affect to auditor independence that have been studied are:

- (1) The effects of gifts (pany and Reckers, 1980);
- (2) The purchase discount arrangement (pany and Reckers, 1980);
- (3) The audit firm size (Shockley, 1981; Gul, 1989);
- (4) The provision of management advisory services (MAS) by the audit firm (Shockley, 1981; Knapp, 1985; Gul, 1989; Bartlett, 1993; Teoh and Lim, 1996; Abu Bakar et al 2005);
- (5) The client's financial condition (Knapp, 1985; Gul, 1989; Gul and Tsui, 1992);
- (6) The nature of conflict issue (Knapp, 1985);
- (7) The audit firm's tenure (Shockley, 1981; Teoh and Lim, 1996);
- (8) The degree of competition in the audit services market (Knapp, 1985; Gul, 1989);
- (9) The size of the audit fees or relative client size (Gul and Tsui, 1992; Bartlett, 1993; Teoh and Lim, 1996; Pany and Reckers, 1980);
- (10) The audit committee (Gul, 1989; Teoh and Lim, 1996); and
- (11) Practicing non-audit services (NAS) by auditors (Beattie et al, 1999 and Rayhunadan;2003).

In this paper the author only attempted to clarify non-audit services and its affection to independence of auditors.

The audit failures that have been reported have led to major criticism of the auditing profession worldwide by exposing the weaknesses of the profession in term of safeguarding shareholders' and stockholders' interests (Brandon et al, 2004, Citron, 2003, Cullinan, 20004, Fearnley and Beattie, 2004, Ghosh and Moon, 2005, Gwilliam, 2003, Higson, 2003, Krishnan and Levine 2005); thus some of this criticism arose from non-audit service practices by auditors.

3.1 non-audit services (NAS)

Non-audit services (NAS) may be any services other than audit provided to an audit client by an incumbent auditor. As the demand for business expert services grew over the late 20th century, public accounting firms expanded the scope of their services to include corporate and individual tax planning, internal audit outsourcing, and consulting related to mergers and acquisitions, information systems, and human resources. Recent concerns about auditor independence have focused on the provision of non-audit services to audit clients.

Today's public accounting firms have undergone dramatic changes in the last 25 years. Over the last decade the proportion of revenue of large public accounting firms derived from providing non-audit services grew from 12% to 32% (Public Oversight Board, 2000), suggesting that the economic bond between auditors and their clients strengthened over this time as auditors delivered more consulting-oriented services to their audit clients.

Based on the amounts reported in the Public Accounting Report, last year audit fees for the top seven accounting firms were approximately \$9.5 billion. These accounting firms audited over 80% of all registrants, and virtually every company with a large market capitalization. What's more, the audit and accounting fees of the largest accounting firms, as a percentage of their revenue, has decreased significantly from 70% of total revenue in 1976 for the Big Eight to 34% of total revenue for the same firms in 1998. (Ashbaugh 2004) Given the shift in revenue streams of public accounting firms, it is important to discuss the services that audit firms provide. An accountant becomes a Certified Public Accountant (CPA) to engage in attestation services, that is, conduct audits. Scholars concern that benefits either from

cost savings or from fees revenue increases can strengthen the economic bond between auditors and their clients, which can further threaten auditor independence

It is found out that auditors believe that the auditors' work would be used as a guide for investment, valuation of companies, and in predicting, bankruptcy; furthermore, the third party felt that there is strong relationship between the reliability of the auditor's work and the investment decision. An also the auditor's work facilitates the process of economic development through the presentation of reliable information concerning the financial position of the companies (Whadan et al, 2005); therefore, the main question that arises when auditors provide or could provide both audit and non-audit services is whether the auditors are able to conduct their audits impartially, without being concerned about losing or failing to gain additional services, and the subsequent economic implications for the audit firm (Lee, 1993). Auditors seek to provide NAS because of the considerable economies of scope that ensue, i.e. cost savings that arise when both types of service are provided by the same firm. These economies of scope are of two types: knowledge spillovers that originate in the transfer of information and knowledge; and contractual economies that arise from making better use of assets and/or safeguards already developed when contracting and ensuring quality in auditing.

As far as, globalization in accounting and assurance service has also created the multi disciplinary nature of large audit firms (Brierley and Gwilliam, 2003). These multi disciplinary firms offer audit and non-audit services to audit clients and this have become one of the major concerns regarding the potential auditor independence dilemma (Quick and Rasmussen, 2005).

- The prohibition of specified non-audit services is predicated on three basic principles:
- An auditor cannot function in the role of management;
- An auditor cannot audit its own work; and
- An auditor cannot serve in an advocacy role for its client.

The range of services now offered by the audit firms to both the public and private sector is wide. This may summarized as follows:

- System, and IT;
- Training;
- Services for payroll;
- Risk management advice;
- Taxation, including tax compliance and tax planning advice;
- Corporate recovery and insolvency;
- Forensic and litigation support;
- Mergers and acquisitions services;
- Transaction support and follow up;
- Public offering;
- Recruitment and human resources; and
- Portfolio monitoring.

Provision of some of these services may provide a real threat to independence in the case of audit client. The principal threats which arise from the provision of non-audit services are:

- Self interest: the increase in economical benefit dependence;
- Self review: taking management decisions and auditing one's work;
- Advocacy: acting for the client's management in adversarial circumstances; and
- Familiarity: becoming too close to the client's management though the range of services offered.

One of the fundamental importance in understanding the conflict of interest that arises from the provision of non-audit services to audit clients is the fact that is so doing the audit firm is really serving two different set of clients; management consulting services and the audit committee, shareholders and all those who rely on the audited financials and the firm's opinion in deciding whether to invest in the case of audit (Levine and Kornish, 2000). So, in these cases the credibility of external audit work will be questionable. In the Enron case, it has been widely reported that Andersen received \$25m in audit fees and \$27m for non-audit services. There have been many criticisms about the potential conflict of interest faced by audit firms who receive large consultancy fees from their audit clients. Concerns are expressed about how an auditor with a statutory responsibility to company shareholders can handle a commercial

relationship with the company's management and remain impartial.

3.2 management advisory system (MAS)

Another item it also belongs to the non-audit services as well as highly affecting to the independence is management advisory system (MAS), which consist of advice and assistance to a client to improve capabilities and resources and achieve stated objectives. The accountant may conduct studies and counsel management in such matters as business organization, planning, controls, system's operations, personnel and finances. Management engagements require an investigation and analysis of the client's operations to determine the enterprise's objectives, the nature of the problem, and feasible solutions. They also include the evaluation of alternative solutions, formulation and recommended action, and suggestions for and assistance in the implementation process. MAS could also require the review of the financial statements for a client. All these professional services may pose a threat to the auditor's independence. Auditors must, therefore, exercise due care to preserve their status of independence.

In providing management advisory services including training programs, supervision, review of engagements and co-contracting, those in charge should emphasize the significance of independence in mental attitude (Cook et al, 1988). The history of providing MAS to audit clients has been a thorny issue in the auditing profession. In providing MAS engagements, CPAs must be independent in fact; independence in appearance is encouraged (Wallace, 1995). CPAs must be careful that the combination of accounting, tax, and management services does not create conflict of interest or the appearance of such.

MAS threaten auditor independence. CPAs who provide them may:

- Become the client's advocate;
- Develop a stake in their client's success;
- Make decisions that they are later required to audit; and
- Become too close to management (Wallace, 1995).

There is an inherent skepticism about how close the relationship between the auditor and the management of the audit client can be without creating, in fact or in perception, a mutuality of interest that could impair the auditor's independence. As the scope of the services performed for the client by the audit firm broadens, the relationship between management and auditor becomes more proximate.

Shockley (1983) examined the effects of competition in the audit profession, management advisory services (MAS), and size of the audit firm in third-party perceptions of the external auditor independence. His results show that all the variables significantly affected third-party perceptions of auditor independence. Knapp (1985) also examined the effects of a number of variables that could affect third party perceptions of the auditor's ability to resist management pressure in an audit conflict situation. His results indicate that the nature of the conflict, the financial condition of the client, and competition, affected the perceptions of the auditor's ability to resist management pressure.

In cases, the audit firm even appeared to be in collusion with the management in hiding the facts. Naturally, this cast serious doubt regarding the independence of the auditors. The major factor behind such reservation was the amount that the auditors received as non-audit service (NAS) fees from these clients. Anderson, the auditor for Enron, is the best example, which got big amount for this matter (Flaming 2002). The collapse of Enron has left a severe dent on the reputation of the auditing profession. This has been acknowledged by the Big five accounting firms (Perry 2002).

4. Empirical evidence of non-audit services

The idea that auditor independence may be eroded via an increase in the auditor economic bond has long been recognized. Most attention has been directed at the possible impact on auditor independence of non-audit services. Although, concerns the impact of non-audit services on auditor independence are not new (Zeff, 2003, a, b). The economic bonding between audit firms and their clients would influence auditor independence. It may be that the level of client pressure would increase and auditor becomes less concerned with the quality of internal control (Muhammad and Karbhari, 2006).

Beck et al. (1988) investigate the independence issue by investigating the audit firm tenure distribution for engagements in which recurring versus nonrecurring non-audit services are performed. They report that audit tenure for companies with high recurring non-audit services is greater on average, and with smaller variance, than the audit tenure of companies with low recurring non-audit services. Thus, the results of the Beck et al. (1988) study suggest that the provision of non-audit services does increase the economic bond between auditors and their clients. Other research also suggests that the joint provision of audit and non-audit services gives rise to economic rents, which create incentives for audit firms to compromise their objectivity, e.g., waive audit adjustments, to retain audit clients (Palmrose 1986; Simunic 1984).

Sami and Zhang (2003) investigated the effect of non-audit services on the backdrop of SEC's revised rule that stressed

perceived audit independence. They suggested that investors perceive that non-audit services impair auditors' independence.

According to Dopuch et al (2003) found that disclosure of non-audit services reduced the accuracy of investors' beliefs of auditors' independence in fact when independence in appearance was inconsistent with independence in fact.

Beattie et al (1999) conducted a questionnaire survey examined 45 economic and regulatory factors that could impair audit independence. A high level of non-audit fees was ranked as a top threat factor by users (financial journalists) and prepares (financial directors). A significant positive relationship between non-audit service fees and audit fees has been reported in the number of studies (Mc Meeking et al, 2002).

Sharma and Sidhu (2001) examined audit opinions of bankrupt companies of found that higher non-audit service fees influenced audit opinion regarding going concern.

Jenkins and Krawczyk (2000) identified four types of NAS, namely, legal services, software training, internal audit outsourcing and actuarial service. They examined how the performance of NAS influenced the perceptions of audit independence. They concluded that investors favored disclosure of NAS fees, irrespective of its materiality, whereas auditors favored such disclosures only if these were material. The result of the analysis also indicated that perceptions did not differ significantly among differing types of NAS, nor did it get affected by the levels of materiality.

Swanger and Chewning (2001) discovered significant associations between auditor independence and joint provision of non-audit services by staff separation. Jenkins and Krawczgk (2001) found that joint provision of audit and non audit services had positive impact on the perceptions of auditor independence, and also discovered that disclosure of the amount of non audit service and audit fees was preferred by investors. In the same fashion, Rayhunadan (2003) lend support that the SEC's argument that disclosure of non-audit service fees could influence shareholders voting decisions, observing that shareholders did not consider that the provision of non-audit services would threaten auditor independence even if the companies purchased very lay non-audit services from their auditors. Frankel et al (2001) provides empirical evidence on the effect of non-audit services provision on auditor independence and whether the market values fee disclosure. The authors collected fee information from 4000 proxies filed with the SEC between February and June 2001. A significant negative market reaction was found with respect to firms with the highest unexpected non-audit service fees. Looking at earnings management, the authors document that companies with higher level of non-audit service provided by their audit firms are more likely to meet or beat earning benchmarks. The authors conclude that the provision of non-audit services can threaten auditor independence.

Although there are market-based incentives for auditors to remain independent, there are also forces that potentially threaten auditor independence. Specifically, regulators are concerned about two effects of non-audit services. One is a fear that non-audit service fees make auditors financially dependent on their clients, and hence less willing to stand up to management pressure for fear of losing their business. The other is that the consulting nature of many non-audit services put auditors in managerial role (Defond et al 2002). These concerns are summarized in the following quote from the SEC regulations mandating fee disclosures (SEC, 2000). Auditor's services relationship raises two types of independence concerns. First, the more the auditor has at stake in its dealing with the audit client, particularly when the non-audit services relationship has the potential to generate significant revenues on top of the audit relationship. Second, certain types of non-audit services, when provided by the auditor, create inherent conflicts that are incompatible with objectivity.

Elder et al. (2003) investigate the relation between auditor size, non-audit services, and loan loss provision of commercial banks audited by Big 5 CPA firms. They find a positive relation between non-audit services and loan loss provisions. As a result, no evidence supports a relation between non-audit services and reduced auditor independence. Craswell et al. (2002) use a qualified audit opinion as an indicator of the exercise of auditor independence and measure fees dependence at both the national audit firm level as well as the local office level. They find that the level of auditor fees dependence does not affect auditor propensity to qualify their audit opinions.

In addition, Kinney, Palmrose and Scholz (2004) assume that restatements of previously issued financial statement reflect low-level auditor independence and do not find a statistically significant and positive association between non-audit fees and restatements.

Lee, et al, (2003) find that auditors providing both services will allow higher magnitude of income-increasing accruals, where they find no significant relationship between income-decreasing accruals and provision of non-audit services. Lu (2003) investigates whether the association between non-audit fees and auditor independence is moderated by the level of engagement risks. She finds no relationship between non-audit fees ratio and the absolute value of abnormal accruals, but a significant interactive effect of engagement risk and non-audit fees, suggesting that high engagement risks leads auditor to suppress clients' earnings management. Using types of auditor reports as a dependent variable, Hu (2001) shows that provision of non-audit service is related to the type of audit report and the change of auditors. The study

further indicates that the likelihood of auditor change becomes lower as the CPA firm renders both services, implying that auditor independence may be affected.

Joe (2003) examines if auditors are more likely to issue going-concern modified opinions when the client has the subject of negative press coverage prior to the date of the audit opinion. The results show that negative press coverage leads the auditor to modify the audit opinion. Thus, using opinion type as a proxy also suffers from measurement error.

More recent; questionnaire survey of audit firms and listed companies in the Kingdom of Bahrain to investigate the perceptions on the issue of auditors' independence with regard to rendering non-audit services (NAS) by Lal Joshi et al, (2007). The results of auditors and client executives support the proposition that independence is impaired if the auditor also renders non-audit services. However, most respondents from both groups indicated that NAS provided by company auditors affects the auditor independence to a limited extent only, and opine that such services should not be prohibited. Most listed companies obtain NAS from their company auditors, but the NAS fee ratio to audit fees is not high. Auditors and listed companies perceive that independence is not at all compromised or tends to be compromised to a limited extent for 15 types of NAS. The perceptions differed based on the size, non-audit fees and foreign operations for some of the NAS.

5. Reaction to non-audit services

After several scandals mainly in international dimensions several professionals and academics took reaction regarding to non-audit services. They attempt to clarify the nature of non-audit services as well as re defined it. The main question is how much they reached their goals?

The provision of non-audit services (NAS) by auditors to their audit clients has been regarded by regulators in the UK, the US, Australia and various other countries as a threat to auditor independence (Craswell, 1999).

Hillison and Kennelley (1988) had recommended three additional alternatives to a total prohibition of NAS provision to audit clients: (i) offer NAS to non-audit clients only; (ii) prohibit certain types of NAS; or (iii) permit all types of NAS with full disclosure requirements. They alleged that although prohibiting all NAS would produce the greatest positive impact on perceptions of auditor independence, it would be the most drastic action. They favored permitting all types of NAS with full disclosure because it would create the least resistance from practitioners, avoid companies' rejection on disclosure, and it would possibly be effective in monitoring audit clients' acquisition of NAS. Although a conflict of interest might arise from the joint provision of audit and non-audit services to audit clients, it might be inappropriate to prohibit accounting firms from offering non-audit services if this issue is observed from the 'business efficiency' perspective (Chandler and Edwards, 1996, p.26). Fearnley and Beattie (2004) reviewed prior studies and concluded that there is no need for total prohibition of joint provision of audit and NAS, as the dilemma could be overcome by the following suggestion: "more transparency about how firms manage the conflicts of interest that NAS provision creates; whether audit partners are rewarded for earning NAS; and the nature of the NAS being provided" Additionally, audit committees should play their role in approving the provision of NAS.

After the Enron collapse, the Coordinating Group on Audit and Accounting issues (CGAA) set up in 2002, put forward a number of suggestions, including for example that "there should be a strong presumption against providing internal audit services other than an exceptional circumstances" (CGAA, 2003). The CGAA found that then existing aggregate figures for non-audit services do not provide sufficient information to reassure investors and others about an auditor's independence, in the light of the significant volumes of non-audit being done.

The US Securities and Exchange Commission issued its final rule, strengthening the Commission's requirements become effective for periodic annual filings about non-audit services for the first fiscal year ending after December 15, 2003 (SEC, 2003).

The UK combined code on corporate governance (FRC, 2003) acknowledging the importance of non-audit service fees in maintaining audit independence, requires that the audit committee should develop, and recommend to the board, the company's policy regarding purchase of non-audit service from the auditors. It also requires annual reports to explain how, in the presence of non-audit service, audit independence has been safeguarded.

The APB (2004) has issued five ethical standards, one of which directly relates to non-audit services and identifies numbers of threats to independence and suggests safeguards in those situations. Non-audit service fees related measures include prohibition on providing tax services to an audit client, which involves acting as an advocate for the client before an appeals tribunal of the financial statements. Also the APB ethical standards allow purchase of non-audit services only if a member of client has the capability to make independent judgments and decisions on the basis of the information provided on consequently, which involves the auditor in exercising a function that is the responsibility of the management.

In Europe, the Wanters Ruling of the European Court of Justice, by which national law can forbid lawyers for working with auditors, in order to protect the proper practices of the legal profession, has been followed by a different proposal for a Directive on Professional Services in the Market (E.C. 2004).

Levitt (2000) the Chairman of the SEC stated that he had asked SEC staff to prepare a rule making initiative related to the expanded non-audit services offered to public company audit client. He noted that the initiative would address fundamental public policy questions, including whether there should be limits on the types of services that an auditor can render to public audit client, how firms should be structured to ensure independence, and whether firms should be permitted to affiliate with entities that the firms themselves would not be allowed to provide to those clients.

6. Conclusion

In the weakness of the Enron and so many large companies bankruptcy regulates taken actions to curtail auditor provided non-audit services. These actions are based on the premises that non-audit service fees impair auditor independence by making the auditor economically dependent on the client and that the consulting nature of non-audit services reduces the auditor's objectivity.

However, on one hand according to agency theory managers looking for self-interest in companies and they desire to reach them interest, in the other hand auditor may have economical interest in the clients company, so managers simply offering non-audit service and auditors accepts because of them benefits, because of unclear regulation they are practicing audit services as well as non-audit services.

In short, evidence suggests that although auditors have market based incentives to remain independent, auditor independence may be threaten when an auditor provide non-audit services to their clients and is reasonable that the non-audit services actually impair independence. However, some professional and academic took action to clarify and limited non-audit services but it seemed not much enough; thus, national and international professions should be redefined accounting and auditing regulation as well as scanted new regulation regarding to no-audit services and giving clear picture about that services to auditors as well as investors, and heavy penalties, to whom overriding these regulation.

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Going International: The Experience of Chinese Companies

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Abstract

To date, China's offshore factories and outward FDI have received little attention in the literature, even if China has been the country with the largest outward FDI of all of the developing nations. The objective of this paper is to provide a contribution to the understanding of Chinese enterprise activity abroad, drawing on the published documents and case analysis. The paper highlights that Chinese firms need to take a learning approach to their internationalization process - going international not only means to gain access to new markets abroad, or make better use of the internal production capacity, it still can be an opportunity to learn from the international business environment and make the organization look beyond its daily routines.

Keywords: Internationalization, Outward FDI, China

1. Introduction

By February 2006, China had replaced Japan as the largest nation holding foreign exchange reserves, reaching USD 853.7 billion (Macartney & Duncan, 2006). These data, however, just show one side of China's "open door" policy. Since the early stages of the "open door" policy, China's central government has not just focused on encouraging inflow of FDI or exporting "Made-in-China" goods all over the world. It has supported its state-owned enterprises to invest in other countries for diversified motivations (Child & Rodrigues, 2005).

China is now increasingly integrated into the global economy. According to UNCTAD (2004) data, China has emerged as one of the largest sources of outward direct investment among developing economies. The average annual outward FDI flows from China have grown from USD 0.4 billion in the 1980s to USD 2.3 billion in the 1990s, reaching over USD 41 billion by the end of 2004 (Ministry of Commerce, 2005). Compared with other countries, China has become the fifth largest outward FDI investor in the world.

With rapid economic growth and export expansion, the expectation of growing outward activity could, therefore, be anticipated to proceed along the lines of Dunning's Investment Development Path (Dunning, 1981). The IDP suggests that inward FDI assists in upgrading domestic firm competitiveness, so that in a later stage of the IDP these firms are able to undertake outward FDI in other locations. While the original studies of the IDP suggested that developed country MNEs undertook outward FDI to leverage off their ownership specific assets, more recent studies (Narula, 1996) suggest that developing country MNEs engage in asset seeking FDI, either to acquire natural or intangible assets.

To date, China's offshore factories and outward FDI have received little attention in the literature, even if China has been the country with the largest outward FDI of all of the developing nations. Some studies of China's government-guided outward FDI have been reported by McDermott and Huang (1996); Child and Rodrigues (2005); Zhang and Van Den Bulcke (1996); and Huang (2003). However, the outward direct investment (OFDI) of Chinese

firms has not been systematically evaluated from a strategic and operational perspective.

The objective of this paper is to provide a contribution to the understanding of Chinese enterprise activity abroad, drawing on the published documents and case analysis. The paper highlights that Chinese firms need to take a learning approach to their internationalization process. The remainder of the paper is organized in the following way. The second section discusses macroeconomic and microeconomic aspects of Chinese outward FDI. The motivations of Chinese firms to “Go Global” are explained in the third section. The fourth section addresses the process of internationalization; that is the entry modes used by Chinese firms. In the fifth section we discuss the advantages and disadvantages of different routes towards internationalization. The sixth section of the paper discusses the problems of Chinese firm internationalization. Solving these problems and improving international competitiveness is the subject of the sixth section. A brief conclusion is then offered.

2. Macro and Microeconomic Aspects of Chinese Outward FDI

At the macroeconomic level, the strategy of going overseas via direct investment has long enjoyed official support when directed toward genuine capability enhancement (Wong & Chan, 2003). The Chinese government, as with others, has recognized the crucial importance of multinational operations in a global era, and has been actively promoting outward FDI. In 1999, the Chinese government launched its ‘Go Global’ policy, encouraging strong Chinese enterprises to invest more overseas in order to improve their competitiveness and secure an international business presence. This policy signifies the determination of the government to promote outward FDI in the context of huge inflows of foreign exchange. One of the most important ways it sponsors overseas expansion is through the provision of low interest loans to fund the purchase of foreign companies from sources it controls such as China’s state banks (The Economist, 2005).

At the firm level, China’s enterprises have a strong interest in implementing their internationalization strategies by the way of overseas investment. Several scholars have traced the way that the internationalization of Chinese enterprises has evolved through a number of stages (e.g., Cai, 1999; Tseng, 1994; Warner, Ng & Xu, 2004). The earlier stages up to the 1990s were largely experimental and subject to strong state regulation. The 1990s witnessed a significantly greater expansion of overseas Chinese affiliates, but problems often arose from a lack of strategic focus, from the limited scale and fragmentation of many projects, and from inexperience in coordinating overseas operations (Warner, Ng & Xu, 2004; Zhang & Van Den Bulcke, 1996). Many of these overseas affiliates were unprofitable (Cai, 1999; Quan, 2001). It is only recently that a number of leading Chinese firms have begun to internationalize with a view to becoming global players in international markets. They have taken a more focused and longer-term strategic view and appear to be developing the capacity to organize overseas operations systematically.

Some Chinese brands have achieved considerable success in the global market. A few domestically strong companies have expanded successfully into overseas markets (The Economist, 1999; Zhang, 2000; Gilmore & Dumont, 2003) including Haier (home appliances), Konka (color television), TCL (multi-electronics), Jianlibao (beverage), Tsingtao (beer), Galanz (microwave) and others. The Haier Group occupied almost half of the U.S. small refrigerator’s market in 2002. Galanz, which produces one third of microwave ovens in the world, captured a 40 percent of European market in 2002 under its own brand name (Zeng & Williamson, 2003).

3. Motivations for Chinese Firms to “Go Global”

There are a number of reasons to explain why Chinese firms are “going global”. Some of the reasons are similar to those driving Western MNCs to invest overseas, but for Chinese firms, there are still some unique features (Child & Rodrigues, 2005). The first motivation is to secure markets abroad. To gain access to industrialized country markets, some garment manufacturing companies from China have invested in LDCs (Less Developed Countries) such as Mauritius that enjoy preferential trade privileges in the US and European markets. The second motivation is to gain access to superior technology, management knowledge and brands. The most recent case is that of the Chinese firm Lenovo which acquired a stake in IBM PC business. IBM’s PC business had been relatively unprofitable for many years; but for Lenovo, it was a good opportunity to leverage off the IBM brand. The third motivation is to secure long-term supplies of natural resources (such as crude oil, natural gas, iron ore and other minerals) to meet domestic industrial demands and national security. China will be a net importing country in natural resources and raw materials until 2020 (Lee, 1996). This explains why some of the state-owned enterprises, like the Sinopec and PetroChina have invested in oil, gas and mining activities in other developing countries, including Indonesia, Kazakhstan, Sudan and Yemen. While cost reduction is one of the major motives for MNCs from developed countries, firms from the developing countries are less driven by cost considerations (because those developing countries are rich in cheap labor resources).

Lastly, the impact of tough domestic competitive conditions in China means that to enhance their competitiveness Chinese companies need to look for opportunities abroad. The restriction facing China is that domestic competition is becoming more intense and reliance on exports is rising. The intensity of competition can be shown from the fall in profitability. The rate of profit return for industrial firms reduced from about 22 percent in 1986 to 5.2 percent for all industrial enterprises in 2002 (China’s Statistical Yearbook, 2003).

4. The Process of Internationalization: Entry Mode Strategy

Internationalization is defined as ‘the crossing of national boundaries in the process of growth’ (Buckley & Ghauri, 1999, p.ix). According to this definition, China is currently the most active internationalizing economy among the developing countries. By the end of 2005, Mainland Chinese firms had established 7870 branch companies in over 160 countries or regions (Chung, 2004). Chinese companies have adopted the following different entry models for going global. **Exporting** is the most popular means for Chinese companies, especially at the beginning of 1980s when China adopted the ‘open door’ policy. This model does not involve any direct investment or active organizational presence abroad. China is now the world third largest exporter after Germany and the United States (Finfacts, 2005; Williams, 2005). **Original Equipment Manufacture (OEM)** combines the cost advantage of a Chinese enterprise with the brand advantage of a foreign firm for achieving economies of scale and manufacturing excellence. Galanz is a good example of this OEM strategy. Galanz - based in Guangdong Province - is the world’s largest manufacturer of microwave ovens. It also dominates two thirds of the Chinese domestic market. Galanz chose to use the OEM route to produce microwaves for many different international brands. It has grown into a dominant manufacturer and its bargaining power over foreign buyers has increased accordingly.

Joint Ventures are favored by China’s authorities and enterprises as the fastest way to gain access to R&D and manufacturing facilities, to transfer technology and expertise to Chinese firms (Peng, 2000; Child & Yan, 2001; Guthrie, 2005). One example is TCL. TCL is the second-largest electronics company in China. The company manufactures TVs, handsets, PCs, and recently moved into white goods. TCL set up a joint venture with Alcatel and Toshiba to produce handsets and white goods products. The downside of a joint venture is that it is sometimes difficult to manage the joint venture because cooperative partners may have differences in business cultures and management processes. **Mergers and Acquisitions** by Chinese firms have grown rapidly in recent years. They were valued at USD 2.85 billion in 2003 and USD 7 billion in 2004 (Business Week, 2004). Major acquisitions have been undertaken by large state corporations with the intention of securing raw material supplies (McGregor, 2005).

In 2004/05, a state-owned company SAIC (Shanghai Automotive Industrial Corporation) negotiated an M & A with UK’s automaker MG Rover. SAIC has already had two successful joint ventures in China with Volkswagen and General Motors respectively, but these two MNC partners totally control their brands and the core technology. The motivation for this acquisition attempt was that SAIC wanted to acquire its own technology and brand through an international purchase (The Guardian, 2004). So, if the deal with MG Rover had been successful, this would give SAIC an advantage - it could control MG Rover’s brands, design, and technology. Unluckily, the deal was not successful.

Greenfield Establishment of Subsidiaries is a more advanced level of the internationalization process and it involves purchasing overseas assets and establishing subsidiaries within targeted markets. Qingdao Haier is the top Chinese electronics company, specializing in low-cost white goods, air conditioners, microwave ovens, TVs, handsets and PCs. Haier’s international expansion strategy is firstly, to enter more difficult, advanced markets such as Europe, USA and Japan markets and then go to the easier, underdeveloped markets such as Indonesia, the Philippines and Malaysia. Haier started to export to Europe and the USA in 1990 and to Japan in 1991. By 2004 Haier’s sales had reached USD12 billion including USD 1 billion in exports and USD 1 billion from offshore manufacturing (Business Week, 2004).

5. Advantages and Disadvantages of Different Entry Modes

Analysts have identified several primary routes toward internationalization by Chinese firms beyond the level of exports, OEM, joint ventures, M&A, and greenfield establishment of subsidiaries (Child & Yan, 2001; Guthrie, 2005). Each route offers certain advantages and risks. Basically, OEM and joint ventures can be served as a preparation for eventual M&A, and Greenfield Establishment of Subsidiaries. A given firm can consider more than one of these routes at the same time. The OEM/JV route enables a firm to capitalize on low cost production in China and reduce the liability of foreignness. The risk is potential conflicts between cooperative partners, and it is not easy to control a cooperative structure. The M&A route can secure the desired technology and/or brands rapidly with their existing cost advantages. The challenges could be paying more than the asset is worth, the liability of foreignness in managing acquired assets and the acquired assets or brands gradually becoming useless and losing value over time. The greenfield establishment of subsidiaries route means setting up offshore R&D, local design, local manufacturing and local sales in worldwide markets. On the positive side, it is easier to implement a localization strategy, which can permit a Chinese firm to hire its own personnel and introduce its own practices. Liability of foreignness can be reduced through training locally selected staff in parent company administrative practices. By being present as a local company in a highly competitive market such as the USA, this expansion route also strengthens the credibility of the company’s brand. The risk is that this strategy is a slower route to internationalization. As in Haier’s case, it may involve the establishment of production abroad in addition to technical and marketing facilities. It tends to be a high-cost investment route that can impose financial risk and pressure on the company.

6. Some Problems of Chinese Internationalization

Going global is not an easy task and investing overseas is a challenging job. Some overseas Chinese firms have had many problems. Nolan (2001, p.187) has argued that 'the competitive capability of China's large firms after two decades of reform is still painfully weak in relation to the global giants'. Compared with the MNCs from the developed countries, the weaknesses of Chinese firms can include; limited knowledge of overseas markets and limited marketing capability; weakness in R&D; lack of international brands or trade names; a lack of strategic focus and a lack of experience of coordinating overseas operations (Warner, Ng & Xu, 2004). Many of these overseas affiliates have lost money (Cai, 1999; Quan, 2001). One example is CITIC in New Zealand. CITIC (China International Trust and Investment Corp.) is a Chinese government-controlled investment company, which set up a joint venture with Fletcher Challenge Forests in September, 1996. However, after six years' operation, the joint venture finally failed. Besides currency fluctuation difficulties and the collapse of log prices in international markets, there were other reasons for the failure such as inadequate channels of communication; lack of trust between the partners and poor team cooperation due to intercultural differences.

7. Being a Global Player in International Markets - Strategic View

How can Chinese enterprises solve these problems and improve their competitiveness? At least four strategies can be identified. The first is government support. Government should provide access to the financial, technical, human resource assistance to help these enterprises. With government support, enterprises would find it could be easier to compete with other players. Secondly, Chinese firms need to build up new capabilities through the differentiation and brand advantages. Differentiation means demonstrate differences and strengths when comparing with other products and focusing on a niche market as Haier has done. A brand advantage means through building a recognized brand, customers will be willing to pay a higher price for products even though their products have the same qualities and functions as others. Brand recognition is particularly important in consumer markets, such as those for automobiles, beverages, clothing, consumer electronics, household goods, and mobile phones. Building a recognized brand cannot be achieved overnight; it needs continuous investment.

Thirdly, reducing the liability of foreignness - the management of the international firm needs to overcome the differences in business cultures and managerial styles. After Lenovo's acquisition of the IBM PC business, some people were suspicious about Lenovo's capability to preserve IBM PC brand; one IBM user once commented that 'it feels uncomfortable; international IBM has become a domestic Lenovo' (Financial Times, 2004). In order to reduce the risks and the liability of foreignness, Lenovo appointed a former IBM vice-president as its CEO of the new Lenovo, transferring its head office to New York, and still keeping IBM as the after-sales service supplier outside China. Lenovo recognized that it is important to reduce the foreignness during the process of internationalization. The final strategy is ethical considerations and setting up rapport with the local communities. To be a responsible company, Chinese firms need to recognize that profit-seeking is only one objective when making an investment abroad, Chinese enterprises still need to consider how to make a contribution to local communities and to maintain the balance between making money and being a socially responsible enterprise.

8. Conclusion

China has been the largest recipient of inward direct investment flows (UNCTAD, 2004) and there is active government policy interest in inward technology transfer (Yan, 2000). China's success in attracting the inflow of FDI has been well documented, however, less known is the initial development of China's "going out" strategy, which encourages domestic enterprises to participate in international capital market and to directly invest overseas. Although the outward internationalization of Chinese enterprises is recent and small scale, there seems little doubt that major growth will continue in the future.

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The Research on the Effect of Changing Prices in the Multinational Company upon China's Economy

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Abstract

With Chinese economic reformation development, more and more Multinational Corporation has invested in China. Multinational Corporation has improved the Chinese economic standards, but it has also brought negative effects, especially the changing prices in the multinational corporation. This academic paper has researched its reason, purpose and negative effect and how to take preventive measures.

Keywords: Changing price, Multinational Corporation, Negative effect

The changing price called the changing fixed price, the instigates price, internal price, it is the multinational corporation interior parent company and subsidiary company, subsidiary company and subsidiary company mutually agrees one kind of price when they export, import or purchase the product, the service and the technology. The changing price does not mean that according the supply and demand situation formulate in the international market, but artificial formulate on the basis multinational corporation's global strategy and the overall benefit. The multinational corporation interior trade involves two aspects of the commodity and the service, the changing price also includes two contents: First is the changing price of visible product, such as the company interior mutually provides price of equipment and spare parts; Second is the changing price of immaterial product, for example, the subsidiary company pay the interest of loan, fees to use the trademarks and technology to the parent company.

1. The changing price produces background

The changing price is the management method, which is along with the socialized mass production development and the company internal organizational form and the structure's changing.

1.1 The multinational corporation interior trade formation is the symbol and premise of the changing price production and development.

As an unification management entity which is composed by the parent company and the multitudinous overseas subsidiary company, between its parent company and the subsidiary company and the various subsidiary companies all have regularly flows of the massive funds, the commodity, the technology, the service and so on, these internal trades need to have corresponding price to take basis of calculation, therefore, the changing price can produce. Follows the enhancement with the multinational corporation's operation and management internationalization degree, in the situation of the international market existence fault of construction (for example trade protection, intellectual property rights protection and so on)and the transaction existence fault (for example extra risk, market difference),inevitably causes the company interior division to be exquisite, and corresponding to cause scale obvious expansion of company interior each essential factor and the product circulation. Only depends on the international market, to be able to affect the multinational corporation management strategy effectively implementation. Therefore, it is inevitably choose of the maximum degree using the company interior trade which is separated from to the international market.

1.2 The changing price is the method which the multinational corporation use the international tax revenue difference and other policy differences and pursues the global profit maximization.

Indicated of according to the American scholar investigation to 165 American multinational corporations, only 35% companies adopt the normal transaction price in interior transaction, but uses the no-market price is a method which the multinational corporation generally utilizes. Through this method, the multinational corporation may control many subsidiary companies which are distributing in the world obey to its global strategy goal, thus guaranteed the entire company system obtains the biggest profit.

2. The purpose of the changing price

2.1 Shifts fund

In many countries, when domestic fund and the foreign exchange relatively short, mostly adopts some limit fund shift

measure. In particular, there have some more stringent restrictions for the foreign investors remitted their dividends and the stock dividends. At that time, the multinational corporation often through the changing price by the high price to ship out materials or provide services to the subsidiary company in this country, realization fund shifting.

2.2 Evades tax revenue

Mainly evade the custom and the income tax. In the aspect of custom tax, although any national company is unable to change the custom tax, but the changing price is suitable, it still might do. Usually has following two methods:

2.2.1 Using the regional customs union and some certain preferential benefits stipulated of some agreements.

2.2.2 Using subsidiary companies in different country (area), low delivers goods price reduction tax payment cardinal and tax payment amount, reduces the import subsidiary company importation tax. In income tax aspect, mainly use different tax rate of different country (area), for example, when multinational company sells the technology or the service from the high tax rate country to the low tax rate country, through the low price to reduce the import goods cost of the low tax rate country in order to enhance its profit. Like this, the tax rate shifts from the high tax rate country to the low tax rate country, reduce the whole tax amount of the entire company.

2.3 Adjustment profits

When the subsidiary company has a higher profit in the host country, it possibly can face to many problems, for example, the labor unions request to raise the host country staff wages, the host country government requests to negotiate again and so on. The multinational corporation may utilize the purchase power and the sales power which grasps, reduces the subsidiary company accounting paper profit through the changing price, and covers the actual profit, embezzles the benefit which the host country should earn.

2.4 Reduces the quota limit

The quota has in view of the product quantity, has in view of the product value. If in view of the product quantity, the multinational corporation may use the changing price to reduce the quota limit. For example, when the export country's subsidiary company reduce the goods price, the import country's subsidiary company need not more quota, it may increase the import product quantity.

2.5 Obtains the competitive advantage

When the new subsidiary company is established in overseas, the multinational corporation may through the whole company's fund power to supply the inexpensive raw material, the product and the service with using low price, and purchase the high price product of subsidiary company in order to help it sets up good prestige, and stable development. When some overseas market competition is exceptionally intense, the partner company may use the low changing price to support subsidiary company until defeat competitors, and finally seizes the market.

3. Influencing of the multinational corporation interior changing price to China

Indicated of the studies of importation and exportation goods price of foreign capital enterprises in China from 2001 to 2002, imported and exported 1500 kind of products in 2001, there are 124 kind of importation products price were higher than average price, highest out did 1000%; and there are 428 kinds of exportation products price lower than average price, lowest price only occupied 1% on comparing average price. The foreign capital enterprises use changing price to bring many problems to China. Concentrate following several aspects:

3.1 Chinese profit is invaded

As for the joint capital enterprise, Chinese joint capital enterprise is on the basis of the Equity ratio to share profit, but as for the Chinese and foreign cooperative enterprise, Chinese enterprise profit according to contract, Chinese holds the certain appropriation of profit ratio. However if the foreigner implementation changing price that may cause to reduce the enterprise's profit, even appears "zero profit" and negative profit", it causes Chinese profit to reduce even loses money, but the foreign company's overall income may be increased.

3.2 China's tax revenue income reduction

The foreign capital enterprise's tax revenue effect is an important target of China uses foreign direct investment income. Chinese normal obtained tax rate is 33%, but in order to attract the foreign enterprise investment, stipulated "the foreign capital" enterprise may enjoy the preferential benefit in tax revenue on operation in two years and reduces partly levies on the third years. The obtained tax rate is 16.5% in third year and is 33% in the sixth year. This tax rate is still higher than actual taxes of Bahamas, Hong Kong. Many foreign capital enterprises use "higher importation price and lower exportation price" to shift subsidiary company profit in China, in order to evade Chinese income tax.

3.3 Causes China balance of payments not to be balanced

3.3.1 The changing price of "high importation price and low exportation price" can bring foreign enterprises overall profit growth. Thus, actuation foreign capital enterprise import massive product which may produce in domestic, this

will cause Chinese importation products to increase, frequently project flowing out.

3.3.2 When foreign enterprise will buy into same the quantity commodity, the service, the technology and so on or will sell the same quantity product to the overseas related enterprise, the changing price of “high importation price and low exportation price” will cause Chinese commodity exportation will reduce and importation will increase, thus will further worsen Chinese balance of payment.

3.4 Reduces foreign enterprise related effect of direct investment

At present, China lacks the effective control measure to the foreign capital enterprises changing price, many foreign merchants use enterprise's importation domination, buy into many high price of raw material, the half-finished product which may produce in domestic enterprises from the overseas related enterprises, and use changing price to gain more profit. Thus, greatly decrease foreign merchants direct investment related effect.

4. China's countermeasure upon to the multinational corporation changing price

4.1 To study the success experience of control changing price which other countries already have, to make law which related to defend against changing price.

At present, US, Canada as well as many developing nations all very attention for control changing price, the main method which use including:

4.1.1 Tax rate integration. Levies the obtained tax rate and the customs tax from subsidiaries that make multinational corporation no matter directly collects profit or shift profit using the changing price, its real income is always same.

4.1.2 Adjust the profit. According to the ratio of the subsidiary company sales or assets which occupy the overall multinational corporation assets, estimated profit of a subsidiary to its revenue.

4.1.3 Implementation normal transaction price. Compares subsidiary company importation and exportation product price in the host country with international normal transaction price, if discovered some multinational corporation's importation product price too high or the exportation product price too low, the host country may request it make additional tax according to the normal transaction price to calculate profits

4.2 Improve Chinese technologies and the production standards to reduce the dependence degree of the foreign capital enterprise

Chinese enterprises may improve the product domestic degree to reduce the opportunity of the foreign enterprise use the changing price to shift profit.

4.3 Consummate tax laws

Chinese government may strengthen inspection and surveillance to the foreign capital enterprise, reduce to the possibility of international avoid taxes, may adopt the method includes:

4.3.1 Use “the formulation assignment method” to calculate the multinational corporation income tax. According to the formulation to calculate the company's profit and to levy its revenue, Chinese tax affairs department should strictly supervise the multinational corporation whole financial goals and investment behavior, if the parent company still unceasingly increase fund when the subsidiary operating worse, the tax affairs department should investigate company operation behavior, if proved its changing price and to its high quota fine.

4.3.2 The customs should strengthen management to importation and exportation of the foreign capital enterprises, know each kind of commodity and service trade price, and prevent the changing price.

4.4 Improve the investments environment, positively carry on the foreign exchange system reform, and gradually realize RenMinBi free exchange. Chinese government should maintain the related laws and policies stability and continuity. Only do this, it can unceasingly promote the foreign enterprise investment motive and other behaviors rationalization, China can truly obtain the greatest income from the transnational investment.

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Exchange Rates and Export Competitiveness in Selected ASEAN Economies

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Abstract

This paper discusses the impact of exchange rates on the export performance of selected ASEAN (Association of South East Asian Nations) economies, namely, Indonesia, Malaysia, Singapore and Thailand. We construct an empirical model to account for the role of the real exchange rate and other economic fundamentals such as macroeconomic stability, terms of trade, capital goods investment, external demand and human capital. This work also attempts to see if the higher import content industries (such as electronics and textile) are more affected by exchange rate changes than the more resource-based industries (such as wood and rubber). The study makes use of a *panel data* and estimates export equations using a *fixed effect* model both at the aggregate and sectoral levels. The findings in this study strongly corroborate results from the theoretical framework that the exchange rate misalignment and variability have significant impact on export performance, both at the aggregate and industry level. This work also gives evidence for the importance of capital goods machinery imports (technology) and the role of human capital. The study also finds that the export growth path for the selected ASEAN economies is dependent on global demand conditions, especially demand from OECD countries. However, there is no evidence to indicate that the exports from high-import content industries are more affected by exchange rate changes than the resource based industries.

Keywords: Exchange rate, Export, Competitiveness, ASEAN countries, Industries

1. Introduction

Over the past two decades, several ASEAN nations (Indonesia, Malaysia, Singapore and Thailand) experienced rapid growth in their economies due to 'export-oriented' policies pursued during this period. There has been much debate and discussions on the key engines of growth in these countries. Earlier literature on export industrialization in this region attributed this to the existence of cheap factors of production especially labour which encouraged the off-shore sourcing activities of the multinational corporations (see for example, Lim 1980, Heyzer 1987 and Saadiyah 1995). Recent debates have ranged from around whether rapid growth in export have been due to the active role of the state or to the pursuance of market-friendly approaches (World Bank 1993, Lall 1997, Stiglitz and Yusuf 2001, Jomo et al 1998) to the more controversial "perspiration versus inspiration" debate (Krugman 1997).

More recent work has attempted to relate, as part of this active role of the state, the impact of exchange rate policy on export performance. Some have even argued the possibility that exchange rates in the Asian emerging economies have been deliberately undervalued in order to increase the competitiveness of export (see for example Montiel 1997, Benaroya and Didier Janci 1999). Several studies have shown that exchange rate management matters for export performance (Edwards 1988, Paredes 1988, Cottani et al. 1990, Ghura and Grennes 1993, Sekkat and Sapir 1995, Elbadawi 1998, Sekkat and Varoudakis 2000). Sekkat and Varoudakis (2000) showed that countries which have

successfully promoted manufactured exports experienced real exchange rate (RER) depreciation, leading to a significant increase in the domestic relative price of tradables to non-tradable. Countries however could still vary in terms of the degree of ER policy used for export promotion- whether deliberate or market oriented. Some researchers have argued that exchange rate policies may not be deliberately used to achieve export competitiveness. Here, exchange rate management may be a result of achieving other macroeconomic objectives. (Note 1) Saadiah (2001) showed that RER in the selected ASEAN economies were not deliberately allowed to depreciate. The study showed that the equilibrium long run RER in these countries exhibited a depreciating trend. A depreciating trend of actual RER simply reflects a movement of the RER tracking its equilibrium path.

There are several empirical models to examine the impact of exchange rate policies on exports of goods and services. Balassa (1990) studies the responsiveness of exports of goods and services to RER-related price incentives. This study was conducted for a panel of 16 Sub-Saharan African (SSA) countries. Sapir and Sekkat (1995) showed that the impact of RER, RER volatility and misalignment vary across different sectoral levels and exchange rate regimes. Sekkat and Varoudakis (2000) extended the work of the above-mentioned studies by incorporating two more exchange rate policy indicators, namely RER volatility and RER misalignment. The study used sectoral level information, that is, three manufacturing sectors (textile, chemicals and metals) under different exchange rate regimes (fixed and floating). The study was conducted for selected SSA countries. The study postulated the following relationship between export volume and exchange rate variables:

$$\log(X_i) = \alpha_0 + \alpha_1 \log(MNF_i) + \alpha_2 \log(E_i) + \alpha_3 \log(V_i) + \alpha_4 \log(mis_i) + \varepsilon_i, \quad (1)$$

where, X_i is the ratio of export of sector i over GDP , MNF is the ratio of total manufactured value added to GDP , E is the effective exchange rate (RER), V is the volatility of the RER, mis is a measure of misalignment and ε is the error term. Most empirical studies that examined the impact of exchange rate variability on manufactured export were for developed countries. The empirical evidence has been mixed. For the misalignment impact, several studies have shown that misalignment has significant impact on exports. Edwards (1988) and Cotani et al. (1990) show that RER misalignment has a negative impact on several developing economies.

One of the major difficulties in establishing association between volatility and trade may be due to the availability of hedging instruments against exchange rate risks in developed economies or the adaptability of multinationals. On the other hand, it is easy to establish correlation between misalignment and export because misalignment represents an uncertainty against which there is little possibility of insurance (Sekkat and Varoudakis 2000). The results for developing countries have also been mixed. Paredes (1989) found no significant link between export supply and exchange rate uncertainty for Chile and Peru. Grobar (1993) conducted a study to assess the impact of exchange rate volatility on export for ten developing countries (Argentina, Brazil, Colombo, Greece, Malaysia, Mexico, Philippines, South Africa, Thailand and Yugoslavia). The study lends support to the hypothesis that exchange rate volatility negatively affects exports. The study also found that misalignment did not have a significant impact on exports for the ten countries. Unlike Paredes' work which highlighted the role of exchange rates in export performance, Rodrik (1994) showed that the sustained export growth in Korea and Taiwan was not achieved due to currency depreciation. The upward trend in export and trade in these countries are attributed mostly to the increased investment in capital goods. These investments have enhanced the productivity and competitiveness of the goods and services produced in these two Asian 'tiger economies'.

Elbadawi (1998) conducted a study on more than sixty countries analyzing the role of real exchange rate in the non-traditional exports of Africa, and comparing it with the more successful non-African countries. Elbadawi's specification for the export demand function incorporated features from both Rodrik's and Paredes' models. Elbadawi's formulation of the export demand function is as follows:

$$\begin{aligned} \log(XNTY_i) = & \beta_0 + \beta_1 RERMIS_i + \beta_2 RERVAR_i + \beta_3 \log(MM_i) \\ & + \beta_4 \log(TOT_i) + \beta_5 TOTVAR + \beta_6 SCH_i + \beta_7 OE CYB_i \\ & + \gamma_1 DSSA_i + \gamma_2 DEA_i + \gamma_3 DLAC_i + \varepsilon_i, \end{aligned} \quad (2)$$

where, $XNTY$ is the ratio of non-traditional exports to GDP (both in current dollars); $RERMIS$ is the real exchange rate misalignment; $RERVAR$ real exchange rate variability in logs; MM is imports of machinery over GDP ; $TOTVAR$ is variability in the terms of trade; SCH is an index of schooling (the average of the primary and secondary enrolment ratios). $OE CYB$ is OECD countries' GDP per worker (in constant dollars); and $DSSA$, DEA and $DLAC$ are dummies for Sub-Saharan Africa, East Asia and Latin America (proxied for differing supply conditions), respectively. Using the specification in (2), Elbadawi (1998) examined the impact of RER and equilibrium RER (ERER) on the export function. According to Elbadawi even though a country may not pursue a policy that may lead to a significant overvaluation in its currency, there is a possibility that the economy may be trapped in an ERER that is appreciating. This may lead the economy to be in a 'sub-optimal' export growth path. However his empirical work showed that ERER was not an important factor for determining the export trend for a country. The study indicated that RER misalignment, RER

volatility, investments in machinery, and schooling have significant impact on export performance. RER variability was found to have a negative impact on export performance.

The primary objective of this paper is to empirically examine the impact of RER, volatility in the RER and other economic fundamentals such as investment in capital goods (technology), term of trade, human capital, and external demand on export performance in these selected ASEAN economies. The study also will examine the effects of exchange rate on high import-content and resource based industries (low import-content) in the selected countries. This study makes use of a *panel data* which is formed by *pooling* the time series, cross-section data of Indonesia, Malaysia, Singapore and Thailand. The use of panel data is believed to be appropriate here because of the limited number of observations for each country. For sectoral data, observations are only available annually beginning 1976 for Thailand, 1978 for Malaysia and 1979 for both Indonesia and Singapore.

In the next section, we propose a model similar to that presented in Elbadawi (1998) and Sekkat and Varoukakis (2000) to assess the impact of the exchange rate and human capital on the export path for the selected ASEAN economies.

2. The model and data

In this paper, we extended the model proposed by Sekkat and Varoudakis (2000) by incorporating more variables to control for the impact of the exchange rate variables on export trends in the selected ASEAN economies. These variables incorporated in the model are similar to the one used by Elbadawi (1998). Thus, the present model can also test for the validity of hypothesis outlined in Rodrik (1994) and Paredes (1989). Rodrik's model-- motivated by the export experiences of Taiwan and Korea-- explains rapid export growth as being driven by a sustained boom in capital investment. Paredes' model--influenced by the Latin American experiences-- predicts a significant role for real exchange rate competitiveness and real exchange rate stability in the determination of export supply. In our model, we used illiteracy rate as a proxy for human capital instead of schooling. This variable should have an opposite effect on the export. That is, a higher illiteracy rate is expected to reduce exports. This study makes use of a *panel data* which is formed by *pooling* the time series, cross-section data of Indonesia, Malaysia, Singapore and Thailand. The use of panel data is believed to be appropriate here because of the limited number of observations for each country. For sectoral data, observations are only available annually beginning 1976 for Thailand, 1978 for Malaysia and 1979 for both Indonesia and Singapore.

The analysis of panel or longitudinal data is the subject of one of the most active and innovative bodies of literature in econometrics. The use of panel data in this case can have at least two advantages. First, the process of pooling the data can increase the number of data points and generate additional degrees of freedom. Second, incorporating information relating to both cross section and time series variables can substantially reduce the problems that arise when there is an omitted variable problem (Pindyck and Rubinfeld, 1998). Panel data sets are typically wide but short i.e. with wide cross sectional units but short number of years as in the study of Elbadawi (1998). In this study however because the cross sectional units are only four- since we focus on only four countries, the panel data formed is not the typical wide and short panel. However, the advantage here is we reduce the large averaging effect that occurs in wide panel data sets. Thus, the estimation obtained in this study would better reflect the situation in these four countries. There are three models that can be used for analysing panel data. The first model is to simply combine or pool all the time-series and cross section data and then estimate the underlying model using ordinary least squares (this is referred to as pooled least squares). The intercept is assumed to be common.

The second model involves the recognition that omitted variables may lead to changes in the cross section and time-series intercepts. This model is referred to as the *fixed-effects* model, which allow for intercepts to be different for the different cross-sections. The third model allows for the variation in the cross-sections and also the periods. This method is called the *random-effects*. The method is essentially a variation of the generalized least squares estimation. Next, we outline the model for assessing the impact of the exchange rate variables and other important indicators that measure the economic fundamentals on the export growth path for the selected ASEAN economies. Consider the following model for the export function for the selected ASEAN economies:

$$y_{it} = \alpha_{it} + \beta_i' x_{it} + \varepsilon_{it}, \quad (3)$$

where, i ($i=1, \dots, n$) is the cross-section units (countries) and t ($t = 1, \dots, T$) is the periods. The dependent variable y measures the export function (in our model we use six variation of the export – macro to sectoral measurements). The vector β is the parameter of interest. The residual is denoted as ε residual. The design matrix (x) for the model is $x = [RER, RERMIS, RERVAR, \log(MM), \log(TOT), ILLITERATE, OECD]$. *RER* is the real exchange rates defined such that an increase in RER represents an appreciation (data from IMF International Financial Statistics, 2000). *RERMIS* is real exchange rate misalignment, obtained from subtracting ERER from RER and expressed as a percentage

of ERER. This is obtained from Saadia (2001). A positive figure represents an overvaluation. The equilibrium RER level (ERER) was also used to find out which of the ER variables most significantly affect exports. All RER, ERER, and RERVAR are expressed in logs, while RERMIS is expressed in percentages. This model extends Paredes' model by explicitly linking export supply to the actual level of RER, equilibrium RER and to the degree of RER disequilibrium. These different measures of RER can also proxy ER policy and therefore the model can assess the impact of ER policies on export.

RERVAR is RER variability measured from the monthly standard deviation of the real effective exchange rates (data from IMF World Economic Outlook WEO database). This measure is used to proxy macroeconomic stability relevant for export performance. MM is machinery imports over GDP. Both export data for various industries and import of machinery were obtained from the Trade and Production database World Bank (2001) (Note 2). TOT is terms of trade (the data was obtained from IMF WEO). ILLITERATE is the illiteracy rate for adult (percentage of people 15 and above, data from World Bank, World Development Indicator WDI, 2000). This measure was used to replace schooling as the data is more complete. The use of this variable instead of the schooling factor tended to improve the model significantly. Illiteracy rate is used in this case as a proxy for availability of basic schooling, assuming that lower rate of illiteracy signifies better educational opportunities and infrastructure. Illiteracy rate also proxies the initial stock of human capital in the different countries. OECD is average GNP per capita of OECD countries in constant 1995 USD (the individual GNP per capita data for 23 OECD countries were obtained from World Bank WDI 2000) and is used to control for the level of world demand.

As mentioned earlier, there are three possible models that can be derived from the (3). They are the pooled, fixed and random models. The pooled model assumes the intercepts for the countries are identical, that is,

$$\alpha_{it} = \alpha$$

The difficulty with pooled least squares is its assumption of constant intercept and slope is unreasonable.

The fixed effects for the model in (3) is estimated to allow for different intercepts for different cross-section units, thus:

$$\alpha_{it} = \alpha_i, \text{ where } E(\alpha_i \varepsilon_{it}) \neq 0$$

The random effects model on the other hand treats intercepts as random variable across pool members so that:

$$\alpha_{it} = \alpha + u_i, \text{ where } E(u_i \varepsilon_{it}) = 0$$

For our problem we could not estimate random effects model as it requires the number of cross-sections to be greater than the number of regressors. In our case, the number of cross-sections (countries) is four, while the number of regressors in the model is seven. In order to test which model is better between the pooled least squares regression model and the fixed effects model, we conduct the following F-test, where the null and the alternative hypothesis are as follows:

$$H_o : \alpha_{it} = \alpha$$

$$H_A : \alpha_{it} = \alpha_i$$

The F-test statistic is given as follows (Greene 2000: 562):

$$F = \frac{(R_{fe}^2 - R_p^2)(nT - n - k)}{(1 - R_{fe}^2)(n - 1)} \sim F_{n-1, nT-n-k}, \quad (4)$$

The test statistics in (4) follows an F-distribution with (n-1) and (nT-n-k) degrees of freedom.

The model in (3) was estimated using a sample of pooled cross section and time series data. Six different measures of exports were used as dependent variables, and these were estimated separately. These are total exports of goods and services (log X), total export of manufactured goods (logXmanf) and four export measures at sectoral levels: export of textile (321), electronics (383) wood products (331) and rubber products (355). (Note 3)

Textile and electronic industries were chosen because they are important export industries in the selected economies. These two industries also represent sectors where large exports have high import content. (Note 4) The wood and rubber industries are relatively resource based industries and are chosen to test the possibility of the differing impacts of ER policies on these different types of industries. It could be conjectured that high import content industries would be more adversely affected by changes in ER policies than high local content industries. The coefficient for RER is expected to have a negative sign. This implies that RER depreciations will encourage exports by increasing competitiveness. Similarly coefficients for ERER and RERMIS are expected to be negative. Over-valuations from the equilibrium is expected to reduce export, while under-valuations might be expected to increase export. Given that uncertainty is potentially harmful to export, the coefficient for RERVAR is expected to be negative. If growth of export depends on import of machinery, then the relationship should be a positive one, with the coefficient of log (MM) having a value greater than zero. For TOT theoretical prediction suggests that an improvement in TOT will increase the price of export

relative to import, making export less price competitive other things remaining the same. Hence the expected sign for TOT coefficient should be negative.

ILLITERATE should proxy the opposite effect of schooling, with reduced illiteracy rate contributing to higher exports, thus coefficient for ILLITERATE is expected to have a negative sign. The OECD income per capita reflects international demand; hence, the coefficient for this factor is expected to be positive. The model in (3) was first estimated using pooled least squares technique with assumption of a common intercept and then using fixed effects model that allow for different intercepts representing each country. The coefficients of all the regressors are assumed common across the cross section units (the four countries). The use of country dummies to obtain the different intercepts can capture to some extent the initial differences that exist among these countries. The fixed-effect model was estimated using the generalised least square (GLS) method. Results from the pooled and the fixed-effects models are discussed in the next section.

3. The empirical analysis

In this paper, we estimated the models with six different dependent variables, namely total exports of goods and services ($\log X$), export of manufactured goods ($\log X_{\text{manf}}$), export of electronic goods ($\log X_{\text{electronics}}$), export of textiles ($\log X_{\text{textiles}}$), export of rubber ($\log X_{\text{rubber}}$) and the export of wood ($\log X_{\text{wood}}$). The six models will allow us to assess the impact of exchange rate and the other economic indicators on export. Initial results of regressions show DW statistics having values close to zero, suggesting existence of autocorrelation. To correct for this an AR(1) term is introduced which significantly improves the model. We also estimated the models using the White Heteroskedasticity estimator (to correct for the existence of heteroskedasticity) and the generalized least squares method with cross sections weights. Tables 1 to 6 report the results for the six export functions. Each table contains three fixed effects regressions. Equation 1 incorporates the full set of variables, while regression 2 excludes imports of machines (MM) and regression 3 excludes RERMIS. Equation 2 and 3 are designed indirectly to test Rodrik's conclusion that capital goods are important determinants for export growth.

<Tables 1-6>

The estimated regressions for the export functions appear to fit the data very well with more than 95% of the variation in exports explained by the model. From empirical analysis in Tables 2, Table 4 and Table 6, we observe that Equation 1 is superior to the other two equations (based on the adjusted R squared). This implies that both imports of machinery and RERMIS are significant variables for the export of manufactured goods, textiles and wood. From Table 1 and Table 3, we see that the adjusted R-square for Equation 1 and 3 are identical. This implies that RERMIS is not statistically significant in influencing the export of good & services and the export of electronic goods. From Table 5, the case of export of rubber, the adjusted R-square of Equation 1 is marginally less than Equation 2. However, we found that from Equation 1 the import of capital goods and RERMIS have significant effect on the export of rubber.

Generally, the parameters in the models have the expected signs and significant (most appearing to be significant at 1% level). RERMIS is significant and have a negative sign in all equations except for equation 1 of dependent variable $\log X$ and $\log X_{\text{electronics}}$. But in both of these RERMIS becomes significant in equation 2, when the variable imported machinery ($\log MM$) is excluded. The negative significant impact of RERMIS means that an overvaluation of the RER relative to its equilibrium level will tend to decrease exports, while an undervaluation will increase it. The magnitude however is rather small. Initial regressions using RER were found not to be significant, and so the tables report regressions made excluding this variable. Unlike the findings in Elbadawi (1998), the variable ERER in our study was found to be highly significant in all regressions. This implies that not only does exchange rate misalignment matter, the position of the equilibrium rate is also important, with higher ERER leading to reduced export.

Real exchange variability was found to be damaging to exports as revealed by the significant and negative coefficient of RERVAR. The magnitude however is much less compared to the damaging effect of an appreciating ERER but bigger than the effect of RERMIS. The terms of trade (TOT) factor in all the regressions show negative and significant coefficients except for regressions involving $\log X$, and $\log (X_{\text{manf}})$ where the signs are positive. This means that an improvement in the terms of trade tends to reduce export, implying that the substitution effect of price changes is more important than the income effect. The results for the coefficient of imports of machinery (MM) are highly significant with the expected positive signs in all the regressions. The findings lend further support to the hypothesis that this factor is an important catalyst enhancing the export growth in these East Asian countries.

The estimated coefficients for ILLITERATE confirm the importance of human capital is an important factor for the export from these countries. A reduction in the illiteracy rate boost total export of goods and services produced in these countries. Lower illiteracy rate will also enhance exports from manufactured, electronic, and rubber sectors. However the coefficient for this factor was found to be positive for the textile and wood sectors. This indicates that these sectors gains competitive advantage from the abundant cheap and lowly educated labour force. For the OECD variable, the result lends some support to the importance of external demand to key sectors in the region such as the manufacturing,

electronics, and textile. Most regressions show positive and significant results except for the total export of goods and services, export for rubber and wood. The empirical evidence in this study does not show that the high import content industries (electronics and textile) are more affected by changes in RER measures than the other two more resource based industries. It is possible that the pooling of data may result in some offsetting effects which conceal some patterns that exist in some countries and not in others. For example while wood and rubber may be thought of as resource based industries for Malaysia, Thailand and Indonesia, they are not so for Singapore. The results do show that for electronics industry the coefficient for log MM (0.657) is highest followed by the manufacturing sector. This shows that the electronics and manufacturing sectors are the most capital intensive industries in this region. The least capital-intensive sectors are the textile and the wood industries.

Finally all country constants (intercepts) have positive values and are highly significant. The fixed effects values reported in the tables indicate that the fixed effects model with different country intercepts are more efficient than the model which assumes constant intercept. From the empirical results, Malaysia seems to have the highest initial advantages in the production of total export of goods and services compared to the other three countries. This is also true for the export of electronics and rubber goods. Singapore has the highest initial advantage in the export of manufactured goods. Thailand has relative advantage in the export of textiles, while Indonesia in the export of wood based products. From our analysis, we infer that country specific characteristics, supply constraints, exchange rate policies and environment, technological capabilities, human capital and external demand play an important role in the export performance of the selected ASEAN economies. The findings seem to suggest that variability in real exchange rates may be a more important factor for policy makers to consider than is misalignment as RERVAR seems to have significant effect across the sectors much more than RERMIS. In addition, in the case of Malaysia, RERMIS appears to be insignificant in the sectors where Malaysia has, according to the findings in this study, relative advantages i.e. electronics and the aggregate total export of goods and services.

4. Conclusion

This paper analyses the impact of real exchange rate competitiveness and real exchange stability on export performance for four Southeast Asian economies of (Indonesia, Malaysia, Singapore and Thailand). A panel data is formed by combining the time series data of these four countries. This work extends the work of Elbadawi (1998) and several others like Sekkat and Varoudakis (2000). It unifies two theoretical models of Rodrik (1994) and Paredes(1988) and extends the analyses to four sectoral levels which are important for export in these countries. The paper attempts to account for the role of real exchange rate measures of competitiveness (measured by RER, ERER and RERMIS), macroeconomic stability relevant for export performance (RERVAR), investment in capital goods (MM), external demand (OECD) and the role for human capital (ILLITERATE) in the selected ASEAN economies. It also attempts to see if there are discernable differences between industries in the way they respond to changes in exchange rate measures.

The results in this study strongly corroborate the view that imports of investment in capital goods, basic capabilities, and perhaps some strategic interventions to resolve market failures are important for successful export-orientation; but it also gives support for an active state role in exchange rate management. The RER misalignment measure RERMIS is found to be negatively and significantly associated with export. Unlike the finding in Elbadawi (1997) ERER was found to be significant and has a negative sign consistent with theoretical framework. This implies that a lower (more depreciated) equilibrium real exchange rate can enhance export performance. Even though empirical work is inconclusive on real exchange rate variability this work suggests evidence that in these economies variability is damaging to exports. This study also gives strong support for the contribution of imported investment in capital towards export growth. The results for OECD countries average GNP per capita (OECD), terms of trade (TOT) and illiteracy rate ILLITERATE were mixed, but are generally consistent with predictions.

Generally, the results at the aggregate levels are consistent with that found at the industry (sectoral) levels. However, there is no evidence to suggest that the textile and electronics industries are more affected by exchange rate changes than the other two industries. Clearly more work need to be done in this area to further refine these findings. These findings have three important policy implications. First, good macroeconomic management especially with regards to stability and having exchange rates consistent with economic fundamentals is vital for the exports from this region to be globally competitive. Second, capital investment (i.e., investment in science and technology, and ICT), investment in research and human capital development in this region are important factors to move up the technological ladder. These factors are even more important for smaller economies such as Singapore and Malaysia as an increasing proportion of more educated labour means that these economies can no longer compete on the basis of cheap labour. Third, some sectors in these countries are very dependent on demand from the OECD countries. A slump in the economic climate in these developed countries, will have a direct impact on these industries, hence on the regional economies that are heavily dependent on this sectors. To overcome the over dependence, regional economies should expend their market beyond the OECD countries, to countries in the Middle East, Africa and more so within the ASEAN region. Finally,

this work gives some justification for the case of Malaysia's adoption of the fixed exchange rates started in September 1998. Some observers suggest that fixed exchange rates may pose greater danger to possible exchange rate misalignment as nominal exchange rates are prevented from responding to changes in fundamentals. As the work suggests that variability is a more important factor than misalignment, Malaysia has made an appropriate choice in the trade-off between variability and misalignment by pegging the currency to the US dollar.

The above discussion lends support to the argument that a "right combination of the right things" is important for export-orientation. Basic capabilities, investment and some strategic interventions to resolve market failures are important. Successful export orientation and diversification does require a supportive structure of incentives especially as this study suggests, for appropriate and stable real exchange rates. But "beyond getting prices right", this paper provides support for the leading role of the state in addressing the problems of market imperfections such as that in education, investments and even financial markets. An exchange rate policy designed to produce undervalued currencies may not in itself contribute much to export and may in fact lead to other complications. The policy need to be formulated to embrace all the other important export variables.

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Table 1. Estimation of Equation 5 using dependent variable total export of goods and services (log X)

Dependent Variable LOG(X)	Equation 1		Equation 2		Equation 3	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
RERMIS	-0.0011	-0.933	-0.0015***	-1.424	-	-
LOG(ERER)	-0.6349*	-3.545	-0.6465*	-3.249	-0.5366*	-3.939
LOG(RERVAR)	-0.0125***	-1.588	-0.0219*	-2.751	-0.0088	-1.243
LOG(TOT)	0.1749	1.127	0.3829*	3.141	0.1447	0.971
LOG(MM)	0.2699*	4.022	-	-	0.2849*	4.036
ILLITERATE	-0.1893**	-2.661	-0.2141*	-2.898	-0.2045*	-3.317
OECD	1.20E-5	0.738	5.25E-05*	2.446	1.15E-05	0.736
IND__C	5.8538*	2.557	2.0868***	0.967	5.6893*	2.608
MAL__C	7.3029*	5.184	3.6533*	2.286	7.0147*	5.339
SINGA__C	7.0734*	5.031	4.2069*	2.761	6.7198*	5.318
THAI__C	6.4092*	5.100	3.2586*	2.339	6.1123*	5.3973
AR(1)	0.9534*	100.34	0.9662*	203.193	0.9544*	114.17
R ²	0.9994		0.9982		0.9995	
ADJUSTED R ²	0.9994		0.9981		0.9994	
NO. OF OBSERVATIONS	80		111		80	
SAMPLE PERIOD	1976-1998		1970-1998		1976-19998	
FIXED EFFECTS	200.1817*					

Table 2. Estimation of Equation 5 using dependent variable export of manufactured goods (log Xmanf)

Dependent Variable LOG(Xmanf)	Equation 1		Equation 2		Equation 3	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
RERMIS	-0.0041 *	-2.453	-0.0050*	-2.170	-	-
LOG(ERER)	-1.2439*	-4.672	-1.3955*	-4.338	-0.9774*	-3.654
LOG(RERVAR)	-0.0222*	-2.396	-0.0406*	-2.643	-0.0098	-1.138
LOG(TOT)	0.4632***	-1.613	0.0199	-0.072	-0.5477**	-2.089
LOG(MM)	0.5922*	8.812	-	-	0.6126*	8.240
ILLITERATE	-0.0376*	-1.665	-0.0696*	-	-0.0592*	-2.498
OECD				-2.167		
IND_C	2.9E-05***	2.954	6.6E-05**		1.40E-05	0.653
MAL_C	11.7719*	8.625	8.4350*	2.376	11.8293*	8.435
SINGA_C				5.306		
THAI_C	12.3073*	8.848	9.956*		12.238*	8.578
AR(1)	12.5010*	9.106	10.3020*	6.507	12.2399*	8.738
R ²				6.988		
ADJUSTED R ²	11.6662*	8.445	8.3747*		11.4172*	8.229
NO. OF OBSERVATIONS	0.7*	5.673	0.7433*	5.813	0.6752*	7.310
SAMPLE PERIOD	0.9995		0.9977	6.718	0.9994	
FIXED EFFECTS	0.9994		0.9973		0.9993	
	70		70		70	
	1980-1998		1980-1998		1980-1998	
	244.5770*					

Table 3. Estimation of Equation 5 using dependent variable export of electronic goods (log Xelectronics)

Dependent Variable LOG(Xelectronics)	Equation 1		Equation 2		Equation 3	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
RERMIS	-0.0012	-0.955	-0.0030***	-1.462	-	-
LOG(ERER)	-0.5798*	-2.830	-0.9695*	-3.710	-0.4827*	-2.854
LOG(RERVAR)	-0.0348*	-7.415	-0.0462*	-5.409	-0.0314*	-5.399
LOG(TOT)	-0.6429*	-2.744	-0.2218	-0.789	-0.6657*	-2.620
LOG(MM)	0.65721*	14.550	-	-	0.6712*	13.352
ILLITERATE	-0.0389**	2.819	-0.0735*	-3.298	-0.0409**	-2.268
OECD	3.8E-05*	3.092	7.6E-05*	4.046	3.7E-05*	2.745
IND_C	6.6235*	2.825	4.168***	1.482	6.4255*	2.803
MAL_C	9.0539*	6.660	8.0776*	4.504	9.0458*	7.082
SINGA_C	8.9944*	6.047	7.9154*	4.240	8.6935*	6.450
THAI_C	7.9624*	5.492	5.7533*	3.124	7.7104*	5.833
AR(1)	0.8174*	15.783	0.8383*	23.20	0.8237*	16.026
R ²	0.9985		0.9969		0.9985	
ADJUSTED R ²	0.9983		0.9964		0.9983	
NO. OF OBSERVATIONS	80		80		80	
SAMPLE PERIOD						
FIXED EFFECTS	1976-1998		1976-1998		1976-1998	
	249.232*					

Table 4. Estimation of Equation 5 using dependent variable export of textile (log Xtextile)

Dependent Variable LOG(Xtextile)	Equation 1		Equation 2		Equation 3	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
RERMIS	-0.0069*	-2.949	-0.0073*	-3.029	-	-
LOG(ERER)	-1.9119*	-4.715	-2.0137*	-5.760	-1.4106*	-2.610
LOG(RERVAR)	-0.0179	-1.134	-0.0176	-1.117	0.0131	0.920
LOG(TOT)	-0.6700**	-2.159	-0.4839**	-1.921	-0.7218**	-2.329
LOG(MM)	0.2403**	2.561	-	-	0.2949*	2.489
ILLITERATE	0.0674**	2.179	0.0544***	1.859	0.0809*	2.513
OECD	4.9E-05*	1.553	6.3E-05**	2.383	7.2E-05**	2.385
IND__C	10.3193*	4.233	9.0342*	4.400	7.9370*	2.908
MAL__C	10.2240*	4.454	9.4202*	4.826	7.4589*	2.727
SINGA__C	10.9996*	4.790	10.2905*	5.263	8.1263*	2.720
THAI__C	11.5070*	4.994	10.3265*	5.474	8.9174*	3.145
AR(1)	0.8153*	7.326	0.7969*	7.412	0.856*	7.645
R ²	0.9617		0.9570		0.9562	
ADJUSTED R ²	0.9556		0.9508		0.9498	
NO. OF OBSERVATIONS	80		80		80	
SAMPLE PERIOD						
FIXED EFFECTS	1976-1998		1976-1998		1976-1998	
	-2.2484***					

Table 5. Estimation of Equation 5 using dependent variable export of rubber (log Xrubber)

Dependent Variable LOG(Xrubber)	Equation 1		Equation 2		Equation 3	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
RERMIS	-0.0069*	-4.238	-0.0073*	-3.975	-	-
LOG(ERER)	-2.4463*	-4.669	-2.7685*	-6.000	-2.0723*	3.898
LOG(RERVAR)	-0.0534*	-4.828	-0.0588*	-4.326	-0.0331*	-2.713
LOG(TOT)	-0.6512**	-2.439	-0.5992**	-2.413	-0.8085*	-3.159
LOG(MM)	0.3596*	2.637	-	-	0.3875*	2.474
ILLITERATE	-0.0715***	-1.806	-0.0768**	-1.983	-0.0779***	-1.629
OECD	1.6E-05	0.575	3.8E-05	1.311	2.3E-05	0.745
IND__C	13.9257*	8.449	13.573*	7.315	13.0886*	8.053
MAL__C	15.8551*	8.331	16.1813*	8.261	14.7565*	7.949
SINGA__C	14.0025*	7.501	14.5351*	7.556	12.7995*	6.843
THAI__C	14.4579*	7.708	14.3956*	7.026	13.4323*	7.283
AR(1)	0.8226*	9.919	0.8190*	10.616	0.8352*	9.646
R ²	0.9777		0.97870		0.9749	
ADJUSTED R ²	0.9742		0.9749		0.9713	
NO. OF OBSERVATIONS	80		80		80	
SAMPLE PERIOD						
FIXED EFFECTS	1976-1998		1976-1998		1976-1998	
	-12.086*					

Table 6. Estimation of Equation 5 using dependent variable export of wood (log Xwood)

Dependent Variable LOG(Xwood)	Equation 1		Equation 2		Equation 3	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
RERMIS	-0.0061*	-6.870	-0.0068*	-6.500	-	-
LOG(ERER)	-0.9474*	-3.324	-0.6284*	-2.666	-0.5011**	-1.892
LOG(RERVAR)	-0.0562*	-4.706	-0.0643*	-4.631	-0.0176***	-1.454
LOG(TOT)	-0.7894*	-5.672	-0.6674*	-5.084	-0.9220*	-6.741
LOG(MM)	0.3268*	3.505	-	-	0.4054*	3.786
ILLITERATE	0.1108*	2.502	0.0864	1.631	0.0779***	1.721
OECD	-1.0E-05	0.388	2.9E-05	1.065	1.4E-05	0.497
IND_C	8.0903*	3.825	5.3434*	3.445	7.6087*	3.913
MAL_C	7.5019***	1.573	5.1141	1.072	6.5530***	1.320
SINGA_C	6.2004*	2.690	3.5296**	1.880	4.7636**	2.212
THAI_C	6.2789*	2.950	3.2010**	2.170	5.0637*	2.536
AR(1)	0.8773*	19.91	0.9004*	24.032	0.8924*	25.914
R ²	0.9770		0.9739		0.9722	
ADJUSTED R ²	0.9750		0.9701		0.9681	
NO. OF OBSERVATIONS	80		80		80	
SAMPLE PERIOD						
FIXED EFFECTS	1976-1998		1976-1998		1976-1998	
	116.564*					

Notes for all tables:

RERMIS: Real Exchange Rate Misalignment = $((\text{RER}-\text{ERER})/\text{ERER})*100$

ERER: Equilibrium Real Exchange Rate

RERVAR: Real Exchange Rate Variability

TOT: Terms of Trade measured in index

MM: Import of Machines

ILLITERATE: Illiteracy Rate -% of adults 15 years and above.

OECD: Average OECD countries GNP per capita (in constant 1995 USD)

IND_C, MAL_C, SINGA_C, THAI_C are cross section (country) constants

AR(1) : Autoregressive variable of lag one.

FIXED EFFECTS give F statistics of the test of the non-existence of a fixed effects

*, **, *** significant at 1%, 5%, and 10% levels respectively

Notes

Note 1. For a discussion of whether there has been active or passive exchange rate policy in the ASEAN countries see Montiel (1997).

Note 2. The trade and Production database is available at www.worldbank.org/research/trade

Note 3. The numbers in brackets are industries by ISIC classification.

Note 4. Bank Negara has classified wood and rubber industries as having high export and low import, electronics and textile as high export and medium import and transport industry as low export with high import. See Bank Negara Report 2000.



Dynamic Relationship between Stock Prices and Exchange Rates: Evidence from Three South Asian Countries

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Abstract

In this paper we have investigated the interactions between stock prices and exchange rates in three emerging countries of South Asia named as Bangladesh, India and Pakistan. We have considered average monthly nominal exchange rates of US dollar in terms of Bangladeshi Taka, Indian Rupee and Pakistani Rupee and monthly values of Dhaka Stock Exchange General Index, Bombay Stock Exchange Index and Karachi Stock Exchange All Share Price Index for period of January 2003 to June 2008 to conduct the study. Empirical result shows that exchange rates and stock prices data series are non stationary and integrated of order one. Then we have applied Johansen procedure to test for the possibility of a cointegrating relationship. Result shows that there is no cointegrating relationship between stock prices and exchange rates. Finally we applied Granger causality test to find out any causal relationship between stock prices and exchange rates. Outcome shows there is no way causal relationship between stock prices and exchange rates in the countries.

Keywords: Stock price, Exchange rate, Stationarity, Cointegration, Causality

1. Introduction

The liberalization of foreign capital controls and adoption of floating exchange rate regime in South Asian countries have widened the scope of studying the relationship between exchange rates and stock prices. Liberalization of foreign capital controls has opened the possibility of international investment and the adoption of floating exchange rate regime has increased the volatility of foreign exchange market. Thus detecting the association between stock prices and exchange rates has become crucial for the academicians, practitioners and policy makers.

There are different economic models regarding exchange rate determination. "Flow oriented" models introduce country's current account as important determinant of exchange rate. In this perspective, asset markets determine the exchange rate at a point in time, but the current account through its effect on net asset positions, and on asset markets, determine the path of the exchange rates over time (Dornbusch and Fischer, 1980). Thus movements in the stock prices may affect the exchange rates. On the other hand, models that concentrate on the capital account of the balance of payments are known as stock models. Stock models are divided into monetary models and asset (or portfolio) models. According to monetary model the exchange rate is seen as a relative asset price. The present value of an asset is thought to be largely influenced by its expected rate of return. Thus actual exchange rate has to be determined by expected future exchange rates (see Gavin, (1989)). Portfolio balance model states that if prices of domestic stock rise, it will persuade investors to buy more domestic assets by selling foreign assets to obtain domestic currency. Increase in demand of domestic currency will lead to appreciation of domestic currency. On the other side, if the prices of domestic asset rise that will result in growth of wealth, which will also increase the demand for money by the investors, That will give rise in domestic interest rates. More foreign capital will be attracted in this situation which will increase the foreign demand for domestic currency and ultimate result will be the appreciation of domestic currency. Thus according to portfolio balance model there is an inverse relationship between stock prices and exchange rates (for detail see, Frenkel (1976), Branson (1983), Macdonald and Taylor (1992)). So there is no theoretical harmony among the models regarding the interactions between stock prices and exchange rates.

The empirical debate regarding the interaction between stock prices and exchange rates has been started few decades ago. Since then a good number of empirical studies so far have been conducted to investigate the relationship between the variables. But the researchers have found contradictory results regarding the existence of relationship and the direction of relationship which has made the area disconcerted environs of finance literature. Some of the studies showed that there is a significant positive relationship between the variables, such as, Aggarwal (1981), Giovannini and Jorion (1987), and Roll (1992). But some of the studies counter this argument and showed a significant negative relationship between the variables, such as, Soenen and Hennigar (1988). Some other studies find that there is no significant relationship between the variables, such as, Franck and Young (1972), Solnik (1987), Chow et al. (1997), and Bhattacharya and Mukherjee (2003). Bahmani-Oskooee and Sohrabian (1992), Nieh and Lee (2001) found no long-run relationship between the variables. So there is no empirical harmony among the researchers regarding the interactions between stock prices and exchange rates which justify the need of more research in this area to contribute to the literature.

In a region like South Asia where the economies are still emerging and capital markets are still in a vulnerable condition, according to our knowledge a very few studies have been made so far to investigate the relationship between stock prices and exchange rates and found conflicting results which encourages us to conduct the study to detect the relationship between the variables.

The remainder of the paper is organized as follows. Section 2 provides literature review. Section 3 discusses the data, time frame considered right through the study and methodological issues. Section 4 provides empirical results and findings. A summary is given in section 5.

2. Literature Review

Existing literature relating to the association between stock prices and exchange rates shows diverse outlook. An early attempt to examine the exchange rate and stock price dynamics was by Franck and Young (1972) who showed that there is no significant interaction between the variables. Later, Aggarwal (1981) made a study to find the relationship between exchange rates of US dollar and changes in the indices of US stock prices and found a positive correlation. Giovannini and Jorion (1987) also considered the exchange rates and stock prices of USA and supported Aggarwal (1981). Soenen and Hennigar (1988) studied the same market but considered a different time period and contrast with prior studies by showing a significant negative relationship between stock prices and exchange rates.

Solnik (1987) made a slightly different study and tried to detect the impact of several economic variables including the exchange rates on stock prices. He concluded that changes in exchange rates do not have any significant impact over stock prices. Jorion (1990) did a similar study to show the relationship between stock returns of US multinational companies and the effective exchange rate of US dollar and found a moderate relationship between the variables.

Early studies relating to the issue used mainly statistical techniques such as regression and correlation to find out the relationship between stock prices and exchange rates. Since early nineties researchers started to use sophisticated econometric tools to find out the relationship between the variables and showed assorted results.

Bahmani-Oskooee and Sohrabian (1992) used monthly values of S&P 500 index and US dollar effective exchange rate for the period of 1973-88 and used cointegration and Granger causality test to detect the relationship between the variables. They found bidirectional causality in the short run. They found no long-run relationship between the variables. Nieh and Lee (2001) supported the findings of Bahmani-Oskooee and Sohrabian (1992) and reported no long-run significant relationship between stock prices and exchange rates in the G-7 countries. Roll (1992) also studied the US stock prices and exchange rates and found a positive relationship between the two markets. On the other hand, Chow et al. (1997) examined the same markets but found no relationship between stock returns and real exchange rate returns. They repeated the exercise with a longer time horizons and found a positive relationship between the two variables.

Ajayi and Mougoue (1996) showed a negative short-run and positive long-run impact of stock prices on domestic currency value. Yu (1997) studied Hong Kong, Tokyo and Singapore markets by using daily data for a period of 1983-94. They traced bidirectional relationship in Tokyo, no causation in the Singapore markets and also found that changes in exchange rates Granger cause changes in stock prices. Abdalla and Murinde (1997) employed co-integration test to examine the relationship between stock prices and exchange rates for four Asian countries named as India, Pakistan, South Korea and Philippines for a period of 1985 to 1994. They detected unidirectional causality from exchange rates to stock prices for India, South Korea and Pakistan and found causality runs from the opposite direction for Philippines. Ajayi *et al.* (1998) studied markets of some advanced economies such as USA and Korea and emerging economies such as Malaysia. They found out that there is a unidirectional causality from the stock prices to foreign exchange markets in case of USA and Korea and no relationship between the variables in case of Malaysia.

Mansor (2000) investigated Malaysian markets and found no long-run relationship between stock prices and exchange rates, but he found a short-run causal relationship from stock prices to exchange rates in bivariate cases. He also found a bi-directional causality in some multivariate models. Wu (2000) did a similar study using stock prices and exchange

rates of Singapore and portrayed a unidirectional causality from exchange rates to stock prices. In a comprehensive study Granger, Huang and Yang (2000) studied East Asian countries using recent Asian flu data. They concluded that in the Philippines change in stock prices lead to change in exchange rates and they found a opposite relation in case of South Korea. In a similar other study Moradoglu, Taskin and Bigen (2001) tried to find out the relation between stock returns and some macroeconomic variables and concluded that there is a one way causal relationship from exchange rates to stock returns in Nigeria, Mexico, Korea, Greece, Colombia and Brazil where as a both way causal relationship between the variables in case of Mexico.

In a recent study Bhattacharya and Mukherjee (2003) investigated Indian markets using the data on stock prices and macroeconomic aggregates in the foreign sector including exchange rate concluded that there in no significant relationship between stock prices and exchange rates. In another study, Muhammad and Rasheed (2003) examined the relationship between stock prices and exchange rates of four South Asian countries named as Bangladesh, India, Pakistan and Sri-lanka and found that there is no significant relationship between the variables either in short-run or long-run in Pakistan and India. But they found a bidirectional relationship in case of Bangladesh and Sri-lanka.

3. Data and Methodology

Data used in this study include monthly average nominal exchange rates of US dollar in terms of Bangladeshi Taka (BD_{ER}), nominal exchange rates of US dollar in terms of Indian Rupee (IN_{ER}), nominal exchange rates of US dollar in terms of Pakistani Rupee (PK_{ER}) and monthly closing values of Dhaka Stock Exchange General Index (BD_{SP}), monthly closing values of Bombay Stock Exchange index (IN_{SP}) and monthly closing values of Karachi Stock Exchange All Share Price Index (SP_{SP}) for a period of January 2003 to June 2008. Then we transform all the data series into natural log form.

The data series we use in this study are time series data. Empirical work based on time series data assumes that the underlying time series is stationary (Gujarati, 2003). But many studies have shown that majority of time series variables are non stationary or integrated of order 1 (Engle and Granger, 1987). Using non stationary time series in a regression analysis may result in spurious regression which was firstly pointed out by Granger and Newbold (1974). Thus before analyzing time series data in an empirical study we should make stationarity test which is commonly done by unit root test. There are a variety of unit root tests used in econometric literature principally Augmented Dickey-Fuller (ADF) test and Phillip-Perron (PP) test. In this study we use both unit root test to investigate whether the time series data used in this study are stationary or not.

Augmented Dickey-Fuller (1979) test is obtained by the following regression

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \alpha_i \sum_{i=1}^m \Delta Y_{t-i} + \varepsilon_t \quad (1)$$

where Δ is the difference operator, β , δ and α are the coefficients to be estimated, Y is the variable whose time series properties are examined and ε is the white-noise error term.

Phillips and Perron (1988) test suggests a non parametric method of controlling for higher order autocorrelation in a series and is based on the following first order auto-regressive AR(1) process:

$$\Delta Y_t = \alpha + \beta Y_{t-1} + \varepsilon_t \quad (2)$$

where Δ is the difference operator, α is the constant, β is the slope and Y_{t-1} is the first lag of the variable Y .

If the seires used in the study found out to be integrated of the same order, it is useful to test for cointegrating relationship between the integrated variables. For this purpose we employ the Johansen procedure (Johansen, 1988; Johansen and Juselius, 1990) to test for the possibility of a cointegrating relationship.

The Johansen method applies maximum likelihood procedure to determine the presence of cointegrating vectors in non-stationary time series as a vector autoregressive (VAR):

$$\Delta Y_t = C + \sum_{i=1}^K \Gamma_i \Delta Y_{t-i} + \Pi Y_{t-1} + \eta_t \quad (3)$$

where Y_t is a vector of non-stationary variables and C is the constant term. The information on the coefficient matrix between the levels of the Π is decomposed as $\Pi = \alpha\beta$ where the relevant elements the α matrix are adjustment

coefficient and the β matrix contains cointegrating vectors. Johansen and Juselius (1990) specify two likelihood ratio test statistics to test for the number of cointegrating vectors. The first likelihood ratio statistics for the null hypothesis of exactly r cointegrating vectors against the alternative $r+1$ vectors is the maximum eigenvalue statistic. The second statistic for the hypothesis of at most r cointegrating vectors against the alternative is the *trace statistic*. Critical values for both test statistics are tabulated in Johansen and Juselius (1990).

In the absence of any cointegrating relationship between the variables, the standard Granger causality test base on Granger (1988) method will be applied. The Granger method (Granger, 1988) seeks to determine how much of a variable, Y , can be explained by past values of Y and whether adding lagged values of another variable, X , can improve the explanation. The Granger method involves the estimation of the following equations:

$$\Delta SP_t = \beta_0 + \sum_{i=1}^q \beta_{1i} \Delta SP_{t-i} + \sum_{i=1}^q \beta_{2i} \Delta ER_{t-i} + \varepsilon_{1t} \quad (4)$$

$$\Delta ER_t = \varphi_0 + \sum_{i=1}^r \varphi_{1i} \Delta ER_{t-i} + \sum_{i=1}^r \varphi_{2i} \Delta SP_{t-i} + \varepsilon_{2t} \quad (5)$$

in which SP_t and ER_t represent stock prices and exchange rates. ε_{1t} and ε_{2t} are uncorrelated stationary random process, and t denotes the time period. Failing to reject $H_0: \beta_{21} = \beta_{22} = \dots = \beta_{2q} = 0$ implies that exchange rates do not Granger cause stock prices. On the other hand, failing to reject $H_0: \varphi_{11} = \varphi_{12} = \dots = \varphi_{1r} = 0$ implies that stock prices do not Granger cause exchange rates.

If cointegration exists between SP and ER , the VECM is required in testing Granger causality as shown below:

$$\Delta SP_t = \beta_0 + \sum_{i=1}^q \beta_{1i} \Delta SP_{t-i} + \sum_{i=1}^q \beta_{2i} \Delta ER_{t-i} + \alpha_1 Z_{t-1} + \varepsilon_{1t} \quad (6)$$

$$\Delta ER_t = \varphi_0 + \sum_{i=1}^r \varphi_{1i} \Delta ER_{t-i} + \sum_{i=1}^r \varphi_{2i} \Delta SP_{t-i} + \lambda_1 Z_{t-1} + \varepsilon_{2t} \quad (7)$$

where Z_{t-1} is the error correction term obtained from the cointegrating equation (3), so that changes in the variables SP_t and ER_t are partly driven by the past values of Z_t . The first difference operator is marked by Δ . The error correction coefficients, α_1 and λ_1 , are expected to capture the adjustments of SP_t and ER_t towards long-run equilibrium, whereas the coefficients on SP_{t-i} and ER_{t-i} are expected to capture the short-run dynamics of the model. Thus, in using equations (6) and (7) to test for the Granger-causal relationship between SP_t and ER_t , we included the error-correction terms in order to introduce additional channels through which causality could emerge and equilibrium could be re-established. Failing to reject $H_0: \beta_{21} = \beta_{22} = \dots = \beta_{2q} = 0$ and $\alpha_1 = 0$ implies that exchange rates do not Granger cause stock prices while failing to reject $H_0: \varphi_{11} = \varphi_{12} = \dots = \varphi_{1r} = 0$ and $\lambda_1 = 0$ indicates stock prices do not Granger cause exchange rates.

4. Empirical Results

At first, we tested for the presence of unit roots and order of integration in all the exchange rates and stock market index in the level and in the first difference. We used ADF test and PP test with constant and constant and linear trend as suggested by Eangle and Granger (1987). The lag length and bandwidth in the unit root tests were allowed to vary across the exchange rates and stock index to correct any serial correlation in the residuals. The results of the tests are given in table – 1. Considering the results, it is clearly evident that null hypothesis of a unit root in the level is accepted in all cases as test statistics are lower than the critical values. So, we can say that exchange rates and stock prices are non-stationary data series and integrated of order one, $I(1)$. Results also indicate that null hypothesis of a unit root is rejected in all cases when the data series are first differenced. So the first difference of the data series of the variables is stationary. After determining stationarity of the data series and order of integration, we progress to cointegration test to find the presence of any cointegrating relationship between stock prices and exchange rates. The results of cointegration test are given in table-2. Results clearly reveal that both trace test and maximum eigenvalue test accept the null hypothesis of no cointegration in all the cases. Thus there is no long-term co-movement between stock prices and exchange rates and none of the variables is predictable on the basis of past values of other variable.

In the absence of any co-integrating relationship between the variables we move to standard Granger causality test to find out any causal relationship between stock prices and exchange rates. To find out the causal relationship between the variables which are non-stationary, the data series should be transformed into stationary (Oxley and Greasley, 1998). Because it has been confirmed that Granger causality test is well specified if they are applied in a standard vector autoregressive form to differenced data for non-cointegrated variables (MacDonald and Kearney, 1987; Miller and Russek, 1990; Lyons and Murinde 1994). Otherwise the inference from the F-statistics might be spurious because the test statistics will have nonstandard distributions. So we have transformed the level data series into the first difference data series and used them for causality test. The results show that there is no way causal relationship between stock prices and exchange rates. So we can say that stock prices do not influence exchange rates and past values of stock prices can not be used to improve the forecast of future exchange rates.

5. Conclusion

In this paper we have explored the association between two important component of an economy named as stock prices and exchange rates. First of all, we applied unit root test to find the stationarity of data series. The results show that all the data series of the variables are non stationary and integrated of order one. Then we applied Johansen procedure to test for the possibility of a cointegrating relationship. Result shows that there is no cointegrating relationship between stock prices and exchange rates. That means there is no long-term co-movement between the variables and none of the variables is predictable on the basis of past values of other variable. In the absence of any co-integrating relationship between the variables we move to standard Granger causality test to find out any causal relationship between stock prices and exchange rates. Results shows that stock prices does not Granger cause exchange rates and exchange rates does not Granger cause stock prices, so there is no way causal relationship between stock prices and exchange rates.

There is a common belief among the investors that there is an association between exchange rates and stock prices and they are predictable on the basis of the values of other variables. But our result of no cointegration counters this belief and states that the variables are not predictable on the basis of the past values of other variables. The result of non-stationarity of the data series reveals that there is no chance of profitable speculation in the stock market or foreign exchange market. As there is no way causal relationship between stock prices and exchange rates, market participants can not use information of one market to improve the forecast of other market.

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Table 1. Unit root test results

Variables	ADF			PP		
	Level		First Difference		Level	
	Constant	Constant & Linear trend	Constant	Constant & Linear trend	Constant	Constant & Linear trend
	Test Statistics					
BD_{ER}	-1.55289	-0.881478	-7.90467*	-8.037783*	1.552888	-0.0881478
BD_{SP}	-0.99841	-1.442939	-6.88695*	-6.853409*	-1.07793	-1.710894
IN_{ER}	-1.93154	-2.274069	-5.15931*	-5.172079*	-1.74561	-1.983285
IN_{SP}	-2.30473	-1.629852	-7.03695*	-7.373607*	2.304726	1.720471
PK_{ER}	-2.22514	-1.951736	-7.45895*	-7.154865*	-2.41447	-0.223346
PK_{SP}	-2.278715	-1.949943	-6.89027*	-7.295443*	-2.63945	-1.864992
	Critical Values					
1 percent	-3.53659	-4.107947	-3.53659	-4.107947	-3.53487	-4.105534
5 percent	-2.90766	-3.481595	-2.90766	-3.481595	-2.90692	-3.480463
10 percent	-2.5914	-3.168695	-2.5914	-3.168695	-2.59101	-3.168039

Notes:

1. Using critical values by Mackinnon, 1996.
2. Maximum lag length chosen using Schwarz Information Criterion (SIC)
3. * indicates stationarity at 1% level, ** indicates stationarity at 5% level, *** indicates stationarity at 10% level
4. Selection of bandwidth in case of PP unit root test according to Newey-West, 1994

Table 2. Co-integration test results

Null hypothesis	Alternate hypothesis	Variables	Trace	5% Critical Values	Prob.	Max-Eigen Statistic	5% Critical Values	Prob.
$r = 0$	$r = 1$	BD_{ER}/BD_{SP}	13.63272	25.87211	0.6878	7.176378	19.38704	0.8884
$r \leq 1$	$r = 2$		6.456342	12.51798	0.4046	6.456342	12.51798	0.4046
$r = 0$	$r = 1$	IN_{ER}/IN_{SP}	13.23201	25.87211	0.7199	8.9674	19.38704	0.7278
$r \leq 1$	$r = 2$		4.264071	12.51798	0.7036	4.264071	12.51798	0.7036
$r = 0$	$r = 1$	PK_{ER}/PK_{SP}	15.74962	25.87211	0.5128	11.55947	19.38704	0.4572
$r \leq 1$	$r = 2$		4.19015	12.51798	0.7145	4.19015	12.51798	0.7145

Notes:

1. Critical values based on MacKinnon-Haug-Michelis (1999)
2. Considered lag length 2 according to LR (likelihood ratio) test

Table 3. Granger causality test results

Null Hypothesis	F-Statistic	Probability
BD_{SP} does not Granger Cause BD_{ER}	2.2054	0.12004
BD_{ER} does not Granger Cause BD_{SP}	0.94258	0.39594
IN_{SP} does not Granger Cause IN_{ER}	0.81079	0.4494
IN_{ER} does not Granger Cause IN_{SP}	0.96028	0.38869
PK_{SP} does not Granger Cause PK_{ER}	0.09294	0.91138
PK_{ER} does not Granger Cause PK_{SP}	1.17355	0.31638

Notes:

- 1.* indicates significant causal relationship at 5%
2. Appropriate lag length was determined by Akaike information criterion



Empirical Analysis on Perceived Risk of Enterprise's Logistics Supervisor for Outsourcing Logistic Business

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Abstract

According to the conceptual model established and assumptions put forward based on literature review as well as data collected through questionnaire survey, data reliability analysis, metric model confirmatory factor analysis and structural equation model analysis made by statistical software, it shows that enterprise's Logistics Supervisor has a definite risk perception for outsourcing logistic business.

Keywords: Enterprise's Logistics Supervisor Outsourcing Logistic Business, Risk Perception SEM

1. Introduction

The third party logistics service is a typical business outsourcing activity, where logistics services are provided for the supplier or the buyer partially or completely by a logistics enterprise other than the supplier and the buyer within a specified term in the form of contract. When an enterprise outsources the logistic business to the third party logistics service provider, on the one hand, operating risk can be reduced. On the other hand, various new potential risks may occur. Liu Lianhui(2006) thought that foreign enterprises attach great importance to outsourcing logistic business. One important reason of which American and Japanese enterprises are cautious in making decision for logistics outsourcing is various potential risks there. Therefore, discussion of risk issues also has great significance for development of the third party logistics market in our country.

2. Literature review

2.1 *The risk of outsourcing Logistic Business*

Foreign scholars generally believe that risks existing in business outsourcing include contract cost increase caused by disputes at law, proceedings and difficulty in contract negotiation, hidden cost increase such as service and management cost increase, etc. service quality decline, losing expertise and innovation ability and weakening the organizational competence (XuShu, 2003). Cui Nanfang et al (2006) classified the business outsourcing into decision-making and execution phases, and they believe that risks existing in outsourcing decision-making phase include limited rationality, contractor's opportunism, outsourcing transaction "locking", etc., and those existing in execution phase mainly concern moral risk, coordination issues, potential after-cost, etc.. Based on these, Peng Yulan (2004) believed that during the course of using the third party logistics by an enterprise, risks may result from loss of control rights, cooperation risk, etc.. Zeng Xiangyun (2004) believed that due to various reasons, such as exclusive supplier, principal-agent, enterprise cultural difference, IT technology limitation, information transfer, economic fluctuation, cooperative management, etc., risks may exist that both parties do not reach a common understanding, the supplier does not meet his commitments, there is a contradictory emotion inside the enterprise, it is difficult to satisfy the end customers' needs, termination clauses are lacking for profit loss, etc.. Li Songqing(2005) believed that, an enterprise that uses the third party logistics faces the risks of partial or complete loss of control rights, customer relation management, enterprise strategy disclosure, associate operation, opportunism, etc.. Wei Zhong et al.(2005) believed that risks existing in logistics outsourcing include management risk, information risk, financial risk and market risk.

2.2 *Customer perceived risk*

Bauer(1960) believes that customers' behaviors may result in unpredictable consequence, some of which are displeasing. That is to say, various risks are hidden in customers' behaviors. In recent years, risk perception theory has been widely used for empirical study in the field of customers' behaviors by foreign scholars. Jacoby and Kaplan(1972)found that

there were six kinds of risks including financial risk, performance risk, bodily risk, psychological risk, social risk and time-loss risk. Stone and Gronhaug (1993) have validated the existence of six risk dimensions. Lim(2003) has summarized the previous study on risk perception, and classified the risks into nine aspects. The nine kinds of risks respectively are perceived financial risk, perceived performance risk, perceived social risk, perceived physical risk, perceived psychological risk, perceived time-loss risk, perceived personal risk, perceived privacy risk and perceived source risk.

3. Conception model and research hypothesis

According to the study of foreign scholars and combining the characteristics of logistic business outsourcing, we believe that the enterprise's Logistics Supervisor may have some risk perception for risks existing in outsourcing logistic business to a logistics company, and have some concern about that whether logistics services can really satisfy the enterprise's requirements or not. In this article, we mainly study perceived control right risk, perceived performance risk, perceived financial risk and perceived social psychological risk, of which perceived control right risk mainly reflects his concern about logistics activities being out of his own control; perceived performance risk mainly reflects his concern about the logistics function and performance losses that may be brought to his enterprise arising from quality problems of the logistics services provided by logistics company; perceived financial risk reflects his concern about the financial and economic losses that may be brought to his enterprise by logistics company; perceived social psychological risk reflects his concern about his social psychological stress arising from various losses that may be brought by logistics company.

In fact, when an enterprise outsources partial or complete logistics function to a logistics company, it means that the enterprise cannot directly control its partial or complete logistics function, and therefore cannot control logistics services as well as service quality and level therefrom. Meanwhile, when an enterprise gives up the application and development of its logistics technologies, it may become a logistics company-dependent enterprise to a certain extent, which increases the uncertainty of production and service of the enterprise. From the point of view of the enterprise itself, when logistics is outsourced, it is difficult to guarantee the supply accuracy, punctuality and safety so that the end customer service quality can not be ensured. In addition, third party logistics service in fact is series of principal-agent relationship based on credit system, which causes the risks such as the lower stability of the third party logistics service provider, logistics service quality decline, failure to meet the previous commitments, etc..

Therefore, it is the performance risk and financial risk of the enterprise arising from its outsourcing logistic business to logistics company that bring social psychological stress to the enterprise's Logistics Supervisor. Based on these, we propose following research hypothesis:

H1: There is a positive relationships between enterprise's logistics supervisor's Perceived control right risk and perceived performance risk.

H2: There is a positive relationships between enterprise's logistics supervisor's Perceived control right risk and perceived financial risk.

H3: There is a positive relationships between enterprise's logistics supervisor's Perceived control right risk and perceived social psychological risk.

H4: There is a positive relationships between enterprise's logistics supervisor's perceived performance risk and perceived social psychological risk.

H5: There is a positive relationships between perceived financial risk and perceived social psychological risk.

Moreover, Sanjeev Agarwal and Kenneth Teas (2001) believed that there is a positive relationships between customer perceived performance risk and perceived financial risk. So, we believe that enterprise's logistics supervisor's perceived performance risk aggravate his perceived financial risk. Therefore, we propose the last hypothesis of this article.

H6: There is a positive relationships between enterprise's logistics supervisor's perceived performance risk and perceived financial risk.

The conception model of this article being presented in following section.(see Figure 1)

Insert Figure 1 Here

4. Questionnaires and data collection

After in-depth literature study, we interviewed some experts. Based on this, we designed the first draft of the questionnaire, and finalized it after investigation. For perceived performance risk and perceived financial risk measurements, we mainly refer to Sweeney et al (1999); For perceived social psychological risk measurement, we mainly refer to Stone and Gronhaug (1993); For perceived control right risk, we put forward four measurement items through interview on the basis of relevant literature study (see: Appendix:I). We use seven point scales in this article.

By adopting convenience samples, we made a questionnaire survey for small and medium business and trade enterprises

and manufacturing ones in Chengdu and Chongqing. Total 750 questionnaires were issued, and 205 effective questionnaires were obtained. The effective rate is 27.33%.

5. Data Analysis

5.1 Descriptive statistics

We calculated the Mean and Standard deviation of all Variables using SPSS11.5, the result as following (see Table 1):

Insert Table 1 Here

5.2 Analysis of scale reliability

We worked out the internal consistency coefficient of the evaluating indicator using SPSS software. The calculation results are shown in Table 2. α value is greater than 0.7, which indicates that data reliability is relatively high.

Insert Table 2 Here

5.3 Measurement model confirmation factor analyze

We at first converted data into covariance matrix using PRELIS program of LISREL statistical software, and then conducted confirmatory factor analysis on each latent variable using LISREL program. Fitting degree indicators reached the satisfactory level on the whole, of which, chi-square value = 295.70, $df = 99, \chi^2/df < 5$, RMSEA = 0.099, SRMR = 0.055, NFI = 0.94, NNFI = 0.95, CFI = 0.96, IFI = 0.96, RFI = 0.93. Factor loadings of all indicators on respective measurement concept (latent variable) are relatively significant. All t values are much greater than the critical value 1.96. Standardized estimated value is all situate between 0.5-0.95. No major measurement error occurred (see table 3). Therefore, convergance valid of these data is relatively high.

Insert Table 3 Here

5.4 Structure equation model analysis

To test the relationships among four kinds of perceived risk, we use LISREL8.54 to analysis the Structure equation model of this article. Though the RMSEA beyond 0.08, $\chi^2 / df < 5$, NFI, NNFI, CFI, IFI and RFI are all above 0.90, this indicates that Model fitness is good. Through empirical analysis, we found that the relationships among four kinds of perceived risk we had proposed being proven to be true. Perceived control right risk has positive influence on perceived performance risk, perceived financial risk and perceived social psychological risk, these coefficients are 0.55, 0.49 and 0.25, the result supports H1, H2 and H3; Perceived performance risk has positive influence on perceived financial risk and perceived social psychological risk, these coefficients are 0.31 and 0.29, the result supports H4 and H5; Perceived financial risk has weakly influence on perceived social psychological risk, this coefficient is 0.07, the result don't support H6. (See Table 4)

Insert Table 4 Here

6. Discussion and Conclusion

6.1 Discussion

Through empirical analysis, this paper demonstrates that the enterprise's Logistics Supervisor has relatively definite risk perception for outsourcing logistic business. From their point of view, when an enterprise partially or completely outsources its logistics business to a logistics company, the logistics services provided by the logistics company may fail to reach the standard specified in logistics outsourcing contract, which makes the logistics activity effect of the enterprise fail to meet the expected objective and brings performance loss and economic loss to the enterprise. Accordingly, perceived control right risk, perceived performance risk, perceived financial risk and perceived social psychological risk become the focus.

Furthermore, the internal relation and influence exists among the four kinds of risk perception. Perceived control right risk has positive influence on perceived performance risk, perceived financial risk and perceived social psychological risk. Perceived performance risk is a important consequent risk, the more the perceived performance risk, the more perceived financial risk and perceived social psychological risk. Risks that may cause economic loss have rather weak influence on social psychological risk perception of the enterprise's Logistics Supervisor, which perhaps attributes to their confidence in compensation for economic loss explicitly stipulated in the logistics outsourcing contract signed with the logistics company.

Therefore, outsourcing risk issues are very important to an enterprise's Logistics Supervisor. After logistics outsourcing, when an enterprise is able to know the basic information about the details of logistics operation through certain mechanism and means, and further can regulate and control the logistics activities and make them satisfy its requirements, the concern of the enterprise's Logistics Supervisor about various risks arising from outsourcing logistic business may be greatly abated.

Information communication frequency and quality between enterprises plays an important role in mutual understanding

about each other's objective and taking concerted actions. Lack of, or inadequate exchange and communication makes it difficult for both parties to understand what benefits the other party expects to obtain from the cooperation and what objective the other party expects to meet. Trust mechanism should be established between the logistics company and the enterprise to strengthen the enterprise's confidence in logistics company, make the enterprise believe that the logistics company will faithfully perform the logistics service clauses stipulated in the contract, be able and try to solve the logistics problems of the enterprise, be willing to help the enterprise to realize its objective, and at the same time strengthen the communication with the enterprise and realize share of various information, including strategic factors such as the enterprise's task, business target, logistics task and logistics target, etc.. Effective communication and trust may reduce people's risk perception to a certain extent, and give a feeling to the enterprise's Logistics Supervisor that the logistics is still under control so that he is willing to accept the third party logistics services.

6.2 Contribution

Risk issue is one of the important factors that impede the growth of logistics service market. However, at present scholars neither have discussed logistics service risk from the point of view of customers, nor have made empirical study on risk issues caused by third party logistics from the point of view of customers' perception through questionnaire survey. This paper uses the customers' risk perception theory for empirical analysis on logistics customers' risk perception for the first time.

Secondly, in the field of customers' behavior theory study, scholars always regard the financial risk perception, performance risk perception and social psychological risk perception as the internal structure of risk perception. Only a few scholars such as Sanjeev Agarwal and Kenneth Teas (2001) has put forward and validated the viewpoint that customers' performance risk perception has direct and positive influence on customers' financial risk perception. At present scholars made no empirical study on internal relationship and influence among these three kinds of risk perception. In this article, we propose the relationships of perceived control right risk, perceived performance risk, perceived financial risk and perceived social psychological risk, and all the six research hypothesis being proven to be true through empirical analysis.

6.3 Insufficiency of our Research

This study has made a methodological innovation in the field of logistics customers' behavior study, whereas there are following two limitations in theoretical and empirical aspects: (1) Samples used in this study come from Chengdu and Chongqing, and are convenience samples. Whether it is applicable to other regions needs further discussion. (2) There still is no unified definition for customers' risk perception dimensions. Some scholars summarize them into nine aspects. This study has only discussed four of them. Other aspects are not discussed in this paper.

6.4 Recommendations for Future Research

The future study may be conducted from the following three aspects: ① Continue to study other aspects of the customers' risk perception, and investigate their relationship. ② Carry out questionnaire survey in a wider range and expand to other industries in order to test the general practicability and generalization value of this study result. ③ Risk perception of middle-aged and young Logistics Supervisors may vary from those in other ages. Make a comparative analysis on the survey results between the middle-aged and young Logistics Supervisors and those in other ages to further discover their risk perception for logistics outsourcing.

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Appendix: I Questionnaires

- Q1: This TPL supplier does not serve well affecting our customer's benefit .
- Q2: This TPL supplier does not serve well damaging our company's reputation.
- Q3: This TPL supplier does not serve well affecting my prospects.
- Q4: This TPL supplier does not serve well affecting my prestige.
- Q5: This TPL supplier's service will increase our logistics cost.
- Q6: This TPL supplier's service will bring economic losses to our company.
- Q7: This TPL supplier's service will increase our monitor cost.
- Q8: This TPL supplier's service will increase our customer service cost.
- Q9: This TPL supplier does not offer high quality service.
- Q10: This TPL supplier does not run well.
- Q11: This TPL supplier does not offer consistent service.
- Q12: Error will happen in the service process.
- Q13: This TPL supplier will adopt opportunism behavior.
- Q14: This TPL supplier will control our logistics business.
- Q15: This TPL supplier will take advantage of our company's weaknesses.
- Q16: This TPL supplier will break promise.

Table1. Mean and Standard deviation of Variables

Variable	Indicator	Mean	Standard deviation
η_1	Q13	5.1756	1.1107
	Q14	4.9220	1.1520
	Q15	4.4293	1.2838
	Q16	4.1598	1.2123
η_2	Q9	4.2122	1.1484
	Q10	4.0511	1.1349
	Q11	4.0880	1.1199
	Q12	4.2223	1.2949
η_3	Q5	4.5902	1.4100
	Q6	4.3822	1.3651
	Q7	4.5862	1.4030
	Q8	4.5573	1.3975
η_4	Q1	4.2488	1.4182
	Q2	4.6829	1.3939
	Q3	3.7054	1.6275
	Q4	3.6990	1.4896

Table 2. Cronbach α Value

Variable	Indicator	Cronbach α
η_4	Q1-Q4	0.8683
η_3	Q5-Q8	0.8811
η_2	Q9-Q12	0.8872
η_1	Q13-Q16	0.8745
Total Cronbach α : 0.9140		

Table 3. factor loadings of all indicators on respective latent variable

Relationships	Coefficient	Standardized value	estimated	t	Measuring error
$\eta_1 \rightarrow Q13$	$\lambda(X)_{13,1}$	0.79		----	0.38
$\eta_1 \rightarrow Q14$	$\lambda(X)_{14,1}$	0.87		13.47	0.25
$\eta_1 \rightarrow Q15$	$\lambda(X)_{15,1}$	0.85		13.23	0.27
$\eta_1 \rightarrow Q16$	$\lambda(X)_{16,1}$	0.80		12.25	0.36
$\eta_2 \rightarrow Q9$	$\lambda(Y)_{9,2}$	0.81		----	0.35
$\eta_2 \rightarrow Q10$	$\lambda(Y)_{10,2}$	0.89		12.69	0.22
$\eta_2 \rightarrow Q11$	$\lambda(Y)_{11,2}$	0.89		14.85	0.21
$\eta_2 \rightarrow Q12$	$\lambda(Y)_{12,2}$	0.79		12.69	0.37
$\eta_3 \rightarrow Q5$	$\lambda(Y)_{13,3}$	0.87		----	0.24
$\eta_3 \rightarrow Q6$	$\lambda(Y)_{6,3}$	0.94		19.61	0.12
$\eta_3 \rightarrow Q7$	$\lambda(Y)_{7,3}$	0.90		18.22	0.19
$\eta_3 \rightarrow Q8$	$\lambda(Y)_{8,3}$	0.62		10.04	0.61
$\eta_4 \rightarrow Q1$	$\lambda(Y)_{1,4}$	0.76		----	0.42
$\eta_4 \rightarrow Q2$	$\lambda(Y)_{2,4}$	0.77		11.38	0.41
$\eta_4 \rightarrow Q3$	$\lambda(Y)_{3,4}$	0.91		13.17	0.18
$\eta_4 \rightarrow Q4$	$\lambda(Y)_{4,4}$	0.80		11.69	0.36

Table 4.

Relationships	Coefficient	Standardized estimated value	t
$\eta_1 \rightarrow \eta_2$	$\beta_{2,1}$	0.55	7.29
$\eta_1 \rightarrow \eta_3$	$\beta_{3,1}$	0.49	6.50
$\eta_1 \rightarrow \eta_4$	$\beta_{4,1}$	0.25	2.48
$\eta_2 \rightarrow \eta_3$	$\beta_{3,2}$	0.31	4.28
$\eta_2 \rightarrow \eta_4$	$\beta_{4,2}$	0.29	3.13
$\eta_3 \rightarrow \eta_4$	$\beta_{4,3}$	0.07	0.58
Model fit index	$\chi^2 = 296.02; df = 98; \chi^2/df < 5$; RMSEA = 0.100; SRMR = 0.055; NFI = 0.94; NNFI = 0.95; IFI = 0.96; RFI = 0.93; CFI = 0.96.		

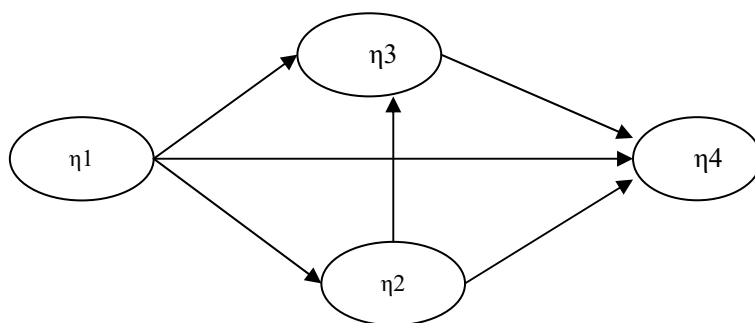


Figure 1. conception model

η_1 : Perceived control right risk; η_2 : perceived performance risk; η_3 : perceived financial risk; η_4 : perceived social psychological risk.



PPKM: Preserving Privacy in Knowledge Management

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Abstract

This paper discusses the techniques that support the extraction, sharing, and utilization of knowledge for collaborative problem solving applications. A system framework is proposed for secure knowledge management, called PPKM, which in addition to provide standard security mechanisms such as access control, will possess crucial feature, namely privacy-preservation, where privacy-preservation means that the knowledge extraction process should not compromise the privacy of the source data. This framework is explained by elaborating on its components and their relationship to existing techniques such as database, data perturbation, rule hiding, data mining, and machine learning.

Keywords: Privacy, Knowledge management system, Data mining, Data perturbation

1. Introduction

The advancement in networking, storage, and processor technologies has brought in an unprecedented amount of digitalized information. In order to effectively utilize collected data in applications, organizations routinely use Database Management Systems (DBMSs) to store, manage, and use the collected data. While it is well-accepted that data has become vital assets of organizations, what many decision-making applications really need is the knowledge hidden in the raw data. For this reason, knowledge-extraction technologies such as data mining and machine learning have been developed in recent years to make it feasible to "refine" large volumes of raw data into succinct knowledge that can be directly utilized in decision-making applications. However, most current data mining based applications are designed to solve problems for the owners of the data, that is, the data mining is performed on the data of an organization to solve business problems of the same organization. Although still very popular, such use of data mining is limited and needs to be extended.

As the Internet quickly evolves into a global computational infrastructure, it provides a platform for new applications that allow autonomous organizations to collaboratively solve problems using data mining. Knowledge extracted from the data is often more abstract and less bulky than the raw data, the sharing of extracted knowledge may be much easier and more beneficial than sharing of data in many problem solving scenarios. One desirable feature of this "knowledge-sharing" paradigm is the distinction between the knowledge extraction process in which data mining algorithms are applied to discover the hidden knowledge in data, and the knowledge-dissemination process in which the discovered knowledge is utilized in applications to solve problems.

There is a need for a flexible *framework* for Knowledge Management Systems (KMSs) that provide the basic and common functionalities required to effectively coordinate the knowledge extraction with the knowledge dissemination. In this paper, a framework is proposed with an emphasis on security and privacy protection.

1.1 Contributions

The need of a systematic investigation on Knowledge Management Systems is discussed. KMS has the functionalities in the flavor of the traditional Database Management Systems (DBMSs): (1) It facilitates the extraction of knowledge from existing traditional database and/or knowledge-base systems. The extraction of knowledge may be based on some data mining algorithms. (2) It facilitates storage, retrieval, integration, transformation, visualization, and analysis of extracted knowledge structures (e.g., decision trees, association rules, neural networks). Besides, it also supports construction of new knowledge structures from those existing ones to form knowledge that is deeper than the knowledge directly extracted from the raw data.

Besides traditional security goals a new security goal of secure knowledge management system is specified, namely *privacy-preservation*. A major feature of PPDM techniques is that they usually entail modifications to the data in order to sanitize them from sensitive information (both private data items and complex data correlations) or anonymize them with some uncertainty level. Thereby, a framework for secure knowledge management called Privacy-Preserving Knowledge Management (PPKM) is presented.

2. Related Work

On the evolution of service based computing paradigms (Sarawagi, Nagaralu, (2000) the relationship to privacy protection of data (Chaum, 1981), (Clifton, Marks,1996). On the relationship to data mining and machine learning (Agrawal, Srikant, 2000), (Evmievski, Gehrke, Srikant, 2003), (Lindell, Pinkas,2000). On the relationship to knowledge sharing (Data Mining Group, 2003). These efforts are focused either on the mechanisms that enable data mining systems to transfer discovered models to application programs, or on the types of services in which the discovered models can be useful. The PPKM framework described in this paper provides a general system framework that serves as a platform to integrate techniques of knowledge extraction, knowledge sharing, and knowledge utilization in a secure environment. Obviously, the data mining model as a service is a special instance of the framework, and the security requirements of PPKM greatly enrich the functionality of knowledge sharing systems.

3. The PPKM Framework

In PPKM knowledge management mean the methodology for systematically extracting and utilizing the knowledge. A *Knowledge Management System* (KMS) is a collection of collaborative software systems that collectively provide the functionality needed to perform the tasks of knowledge management. The purpose of PPKM framework is to define various roles that are played by participating systems, the relationships among different roles, and how they are related to the two key functionalities of a KMS, namely knowledge-extraction and Knowledge-dissemination and the security goals.

3.1 Model

As shown in Figure 1, at the heart of the PPKM is a Knowledge Management System (KMS), which can be thought of abstractly as a system that takes data and rules as input, extracts knowledge from the data (possibly with the help of the input rules), manages the extracted knowledge, and provides knowledge based services to knowledge customers. In the following, the PPKM framework is explored by describing the roles and their relationships in more details.

Input to KMS - The input to a KMS is a set of *datasets* and optionally a set of data, rules from databases and rule bases. In Fig. 1, the input to KMS includes data and rules. We stress that the access to the datasets and rules are protected by their respective sources through appropriate security policies (e.g., Mandatory Access Control, Discretionary Access Control, Role-Based Access Control), and that the *controlled access* may be enforced, for instance, by a security mechanism implemented in a DBMS. Moreover, the data and rules may be owned by different parties that are presumably prohibited from sharing, or not willing to share, their data/rules, although they are allowed to take advantage of the data in their own decision-making applications.

KMS - From a functionality perspective, a KMS is analogous to a traditional Database Management System (DBMS). However, there are some fundamental differences: (1) The objects managed by a KMS are knowledge models such as decision trees or association rules. Whereas, the objects managed by a DBMS are raw data. (2) Parties are autonomous and a party may play one or more roles. (3) A KMS is strictly more powerful than a DBMS, because it must ensure the property, namely *privacy-preserving knowledge extraction*. Whereas, no such requirement is specified in a traditional DBMS. The KMS consists of components that play three types of roles: *knowledge miner*, *knowledge provider*, and *knowledge manager*. For example, in the specific instance of KMS in Fig. 1 there are one knowledge miner and two knowledge providers, and each one of them also is a knowledge manager. The functionality of these three roles is as follows.

Knowledge Miner - A knowledge miner provides supports for knowledge extraction tasks which for example may include the preparation of data, the specification of extraction tasks, and the execution of extraction algorithms. A knowledge miner may be fully automated or interactive. Knowledge can be extracted from database using an appropriate method such as data mining (example: association rule mining). A key feature of knowledge miners is that they must guarantee that the extraction of knowledge will not compromise individual privacy. This feature can be ensured by the so-called privacy preserving data mining techniques.

Knowledge Provider - A knowledge provider provides services to knowledge customers. The simplest form of the service is to deliver an extracted knowledge model to a knowledge customer. However, more sophisticated and value-added services may require a nontrivial utilization of extracted knowledge. For example, a knowledge provider may provide a service by using the extracted knowledge to answer queries posted by a decision-making application of a knowledge customer. Such services may be implemented through a variety of techniques, such as web services and software agents.

Knowledge Manager - A knowledge manager provides supports for storage, retrieval, analysis, integration, visualization, and transformation of extracted knowledge. In other words, a knowledge manager is to knowledge what a database management system is to data. In a KMS, knowledge managers are often not separable from other roles of the system since they provide a set of functionality that is fundamental to both knowledge miners and knowledge providers. Extracted knowledge may be expressed in various representation languages.

Output of KMS - The KMS disseminates knowledge to knowledge customers through an appropriate interface (e.g., web services). For example, a knowledge customer may ask one or more knowledge providers certain questions, so that the answer(s) will be utilized in the knowledge customer's decision making procedure. The access to the knowledge may be controlled via an appropriate policy, and enforced via an appropriate system.

3.2 Privacy Preserving

Besides traditional security requirements such as access control, authorization, and authentication, a KMS should satisfy the new security requirement such as privacy-preservation. By privacy-preservation we mean that the knowledge-extraction procedure must protect individual privacy in the input datasets. This may be crucial to certain knowledge management systems (e.g., the systems coordinating government agencies counter-terror activities). Privacy preserving algorithms (Elisa Bertino, IgornaiFovino, Loredana, 2005), are applied for the inputs (data, rules). The algorithms help the knowledge provider in transferring the information required by the knowledge customers and the information about the other customers stored in the database will be hidden.

4. Example

In the following, we demonstrate the generality of the PPKM framework by describing two specific instances of the framework.

4.1 General Category

In the general category, we only consider the setting where there is a single organization that owns the data, buys data mining software, and runs the software to extract knowledge that will be exclusively used by the organization itself. As a further step towards what we called KMS, the organization may not have to buy the data mining software. Instead, it can use that software through "application as a service". In this case, the issues of privacy-preserving emerge: the application server (i.e., data mining software owner) should not learn any information about the organization's datasets, while allowing the organization to obtain the extracted knowledge. In principle, privacy preserving technique can solve this problem.

4.2 Business Category

We now consider a scenario arising in an emerging computing paradigm called "knowledge-as-a-service" which is a natural extension of service oriented computing, such as "application as a service" and "database as a service" (Hacigümüs, Mehrotra, Iyer, 2002). These service oriented paradigms emerge as cost-effective business models in response to increasing business competition and to the cost of keeping the desired computational, data management, and knowledge discovery capabilities that has become too high to be justified for many organizations. By delegating computational, data management, and knowledge discovery tasks to appropriate service providers, organizations can better satisfy their information processing needs with much lower costs. The knowledge-as-a-service serves an example of the separation of knowledge extraction and knowledge utilization, and is justified for the following reasons.

1). The rising costs of knowledge extraction. Data mining is a specialized and complex task that involves many steps and requires well trained personnel. Despite the tremendous advance in hardware, software, and networking technologies, the costs associated with knowledge extraction is still on the rise. These costs are for the acquisition of software, hardware, datasets, and the maintenance and management of systems. The situation is further complicated if one needs accurate knowledge and strict privacy in the knowledge extraction procedure.

2). Restricted access to data. Although knowledge models are often extracted by an organization from its own datasets, much of useful knowledge may be in data owned by other organizations. Access to data of another organization may be prohibited by law or policies.

For example, the national criminal databases can only be accessed by law enforcement organizations. Likewise, hospital patient's data is only accessible to relevant health-care organizations. Yet another typical scenario is that competition rivals would never share their data, but would benefit from knowledge extracted from each other's datasets. As a consequence, just like that data are valuable assets of today's organizations; knowledge models will be valuable assets of tomorrow's organizations.

3). Limited choice of technology that addresses privacy concerns. The emerging of the data mining industry has inspired a lot of concerns on individual privacy (Clifton, Marks, 1996). To relieve these concerns, privacy-preserving data mining techniques have been proposed. (Agrawal, Srikant, 2000), (Evmievski, Gehrke, Srikant, 2003), (Goldreich,

Micali, Wigderson, 1987). As a consequence, one who is interested in accurate knowledge and strong privacy guarantee may be forced to conduct computation- and communication-extensive tasks, which may incur significant investment.

4. Different needs of knowledge by different applications.

There are many ways that knowledge models can be utilized. Two extreme examples are: (1) An application needs to own an entire knowledge model. (2) An application only needs to apply (rather than to own) a knowledge model to certain instance data. The difference between these two types of utilization is comparable to the difference between buying a car and taking a taxi, or to the difference between purchasing an expensive full-fledged software system and paying only for some of the needed functionality.

Consider a Company's database consists of the suppliers and the items details. The database consists of three suppliers A, B, and C and their corresponding items. If the supplier A wishes to know the items stored in the database other than his supply. But the supplier A does not have the rights to access the database. Using the privacy preserving algorithm, Knowledge Provider provides the items details to the Knowledge Customer (Supplier A), only the item names can be provided, but the cost and supplier details of the corresponding items are hidden. Knowledge Miner extracts the information with privacy. Knowledge Provider helps the Knowledge Customer in providing essential information based on the queries of the Knowledge Customer.

5. Conclusion

In this paper, we present a system framework for secure knowledge management, which provides privacy-preservation which is ensured in the knowledge extraction procedure. The framework is explored by describing the roles played by system components, the relationships among various roles, and how these roles are related to existing technology, such as databases, data mining, privacy preserving and data perturbation. The framework helps in securing the information in Knowledge Management System.

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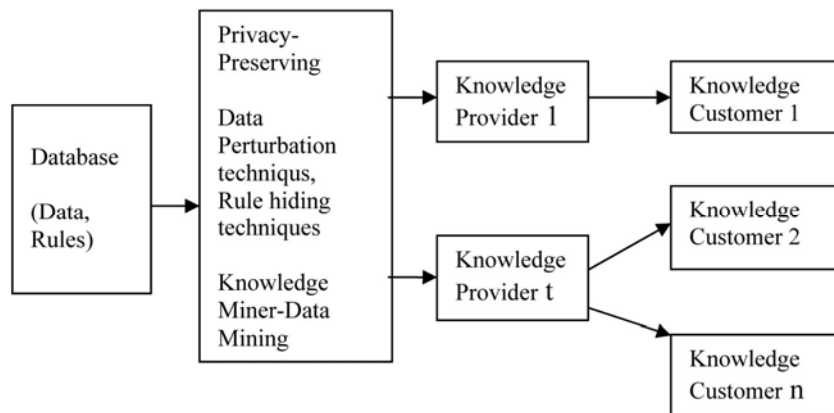


Figure 1. PPKM Framework



Strategic Analysis for Hi-tech Enterprises to Introduce PE Investment in China

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Abstract

PE investment is comparatively mature in developed countries. Along with the growing of PE investment in China in recent years, hi-tech enterprises of high growth potential are favored by PE investor. However, hi-tech enterprises in China are short of sufficient skills of strategy for bringing in foreign capital and objective qualifications in introducing PE investment. Therefore, this article analyzes how to enhance the skills of strategy for introducing investment and improving enterprises' objective conditions to stimulate successful cooperation between the PE investor and hi-tech projects.

Keywords: Hi-tech enterprises, PE, Strategy

1. Introduction

Private Equity Investment (PE Investment) refers to the investment that the capital is collected in form of private equity and invested into rights and equities of non-listed enterprises. It obtains return on initial capital by selling its holdings through listing, mergers and acquisitions, buy-back and so on. PE covers equity investment all stages before initial public offering (IPO). It can be divided into venture capital, development capital, mergers and acquisitions funds, mezzanine capital, and Pre-IPO capital according to different stages. PE is marked by following features: wide source of fund; non public capital collection and buy-back; rights investment or mix investment into non-listed enterprises; middle or long term duration; a variety of exit channels etc. PE investment funds in U.S., which increased 459 billion U.S. dollars in 2006, successfully brought up Apple Computer, Intel and other hi-tech enterprises, and the high returns attracted a large number of institutional investors to participate. According to Qing Branch Research Center, a total of 129 projects, amounted to 12 billion and 973 million U.S. dollars were invested in China by PE institutional investors in home and from abroad in 2006. With rapid development of China's capital market, upgrading of industry and consumption structure, and increasing heat-up of domestic PE investment, hi-tech enterprises of high growth potential are favored by PE investment institutions.

The introduction of PE will bring numerous advantages for hi-tech enterprises as following: opens an effective channel of financing; enhances management level; promotes technical innovation and upgrade of industrial structure; conduces to design of equity-based incentives, attraction of talents, improvement of operation efficiency, cultivation of core competitiveness and enhancement of overall value; increases binding of corporate managers; helps stability of stock price.

2. Financing needs in different stages of hi-tech enterprises and PE investment strategies

The hi-tech enterprises generally follow such development stages: seed period, creation stage, growing stage, expanding period and maturity period (Pre-IPO), and vary at financing needs and financing characteristics in different stages. Also, PE has its own preferences and expertise in choice of development stage of the targeted enterprise.

Insert Table 1 Here

3. The basic strategies of introducing PE investments for hi-tech enterprises in China

The newly founded hi-tech enterprises have to face different risks at different stages, such as small scale, large variable, high-risk, and short life, and so on. However, failed financing, to some extent, can be attributed to the lack of financing skills and the insufficiency of objective qualifications in general. This article will discuss how to enhance financing skills and improve the management of the enterprises respectively.

3.1 Enhance financing strategies and techniques

3.1.1 Be familiar with the operation processes of PE investments

To introduce PE successfully, hi-tech enterprises should understand the operation processes of PE investment firstly. The operation processes of PE investment are as following: (1) The project investigation stage: ventures or projects are found more or less in line with PE investment conditions from a number of proposals, and then extensive, in-depth and detailed investigations are conducted to obtain full and accurate first-hand information for decision-making analysis. (2) The evaluation and decision-making stage: Based on relevant information, objective analysis and evaluation are made on human resources, technology, marketing and management of investment projects. Risks, which exist in all aspects of growth and development of targeted enterprises and product technology, must be taken into account. According to investors' own capacity and to the scale and criteria of investment, projects with lower market risk and larger growth potential are given priority. (3) Negotiation and contract Signature: PE investment institutions will contact with targeted firms after choosing project and negotiate together for investment mode and conditions, and reach relevant legal agreements. (4) Investment operational phase: PE investment institutions should provide financial supports to enterprises according to their agreements, contact with entrepreneurs regularly to track the progress of firm operation, and have the financial reports audited by accounting firms. They are also required to support enterprises by using their own management experience and information network, cooperate closely with enterprises in order to make them high-valued and mature ones, promote investment projects running successfully and get enterprises listed. (5) Incentive and restrictive measures in the process of investment: the provisions such as rights owned by PE investors to quit, to buy back enterprises, arrangement of remuneration system for managers and investors will normally be made in the investment agreement. Right to quit will protect PE investors to some extent, and right to buy back enterprises will motivate entrepreneurs to operate by efforts. Furthermore, PE investors take stern sanctions against any improper usage of capital to ensure managers to cherish it. (6) Investment quit: The ultimate aim for PE investment is high returns and successful withdrawal of capital. There are different exiting approaches according to the diversities of operating conditions and external environment, including publicly listed, transfer of shares, bankruptcy liquidation, etc. The former two are the main exiting approaches, while bankruptcy liquidation is the only alternative for investment failure.

Insert F

3.1.2 Choose the right PE investor

Before choosing a most suitable and promising PE investor, Hi-tech enterprises must start from their own conditions and strategic objectives, consider various factors while selecting several potential PE investors to contact. (1) Various PE investment policies and preferences. Each PE investor will establish their own investment policies and form their own investment preferences on the basis of their respective geographical conditions, source of funds, own experience and industrial competition. Enterprises must fully understand and master the PE investment policies and preferences, and then select the right one according to the industry characteristics and the development stage of company and other factors. (2) Knowing well about PE investment process and operation model. It needs to learn more about PE investment operation models, especially finding out the detailed process for evaluating projects before starting the financing process, and learn to analyze enterprise itself objectively from others' perspectives. (3) Adequacy of sources of PE capital. From the perspective of capital, when choosing a PE investor, following must be taken into account: whether its sources of funding are able to help businesses succeed and whether they are able to meet the need for enterprise' development in the future. (4) The reputation of PE investor. Hi-tech enterprises should review PE investor's performance, reputation, ethics and other actual situations through a variety of channels (such as lawyers, accountants and enterprises invested by them previously). (5) Importance on the assistance of professional institutions. The introduction of PE investment is a high professional process, and it is difficult to succeed by relying on one's own financial staffs only. Experienced financial adviser can give companies a full range, professional assistance. It increases success chances of PE investment by making full use of experienced intermediaries and communicating regularly with investment advisers. (6) Not too many targets. In order to ensure successful financing, entrepreneurs should not contact too many PE investors at one time. On the one hand, PE investors prefer to find those business opportunities abandoned by the side of road without any attention. On the other hand, it is not efficient and effective if entrepreneurs look for PE investors one by one. Therefore, the most reliable way is to select 8-10 PE investors likely being interested in the project as targets, knowing about their situations well, and then contact with them.

3.1.3 Master the basic financing processes

Hi-tech enterprises have same financing process with common firms. Generally, financing process includes the following aspects: (1) Plan the overall capital operating program by capital demander. It includes private equity financing, restructuring listing, and overall planning during the listing. (2) Write "business plan" (including "Investment Proposal"). (3) Contact and screen out the proper investors: Investigate the background and development status of investor prudently, and make initial contact. (4) Financing recommendation and business negotiation. (5) Provide "enterprise value assessment report" (mainly enterprise's growth assessment) for the enterprise by considering various

assessment models totally, combined with the assessment style of potential investors. (6) Bring in the audit, evaluation and legal and other intermediary institutions to complete the making and subscription of equity financing agreements. (7) Deal with the delivery, verification, industrial and commercial registration change and other things related to change of ownership (8) Harmonize the relationship between parties, and control the financing progress.

3.1.4 Make a good business plan

Business plan, as the important foundation for PE investor to assess and choose enterprise, is a stepping stone to get PE investment. It allows the potential investor a quick summary to assess the project's value, acts as the basic document for the investigation and negotiation. It can also prove the enterprises ability and demonstrate the pro-and-cons of the project to PE investor. The truth and content integrity of business plan will provide PE investor effective access to information, and make a favorable assessment preparations for the project. From standpoint of investors, a good business plan should include a detailed analysis of market size and market share, a clear explanation of business model, a set of talents on technique, management, marketing and other aspects to build up a team, a scientific cash flow forecast and a practical and realistic financial planning. A comprehensive business plan is required to reflect the business idea, the sophisticated plan and management level, as well as the strong aspirations to success and the responsible attitudes to PE investment.

At the time of writing Business plan, some adjustments should be made to emphasize different parts and highlight different contents related to specific growth stage and industry characteristics. At the same time, the writing of business plan should be in honest attitude and well-founded. Only the adequate data, objective and fair expression of the problem can obtain the trust of PE investor.

3.1.5 Learn document submission, negotiation strategy and skills

(1) Three main documents should be ready by hi-tech entrepreneurs before starting to discuss financing issues with PE investors: 1) investment proposal: make a summary description of management, profit situation, strategic position of venture enterprises, etc.; 2) business plan: make a detailed description of development strategies, marketing promotion plans, financial condition and competitive position of venture enterprises, etc.; 3) marketing materials: These are documents directly or indirectly related to the sales of products or services of venture enterprises. (2) It's better to get recommendation from members in the extension of PE network while submitting "business plan". Most PE investors will receive hundreds of copies of "business plan" each month and don't have enough time and energy to carry out detailed examination on each plan. However, the "business plan" recommended by enterprises will cause PE investors' attention, so that will be finalist in much greater probability in previous rounds of screening. (3) Investors would normally carry out "due diligence" in making investment decision, so the core team of entrepreneurs cannot be blindly optimistic on their products, and should adopt a positive attitude while using data and facts to explain. (4) Learn to compromise. Enterprises should put their own positions in the process of negotiation, give full consideration to the interests of institutional investors, and make adequate assurances in the implementation. Introducing PE investment is not only receiving funds, but also value-added services after investment. Entrepreneurs should know very well how much compromise can be made at this stage, because it's not so realistic for the investment side to make a compromise. (5) Be both forward and backward while making agreement. Investors and financing parts are the unity of contradictory and interests. Investors often want some provisions to make their own investment out of risk. For example, "If the performance of enterprises in a particular period does not reach a certain level, investors may be able to reduce investment or enterprises are required to refund the investor." Such provision may not be accepted by enterprises. Enterprises must have the courage to say no to those PE investments not good to enhance shareholder's value.

3.2 Improve enterprise management for assessment by PE investors

3.2.1 Enhance the market competitiveness

(1) Proper market positioning. Market position reflects the operation strategy, so it is necessary to clearly define the role in industrial chain, and identify product position in market. According to differences of funds, equipment, human resource, technology and commodities, enterprises should make vertical or horizontal labor divisions, produce finely, meticulously, professionally and in-depth, adjust product structure on time, and improve the core competitiveness continuously. (2) Business model or profit model definition. Business model mainly refers to how to produce, provide services, carry out marketing plan and such other issues. Profit model concerns about how to create a profit, and how to change the products and services into profits. Many entrepreneurs only focus on their business models, but lack of thinking and specific description of the profit model, thus difficult to bring an effective attractiveness to PE investors. It is the main reason that 90% of the business plans are scanned once and then shelved by the investment managers. (3) A clear and powerful marketing strategy construction. The market is unpredictable, which hides many uncertainties. The capacity to predict market demand, the degree of being familiar with the targeted market, the ability to respond to the market changes affect the marketing capacity and have a significant impact on the success of enterprise products in the market. It's needed to have strategic vision and the insight of market opportunities to analyze the industry and market

competition in which enterprises are intending to enter and participate in competition. (4) Long-term development strategy. The overall quality of Chinese enterprises varies: many hi-tech enterprises lack rationality, ability to judge and control, management and operation being out of control, overlook the development strategy, shorter corporate life, therefore it is difficult to obtain recognition of PE investors. Even though some hi-tech enterprises have started the research, formulation and implementation of development strategy, there are still some serious shortcomings: 1) unclear understanding and blindly climbing in the formulation of strategic objectives; 2) scale expansion in lieu of capacity expansion, and one-sided pursuit of diversification in the choice of development strategies; 3) laggard organizational structure of enterprises and serious shortage of high-quality talents in the strategy implementation.

3.2.2 Improve the corporate governance structure

(1) Set up a strict management system. Hi-tech enterprises in China are normally managed by the owner of enterprise technology, lacking a scientific management system. Generally management chaos and such other problems are not much obvious in enterprise's start-up stage, but becoming increasingly prominent with the expansion of production scale. Therefore, it's required to establish a strict management system, standardize organizational structure, department responsibilities, incentive and punishment, personal responsibility, so that enterprises can leap from "the rule of man" to "the rule of law" to avoid the management chaos brought about by the rapid development of enterprises. (2) Establish an effective decision-making mechanism. Property rights are highly concentrated and the boards constitutes are unreasonable in the newly established high-tech enterprises, in which operating lacks criterion and effective restraint mechanism. There is a strong speculative adventurism in investment decision-making. And hi-tech enterprises are characterized by large investment and fast product updates, which brings decision-makers an enormous challenge. Once error decision was made, it might cause irreparable loss. Therefore, hi-tech enterprises should establish effective decision-making mechanism to reduce the expected risk by PE investors. (3) Found an effective incentive mechanism. Incentive mechanism is dynamic to stimulate efficient operations of enterprise, which can promote the creation and development of enterprises. The implementation of the ESOP, which relates to the fact that the core managers can bear risk with PE investors, is an important criterion for PE investors to choose targeted enterprises. Therefore, enterprises should format such incentive system in characteristic of offering high-middle technical and managerial talents rights in the enjoyment of stock options or allowing technology, management equities. (4) United and complementary core team. There are three most important factors to determine the success of projects: the cooperative spirit and attitude of the operators, managers, shareholders; personnel being reasonably complemented in knowledge structure, experience, character and ability, etc.; and the level of team members' unity, cooperation and joint efforts as well. These three factors are also the focuses of PE investors. (5) Stable business team. Entrepreneurial team members can often unify their thinking and understanding in the early of new enterprises, however, they prone to diverge as the business develops to a certain size, which causes impact on the further development of enterprises, and may even lead to the division of company's core management, and harm the profit of investors. It is an important link in the process of attracting investment to prove to investors how to maintain the stability of entrepreneurial team and prevent the subversive effects of enterprises from differentiation of entrepreneurial team.

3.2.3 Standardize financial management

(1) Clarity of enterprise property rights. Although guarantees and collaterals are not required by PE investment, hi-tech enterprises are often limit-sized, lacking of accumulation and funds, with small proportion of fixed assets. If the land, factory buildings, equipment and other property were incomplete, or property rights of enterprises owned by a principal member of the family were not clear, it is even more difficult for external investors to be secure. (2) Improvement of employment mechanism and introduction of high-quality financial personnel. The financial terms have been seen as top secret by the entrepreneur, so it is a practice of nepotism while choosing the financial manager at the initial stage and the majority of positions is dominated by family members. Lacking of high-quality financial personnel led to a weak financial management, so as to further aggravate the difficulties of attracting investment. (3) Sound financial management system. A sound financial accounting system should be obtained to strengthen internal control and able to provide accurate, timely and complete financial accounting statements to enable investors to know and grasp the real condition of production and management and use of funds. (4) Reduction of violations to standardize enterprises management. There are irregularities in the development process of private hi-tech enterprises, which may result in issues such as performance not consecutive, not enough to raise funds and difficult to make adjustments. This is an important reason causing difficulties in attracting investment. (5) Transparency increases for financial information. Following is the keys to success of funding: smooth and fast communication, very high degree of transparency of information disclosure between companies and investors in the absorption of PE investment, or public equity financing. In order to avoid taxes or for other considerations, some enterprises provide investors with not comprehensive and accurate financial information and have a serious shortage of historical information available thus it is often very difficult to meet the demands of investors and obtain the trust from investors. In order to safeguard their own interests, funds providers set up standards and restrictions for enterprises to bound the risk of moral hazard, therefore also exacerbate the difficulty of attracting investment.

3.2.4 Reasonable plans for the demand and use of funds

(1) The size of funds necessary to enterprises should match to the investors' strategy. The choice of investment scale is a trade-off between scale of benefits and risk separation. If scale of individual investment is too small, the total cost of investors will go up, because no matter what the scale of investment project is, investors will be needed to spend same time to monitor, and then prone to the phenomenon of diseconomies of scale. Conversely, when capital demand is very large, companies have to bear a corresponding higher risk. Hence investor will invest in suitable projects and choose appropriate scale of investment in accordance with its own investment strategy and fund size. Generally, PE funds have the upper and lower limits on the scale of investment. Lower limit is due to PE investors' taking the form of portfolio investment, and by reason of time and energy constraints, they cannot spread their investments to many small-scale projects. However, investment ceiling comes from the total amount of PE and policies to diversify the investment. A reasonable scale of capital demand should be within the scope of PE investors and the initial investment groups' power. It's the only way they can get higher returns. (2) The scale of funds required should match the development plan. A reasonable scheme for fund-using is needed to put forward to inform investors the purpose of corporate finance and how to use the money after the success of financing. Investors hope that companies will get the funds for the expansion of enterprise scale, rather than for the purchase of fixed assets having nothing to do with production and operation, or for the investment in the industry having nothing to do with itself. On the other hand, PE investors are concerned about whether the financing company can achieve growth rate and how much capital is needed to invest in the company in order to achieve the planned growth rate.

3.2.5 Meet PE investors' high return requirements

(1) Reach PE investment requirements of high rates of return. Due to new enterprises' high-risk nature, venture investors are bound to require a higher rate of return to compensate for higher risks. For example, the expected return on investment in seed period and start-up phase of the projects is generally higher than long-term and maturity ones. The growth rate of sales being 25-100% is a normal phenomenon in start-up phase, and 25% is the minimum data. (2) Dredge withdrawal channels of funds. Cash investment is the basic premise of PE investment. At the premise of same level of benefits, the higher the liquidity of exit channels, the lower the investment risk. For emerging markets, open channels seem more important than other factors. Three quit ways expected by PE investment are as following: Being listed in the stock market, sale of companies and buying back. The capital market is undoubtedly the withdraw path with best yield. If there are obstacles on IPO, mergers, transfer in OTC market and company repurchase, they should be cleared as soon as possible.

4. Conclusions

Introduction of PE investment can accelerate the development of hi-tech enterprises. However, PE investors usually consider cooperation with China's hi-tech enterprises very cautiously due to their high-risk and shortness of objective qualifications. Therefore, hi-tech enterprises have to select a reasonable financing strategy in accordance with objective qualifications, enhance negotiating skills, improve management as soon as possible, and make necessary preparations for assessment by PE investors, so as to facilitate the financing progress smoothly.

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Table 1. Financing needs in different stages of hi-tech enterprises and PE investment strategies

Stage	Growth Characteristics	Funds needed	Focuses of PE investment	Investment strategies by PE
seed period	technology gestation and invention; only samples; without detailed market analysis and management experience	Less demand for capital	Whether specialty and related industry or not	Not rash to invest
creation stage	product prototype; test-market; much uncertainties and lack of record of sales and credibility	Need lots of funds invested into equipment, product innovation and sales	Feasibilities of operation plan; product function and market competitiveness; market demand	High possibility of failure; not large investment
growing stage	technology and production expanding; less danger than former stages; rather good revenue	Large demand for funds to enlarge production, exploit market and build marketing system	Enterprises growth abilities; market competitiveness; management level and financial plan	High will to invest; large investment proportion
expanding period	operation achievement coming out; a certain market portion; management team becoming mature	Far from listing in the stock market; difficult to obtain bank loans; large gap between capital demand and financing capacity	Stability of incoming; healthy of organization; level of resisting substitute; financial structure	Lower risk; better profit ; prefer to invest
maturity period (Pre-IPO)	Mature technology; operation scale and financial condition near to listed standards	Large Cash flows from sales; high abilities to obtain bank loans; less capital needs	—	Out of PE investment stage

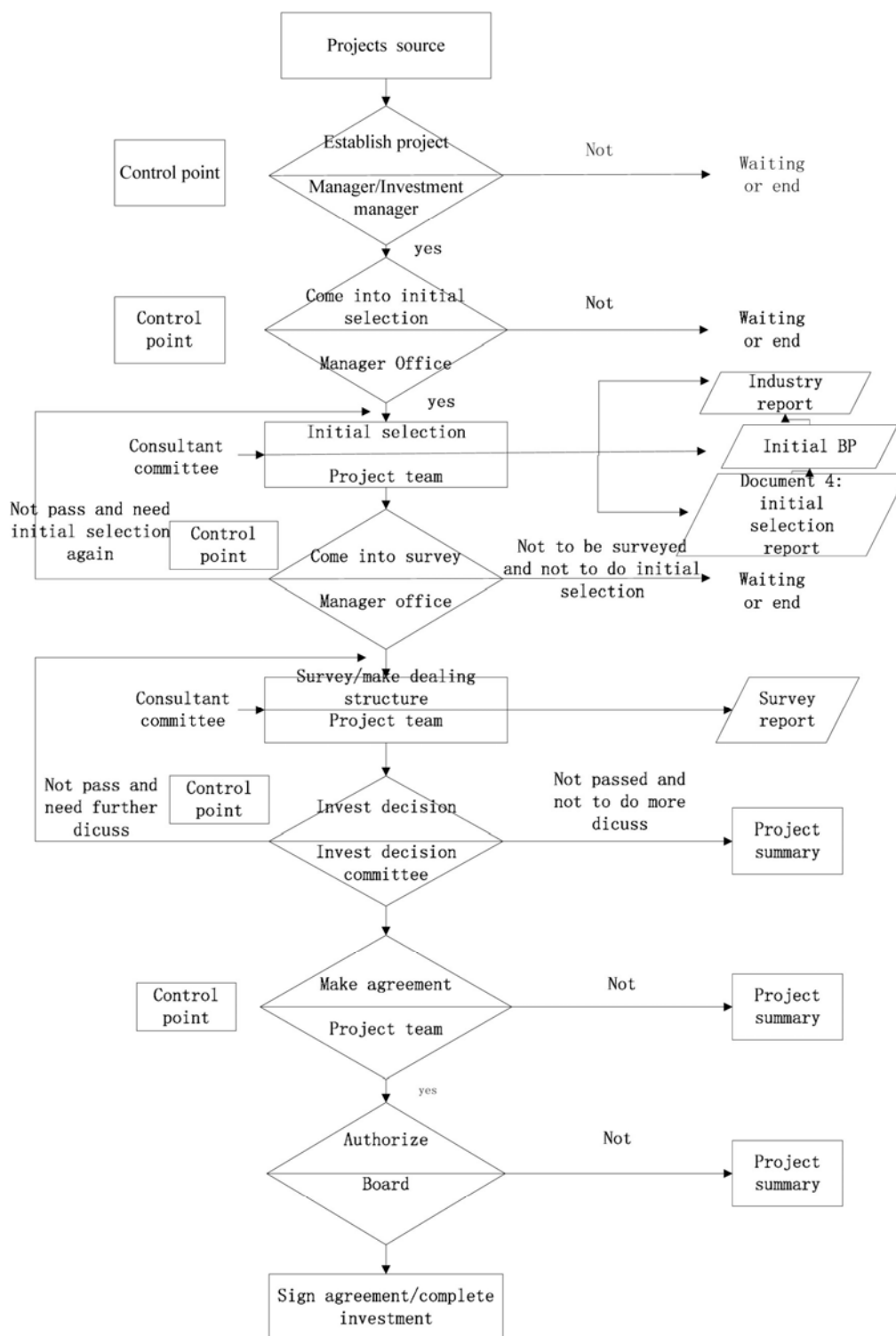


Figure 1. Project selection and decision-making process of PE investment



Harmonization of Accounting Standards through Internationalization

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Abstract

The journey to have a common set of accounting standards started long before to give it a professional shape and essence. And accountants all over the world feel the necessity to shorten the gap among different streams of accounting practices through harmonization. Still, we have a couple of strong variants of accounting practices (say, for example, US GAAP, UK GAAP, IAS etc.) over the world existed and practiced simultaneously. These variants are working as threats towards harmonization of accounting practices. However, the profession has also witnessed some improvements in recent years in the process of global convergence putting some ray of hope. International and even local standard setting bodies have come up with projects of harmonization and in most of the cases became successful. The day is not far away when we will observe that accounting world is controlled and guided by a single set of standards giving it a status of legal discipline in true sense. The paper focuses on this harmonization issue, its current status, challenges with special reference to Indian perspective.

Keywords: Harmonization of Accounting Standards, International Accounting Standards, International Financial Reporting Standards, Generally Accepted Accounting Principles, Securities and Exchange Commission, International Accounting Standards Committee, Convergence of accounting standards.

1. Introduction

Harmonization of accounting standards has become a highly demanded issue of discussion and debate among accounting professionals around the globe. Accounting Standards are the authoritative statements of best accounting practices issued by recognized expert accountancy bodies relating to various aspects of measurements, treatments and disclosures of accounting transactions and events, as related to the codification of Generally Accepted Accounting Principles (GAAP). These are stated to be the norms of accounting policies and practices by way of codes or guidelines to direct as to how the items, which make up the financial statements, should be dealt with in accounts and presented in the annual accounts. In fact, such statements are designed and prescribed to improve and benchmark the quality of financial reporting. They bring about uniformity in financial reporting and ensure consistency and comparability in the data published by enterprises. These are aimed at furnishing useful information to different users of the financial statements, such as shareholders, creditors, lenders, management, investors, suppliers, competitors, researchers, regulatory bodies and society at large.

The process of harmonization gives the global community a single entity. The diversity of stockholding doesn't matter today if the accounting system can generate general purpose financial statements in real sense. Thus, along with the process of globalization, the awareness of investors in capital markets has increased manifold and the size of investors

is multiplying. Foreign institution investors (FIIs) are investing in significant volume globally, as also are several Indian companies through GDRs (Global Depository Receipts) and ADRs (American Depository Receipts). Hence, the need for harmonization of accounting standards has been strongly advocated globally in order to faster the economic decision-making process. Accounting has already bagged the status of the 'language of the business' that requires reporting of the affairs in a commonly understandable way. At the World Bank Conference held in 1999, Jules W. Muis aptly states "...power to control the language of business is important. Standard setters will come ahead as the world grows smaller, and economic independence is no longer an option but a reality. So it happens that today a good observer can see the preparations of battle for the control of the international language of business slowly unfolds..."

In this context, the statement of Harvey Pitt, US SEC Chairman at SEC Conference, (2002) is worth mentioning, "High quality global accounting standards are needed to improve the ability of investors to make informed financial decisions. Companies must keep pace with this progress in order to promote and protect their business credibility in the international market place."

It is for this reason that the convergence of accounting standards is so important. The process of convergence is accepted as the key factor to implement a single set of accounting standards across the globe. The paper follows a scholarly search approach to discuss the recent status of harmonization in accounting practices.

2. Objectives

The objectives of current study are very straight forward. The very basic issue is to explain the need of harmonization in practices. Later on, it focuses on the regulatory authorities who are working actively to bring the convergence into practice. The paper also presents the success stories in the process of harmonization with the challenges ahead. Indian status has been addressed separately to report the situation of a developing country.

3. Rationales of Harmonization of Accounting Standards

To allow the gains from the global economy to be fully realized, it is argued that accounting policy should be standardized among nations. This "harmonization" of accounting standards will help the world economy in the following ways: by facilitating international transactions and minimizing exchange costs by providing increasingly "perfect" information; by standardizing information to world-wide economic policy-makers; by improving financial markets information; and by improving government accountability. However, some specific points are presented below addressing the rationality of harmonization.

A harmonization of accounting policy would help provide a "level playing field" globally. Regulators and auditors will be receiving the same information, facilitating the evaluation process. In the absence of free trade, international accounting standards will allow nations' tariffs, quotas and other trade restraint mechanisms to be more accurate and less risky for those engaged in trade. Investors and managers will be able to make more valuable decisions. World resources will be better managed and allocated.

The recent expansion of international capital markets and availability of instantaneous global communication have placed on accounting the onus to provide useful and comparable information across international borders (Rivera, 1989). On many stock exchanges, currently, foreign listings are a large percentage of total listings (<http://www.fibv.com>). As per ICAI estimates, 20% of total listing on New York Stock Exchange (NYSE) is of foreign origin. In case of London Stock Exchange, this is 16% and in Luxembourg, the percentage is 82%. On 12 March 2002, the European Parliament voted overwhelmingly in favor of the EU Commission's proposal that all EU listed companies must follow standards issued by the International Accounting Standards Board (IASB) in their consolidated financial statements starting no later than 2005. Over 7,000 EU listed companies are directly affected by this proposal (Samir, 2003).

The rapid growth of international trade and internationalization of firms, the developments of new communication technologies, and the emergence of international competitive forces is perturbing the financial environment largely. Under this global business scenario, the residents of the business community are badly in need of a common accounting language that should be spoken by all of them across the globe. A financial reporting system of global standard is a prerequisite for attracting foreign as well as present and prospective investors at home alike that should be achieved through convergence of accounting standards (Hati and Rakshit, 2002). ICAI president K. S. Vikamsey (2001) is of opinion that 'People who invest overseas naturally want to be able to keep track of the financial health of the securities issuers. Convergence of accounting standards is the only means to achieve this. Only by talking the same language one can understand each other across borders.'

With the absence of harmonization in accounting standards the additional cost of financial reporting along with the difficulties that multinational groups faces in the manner in which they undertake transactions becomes critical. It is quite possible for a transaction to give rise to a profit under one accounting standard, whereas it may require a deferral under another standard. Thus, multinationals working in both the US and the UK face a good deal of trouble to prepare consolidated financial statements. When a multinational company has to report under the standards of both of the

countries it might lead to some extremely odd results. For instance,

Daimler Benz, who was the first German to secure stock market listing in the United States, reported a net profit of DM 158m for the six months to June 1998 based on German GAAP. The U.S GAAP reconciliation statement revealed that the company had incurred a loss of DM. 949m. Similarly, British Telecom Inc. reported a net profit of £1767 for the year ended 31-3-1994 under the UK GAAP but under the US GAAP reconciliation, the net profit reduced to £1476.

Harmonization is not an end by itself, but it is a means to an end. Adoption of different accounting standards causes difficulties in making relative evaluation of performance of companies. This phenomenon hinders the valuation and consequently the decision making process. There are numerous instances in India and around the world of bad accounting practices leading to corporate failures. Corporations wish non-recurrence of another Enron and like.

Another significant benefit that is expected to accrue from global convergence of accounting standards relates to cross-boarder mergers and acquisitions facilitation. Last though not the least, it improves the quality of financial reporting throughout the globe.

4. Institutional Efforts of Harmonization

A number of international organizations are working to reduce the differences in accounting standards between nations and trying to eliminate all necessary differences (Nair and Frank, 1980). The concept of convergence of accounting standards relates back to 19th century when the idea of “International Accounting Standards” was germinated in the first International Congress of Accountants held at St. Louis in 1904. Again in 1957, when 7th International Congress of Accountants held in Amsterdam, Mr. Jacobkraayenhof, spoke on the need of international accounting cooperation and standardization. Latter in 1966, discussions were made among the various professional bodies like the Institute of Chartered Accountants of England and Wales, Canadian Institute of Chartered Accountants and Association of the Institute of Certified Public Accountants of America. The discussions were led by Sir Henry Benson, the then President of the Institute of Chartered Accountants of England and Wales and ultimately a study group was formed to conduct comparative studies on the accounting thoughts and practices among participating countries. It conducted about twenty studies on accounting and auditing topics during its eleven years lifetime. Ultimately, the senior officers of the study group decided to establish international standards. The meeting was held in 1972, and in the 10th International Congress of Accountants at Sydney, the International Coordination Committee for Accounting Profession (ICCAP) was formed to lay the groundwork for the establishment of a formal organization for the International Accounting Standards. The International Accounting Standards Committee (IASC), now International Accounting Standards Board (IASB) came into existence as a result of an agreement by 16 accounting bodies representing 9 nations, i.e., Canada, Australia, France, Japan, Germany, Mexico, Netherlands, United Kingdom and the United States of America on 29th June 1973, with its secretariat and head quarters at London (<http://www.iasplus.com>).

At present IASC has 153 accounting bodies representing 112 countries. It has so far issued 41 standards to harmonize the diverse accounting standards and policies at present in use in different countries. Barring Canada, Japan and the US, all countries have accepted these standards. The Organization for Economic Co-operation and Development (OECD) has approved a code of conduct for multinational enterprises for harmonization of national and international bodies. The UN Commission on Transnational Co-operation made efforts to establish disclosure standards for multinational corporation operating in the Third World Countries. The Accountants International Study Group (AISG) publishes fifteen comparative studies in order to harmonize financial accounting practices. The international Federation of Stock Exchanges has recommended that its members make compliance with the IASC accounting standards as a condition for listing stock (Most, 1984). These are undoubtedly some milestones on the way of harmonization.

5. Fast Facts in the Process of Convergence

The International Accounting Standards Committee (IASC), constituted in 1973 has passed through many phases of its journey to come to this present stage. It is felt pertinent to discuss all these here briefly for the knowledge of our esteemed readers.

In the year 1995, IASC entered into an agreement with International Organization on Securities Commission (IOSCO) on a mission to complete “comprehensive core set of Standards” that could be used for cross-boarder and national listings. In fact, this was due to growing recognition of the need for global accounting standards.

To give proper direction on how to interpret these standards led to the setting up of the Standards Interpretations Committee (SIC) in 1997.

In December 1999, the board of the International Accounting Standards Committee has approved proposal to make changes in the structure of the committee with a view to achieve global convergence.

On May 2000, one most important breakthrough was reached when the International Organization on Securities Commission (IOSCO) accepted 30 core International Accounting Standards. This backing by IOSCO for the use of International Accounting Standards by member stock exchanges led to the acceptance and recognition of the

International Accounting Standards Committee (IASC) as a worldwide standard setter. Further, it was followed by the reformation of IASC to International Accounting Standards Board (IASB) in 2001. Consequently, IAS is now renamed as International Financial Reporting Standards (IFRS), have brought into limelight. Consequently, in the same year the US Securities and Exchange Commission (SEC) suggested the acceptance of IAS for use in cross-border listings in the US, without reconciliation to results under the US-GAAP (Madan, 2002).

In 2001, the international fraternity of accountants took stock of the situation and constituted the International Accounting Standards Board (IASB) to evolve and prescribe norms for treatment of several items in the preparation and presentation of financial statements. IASB adopted all the 41 standards issued by the IASC till 2001. These standards were thoroughly revised and updated in view of the changes in industry and the need for rationalization.

In October 2002, a Memorandum of Understanding (MOU) was signed between the IASB and the FASB, the two major players in the accounting standards arena, which is well known as Norwalk agreement. The two grand bodies agreed to put their best efforts to make their financial reporting standards fully compatible. The Norwalk agreement was welcomed throughout the accounting circles including the Securities and Exchange Commission (SEC).

The International Financial Reporting Interpretations Committee (IFRIC) was constituted to replace the SIC. This committee meets periodically to discuss and spell out their interpretations. It deals with matured as well as emerging issues. The former are those covered by existing standards but not satisfactorily practiced, and the latter are new topics relating to an existing IAS but not considered while developing the standard.

The last milestone in the process of convergence was done on 12 March 2002, when the European Parliament voted overwhelmingly in favor of the EU Commission's proposal that all EU listed companies must follow standards issued by the International Accounting Standards Board in their consolidated financial statements starting no later than 2005. This put an "end to the current Tower of Babel in financial reporting". This decision also seems to have placed IAS firmly in the driver's seat as the eventual global standard. Canada, Australia, and a number of other countries have announced intention to adopt IAS. United States, which has shown a preference for maintaining its independent standards setting body for a pretty longer period, is evidencing interest in convergence of accounting standards.

6. Present Global Scenario

The countdowns to the harmonization of national and international accounting standards and an improvement in the quality of financial reporting at a global level are best tracked chronologically.

The current world scenario on the subject of harmonization gets going on 12 March 2002, when the EU Commission directed all European companies trading in the European Securities Market to adopt IAS in 2005, and all non-European companies (following US GAPP or any other standards) up to 2007.

In June 2004, the Australian Accounting Standards Board (AASB) had issued standards and interpretations that all accounting standards of Australia that are equivalent to International Financial Reporting Standards (A IFRS) must be adopted from 2005 in their country.

Many countries like Korea, Barbados, Trinidad and Tobago, Zimbabwe, Mongolia, Malta, and Uganda are adopting IAS. The information about accounting principles applicable in Syria and Tunisia indicates that they are similar to international accounting standards. At present, all companies and banks in Russia are required to prepare their financial statements in accordance with IAS.

New Zealand's Accounting Standards Review Board (ASRB) and Financial Reporting Standards Board (NZ FRSB) have adopted 36 new accounting standards and 12 interpretations in January 2005. And these formed New Zealand's equivalent of the International Financial Reporting Standards (NZ IFRS). It is going to implement IASB standards with effect from 1st January 2007.

Hong Kong is an important international financial hub. Its stock market ranks second largest in Asia and eight largest in the world in terms of market capitalization. The Hong Kong Institute of Certified Public Accountants (HKICPA), the standard setting body of Hong Kong has been pursuing the policy of aligning its standards with IAS since the early 1990s. Most recently, HKICPA has further committed time and resources to support convergence.

Philippines have also adopted national standards that are identical to IFRS from 2005. Singapore has adopted many accounting standards from IFRS that essentially word for word. Now these are known as Singapore's equivalents of IFRS (S IFRS).

Japan, the major player in the global capital market and the second largest capital market in the world, is a strong supporter of IASB. The Japanese Institute of Certified Public Accountants is now working in collaboration with the IASB to make the Japanese standards essentially equivalent to international standards. Japan too has undertaken a joint project in collaboration with IASB to remove the differences between Japanese Accounting Standards (JAS) and IFRS by January 2005.

The Canadian Accounting Standard Board (CASB) has also announced its intention to adopt International Financial Reporting Standards (IFRS) in five years. Canada's decision to adopt IFRS means that out of original G4 nations, US is the only member that has not gone over to international standards.

In Egypt, Egyptian Accounting standards have prepared to comply with international accounting standards except for certain minor differences to adopt Egyptian economic environment. Therefore, all companies listed in the Cairo Stock Exchanges must follow IAS. Kuwait adopted IAS as its national standards. Therefore, all Kuwaiti companies are following IAS for the purpose of listing. All companies in Jordan, both domestic and foreign, listed in the Amman Stock Exchange must follow IAS. However, in Turkey, foreign companies may follow any one out of three standards, such as, International Accounting Standards, UK GAAP and US GAPP for listing in Istanbul Stock Exchange.

In the Middle East, most of the countries have welcomed the International Accounting Standards. For cases in point, Bahrain, Qatar, Lebanon, and Oman are considering IAS as the replacement to their domestic standards. Of course, Iran and Israel had shown reluctance for the use of International Accounting Standards. In Iran, all companies to be listed in Iranian Stock exchange must have to follow Iranian accounting principles. Similarly all companies must have to follow Iranian accounting principles, if they want to be listed in Tel Alive Stock exchange.

On January 1, 2007, more than 1,100 Chinese companies switched to new accounting standards that brought their books in line with international norms. From next year, the companies will have to apply a new set of 38 standards, under the China Accounting Standards System, that are basically in line with IASB (International Accounting Standards Board) norms. But, there is far more at stake than improving accounting practices at China's listed firms. Chinese companies are increasingly looking overseas for funds and acquisitions. Adopting international standards will make this easier by increasing their transparency and credibility.

In Bangladesh, the Institute of Chartered Accountants of Bangladesh (ICAB) set standards for the country through its Technical and Research Committee. Till date, it has adopted all eight IFRSs and twenty six IASs. In terms of standards, the gap between IASs and the standards as followed in Bangladesh is insignificant though some national laws give contradictory prescription in single situation. Another milestone reached by Bangladesh is that it has enacted the Financial Reporting Act 2008 to control financial reporting activities and, at the same time, to do the watchdog function of the accounting and auditing profession that will further strengthen the harmonization process.

From above deliberations, it can be believed at this moment that, the IOSCO's endorsement of the IASC standards has paved the way for unification of accounting standards globally and emergence of the true artificial language designed for global use in the field of accounting (Srkant, 2005). Today the world of accounting feels that International Accounting Standards should be that language, as it is the only set of standards that has been prepared through wide international consultations and participations.

7. What will happen if USA does not adopt IAS?

Now it is realized that, barring very few, almost all countries of the world are interested to follow IAS as their accounting standards. USA is the only main country reluctant to adopt it. Now question arises what will happen if super-power of the world and a highly developed economy like USA does not adopt IAS?

Executive search firm, Russell Reynolds' survey of chairmen across 145 European companies has found: (a) over half the chairmen of companies with US listings said they would consider de-listing because of Sarbanes-Oxley, in spite of the difficulties in taking shares off the US exchanges; (b) 70% of those heading companies not yet listed in the US said Sarbanes-Oxley would dissuade them from seeking a US listing.

With the relatively tighter regulation in the US, several large companies are understood to be evaluating other capital markets that accept IFRS (Memani, 2006). While such situations provide an opportunity for IFRS to flourish, it would still be inappropriate to stay limited to that perspective. This is because IFRS stands a fair chance on its own, with its acceptance by EU, and also given the fact that many countries have traditionally followed IFRS or IFRS-inspired national accounting standards.

8. Harmonized Accounting Standards: Issues and Challenges

In spite of all, achieving global convergence in accounting standards is not an easy task. There are a number of issues to overcome.

First of all, there seems to be a reluctance to adopt the International Accounting Standards Committee (IASC) norms in the US. This is definitely a problem. The US is the largest market and it is important for IASC standards to be harmonized with those prevailing there. The US lobby is strong, and they have formed the G4 nations, with the UK, Canada, and Australia (with New Zealand) as the other members. IASC merely enjoys observer status in the meetings of the G4, and cannot vote. Even when the standards are only slightly different, the US accounting body treats them as a big difference, the idea being to show that their standards are the best. However, except US all other members of G4 has adopted the IAS more or less to some extent.

Second, accounting standards have been developed in different countries under different legal, economic, social and cultural environments. For this reason there exists such diversity in accounting standards among the countries through the globe. If convergence is to be achieved, it is first necessary to arrive at an agreement as to the central objective of financial reporting. The IASB standards are oriented to serve the needs of investors and capital markets. Countries that have a different financial reporting philosophy would find it extremely difficult to harmonize their domestic standards with International Financial Reporting Standards.

Third, the quality of financial reporting depends on the quality of accounting standards as well as the effectiveness of the process by which those standards are implemented. Adequate regulatory and other supports are necessary to ensure proper implementation of standards. Implementation of accounting standards is not an easy task. In spite of convergence, there is no assurance that they will be implemented with same amount of vigor in every jurisdiction.

Last, convergence of accounting standards with international approach will inevitably raise the questions of rules versus principles. IASB standards are principles-based. Thus the countries that have rules-based standards are expected to experience considerable difficulty in harmonization of their standards with IFRS.

There are challenges that IASB and nations adopting IFRS need to address in the coming days. One big challenge for countries adopting IFRS is the shortage of manpower and more particularly, IFRS-trained manpower. For case in point, with just six months to go before China's listed companies adopt IFRS, demand for accountants is rising and could run into millions in the coming years, if the new standards are rolled out for all of the country's companies and not just the listed ones.

Accountants say that the challenge for China, as it scrambles to meet the accounting shift deadline, will lie in getting its over-1,100 listed companies to establish the appropriate financial reporting systems and in training enough qualified accountants by January. The risk is that some of these companies may fail to make the transition on time. Estimates reveal that China has a shortfall of 300,000 qualified accountants and is likely to require a further three million over the coming years to keep pace with its current rate of economic growth.

9. Status of Indian Accounting Standards

India is a member of IASC. The Institute of Chartered Accountants of India (ICAI), the apex body of accounting and auditing, constituted an Accounting Standards Board (ASB) on April 21, 1977, to pronounce standards on various items of the financial statements. The current Indian accounting standards are of good quality in most instances and in fact, are practically the same as IASs. The statutory audit was the only enforcement mechanism till 1999. It was in 1999 when the Government of India constituted the National Advisory Committee on Accounting Standards (NACAS), an advisory body on accounting standards by inserting Section 210A in the Companies (Amendment) Act 1999. So far, the NACAS has advised the adoption of 27 accounting standards developed by ASB.

In support of its commitment to adopt IAS; the ASB is examining the various standards revised by IASB to initiate revision in its corresponding. This Board has been releasing standards from time to time. Certain of the standards have also been revised/deleted/curtailed in the light of new and additional standards as well as the experience of the industry. Moreover, the Board has also prepared a comparative statement listing the IAS with corresponding Indian Accounting Standards, and also the standards which are irrelevant in the context of present economic and business scenario (Chowdhury, 2000). Till now, 29 Accounting Standards have been issued by the ICAI as against the 41 International Accounting Standards. There are also five International Financial Reporting Standards (IFRS).

In India, since the ASB is not yet functional, the accounting standards as pronounced by the ICAI are adaptable by every entity whose financial statements are subject to audit.

10. Grounds of Diversity between Indian Accounting Standards and IAS

India is slowly entering into the arena of accounting standards. But the progress of formulation of accounting standards has been very slow as compared with the developments at international levels. However, some of the accounting standards in India conform to the International Accounting Standards. Still there are significant variations between these two. Efforts are on to counterpart Indian accounting standards with the IAS. A study of their variations would be crucial for bridging the gaps (Reddy, 2000).

For India, the multiplicity of standard setters leads to delay and lack of direction. The increased complexity of the fair valuation models as prescribed by international standards requires extensive valuation/objective professional judgments, integrity and uniformity of approach, which may not be easily achievable across all countries—particularly in the emerging economies like India.

It may be noted that in several important areas, when the Indian Standards are implemented, the accounting treatment in these areas could lead to differences in the restatement of accounts in accordance with IAS. Some of these areas include: a) Consolidated financial statements, b) Accounting for income taxes, c) Financial Instruments and d) Intangible Assets. Another reason for the prevailing divergent accounting practices in the Indian Accounting Standards is the provisions of

the Income Tax Act 1961 and Indian Companies Act 1956. They do not go together. Sometimes, the prescriptions are contradictory on a similar issue.

10.1 Company law and Accounting Standards

In India, though accounting standards setting is presently being done by ICAI, one could discern a tentative and halfhearted foray by company legislation in to the making of accounting rules of Measurement and reporting. This action by itself is not the sore point but the failure to keep pace with the changes and simultaneously not allowing scope for some one else to do it is disturbing.

A study of the requirement of company law regarding the financial statements reveal several lacunae like earning per share, information about future cash flows, consolidation, mergers, acquisitions etc.

10.2 Income Tax Act and Accounting Standards

The Income Tax Act does not recognize the accounting standards for most of the items while computing income under the head "Profits & Gains of Business or Profession". Section 145(2) of the I. T. Act has empowered the Central Government to prescribe accounting standards. The standards prescribed so far constitute a rehash of the related accounting standards prescribed by ICAI for corporate accounting. On a close scrutiny of these standards one is left wondering about the purpose and value of this effort. Examples are application of prudence substance over form, adherence to principles of going concern etc.

10.3 Other regulations and accounting standards

In respect of banks, financial institutions, and finance companies the Reserve Bank of India (RBI) pronounces policies among others, revenue recognition, provisioning and assets classifications.

Similarly the Foreign Exchange Dealers Association (FEDAI) provides guidelines regarding accounting for foreign exchange transactions. Since the Securities & Exchange Board of India (SEBI) is an important regulatory body it would also like to have its own accounting standards and in fact, it has started the process by notifying cash flow reporting format. It is also in the process of issuing a standard on the accounting policies for mutual funds. It appears as if several authorities in India are keen to have a say in the matter of framing accounting rules of measurement and reporting. The tentative and half-hearted legal and regulatory intervention in accounting in India has come in the way of development of robust, continuously evolving and dynamic accounting theory and standards (<http://www.icaai.org>). In spite of this, India's adoption of IAS is inevitable. When the whole world is adopting one language, it will be simply impossible on the part of India to hold it out for a too long period.

11. The Conclusion

Harmonization is the process by which differences in practices among countries are reduced (Doupnik, 1987). The case of harmonizing accounting practices and principles at the international level is stronger today that it has ever been (McComb, 1982). Even, the IASC itself is concerned with removing unnecessary differences in accounting principles and practice throughout the world (McComb, 1982). Overwhelmingly, the harmonization of accounting practices suffers from a lack of synchronization between the issuance of standards at the national level in different countries and the formulation of standards by the IASC (Rivera, 1989).

At the same time, both success and failure exists in the process of harmonization. For example, the American Institute of Chartered Accountants (AICPA) adopts the view that US GAAP being superior to IASs and its member must necessarily comply with the former (Most, 1984). As we know that it is an age of globalization, there is no conceptual boundary among the nations. And this is not difficult at all to choose superior standards through the current process of setting the standards. The attainment of a single set of accounting and reporting standards is the demand of the time. We will fall behind if this harmonization process takes more time.

Many of the initial hurdles in the process of harmonization have been overcome and much progress towards convergence of accounting principles and procedures among countries has already been achieved. Convergence initiatives are now working much more effectively than ever before. Differences are still there but they are narrowing. It is expected that the pace of progress in the sphere of convergence will accelerate further in the coming years. In Indian perspective, it will continue to adopt IASs/IFRSs in the near future with few modifications to cater to the requirements of local climate.

Setting IFRS under new regulatory framework is also a notable success in harmonization. IAS permits some alternative practices that has been reduced in IFRS to make the prescription common to all so that following same standards cannot generate varying practices. We expect that this process will ultimately set new benchmark for achieving harmonization in both national and international level.

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Under the New Situation of the Textile Economy

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Abstract

China's entry into the WTO, all the textiles with the formal abolition of restrictions on Chinese textile and garment industry entered the free trade era, the increasingly fierce international competition, but also brought unprecedented opportunities to the Chinese textile and apparel industry. China's textile and garment industry required in this particular under the new situation to meet the challenges and seize the opportunity to be successful. Under the new situation China's textile and garment industry facing difficulties and the opportunities this article will do a specific analysis and put forward some feasible options for enterprises to adopt.

Keywords: New situation, Difficulties and opportunities, Possible options

1. Foreword:

China entered the WTO, the implementation of a 40-year-old global textile trade quota system was officially abolished, the world ushered in the global textile and garment field of free trade competition. However, after only four months, the United States and Europe also picked up a big stick of trade protectionism for the Chinese export of textiles quotas. On May 27, The EU also announced that on China's two categories of textiles it would start an emergency of special protective procedures. After seven rounds, on November 8, 2005, the two sides reached a "trade in textiles and clothing on the Memorandum of Understanding", In the agreement the product base of 2006 is the related products in 2005 which are inputted to the United States from China. The base of 2007 and 2008 is respectively the volume of annual agreement. The rate of agreement products in 2006 grows from 10% to 15%, 12.5% to 16% in 2007, 15% to 17% in 2008, the agreement in January, 2006 came into effect, and in 2008 December 3 it was terminated.

The first textile agreement indicators which Europe and the United States set limits on the products imported in 2007 was a more reasonable price, but in the allocation method has increased the threshold. According to the "Agreement Tender Notice", provided for a specific period of time restrictions business must have the export performance on the countries and regions, will it be possible to obtain agreement qualified tender. Agreement tender improve eligibility threshold so as to bring the decrease in the number of bidding companies, in 2007 a total of 4 787 companies received the US-bound exports to the EU agreement on 13 categories of tender qualifications, less than 16,000 reduction in 2006.

Can be seen, with the increase in international trade in textiles, the problem that China's textile exports is facing, in particular the trade friction, is also increasing, and only the first three quarters of 2006 had reached 70. In 2007, a severe trade friction will continue. Research on the status quo of China's textile trade, especially China's textile trade friction problem, is of great practical significance.

2. The status quo of China's textile and garment trade

China is the world's largest textile producer. China's textile and garment industry in the global textile and apparel trade occupy a pivotal position. In the reform and opening up 20 years (1978-1998) China's textile and garment industry reached exports 3566 billion U.S. dollars totally, the net foreign exchange earnings 2 55 0 billion U.S. dollars, and are china's big and major net foreign exchange earnings industries. 20th century since the 90's, China's textile and garment export growth was mainly on non-quota areas, from 1990 to 1998, the net increase amounted to 22 billion U.S. dollars. One of exports to Japan grew by seven billion U.S. dollars, while the quota-free market increased by only 610 million U.S. dollars. Quota exports in 1998 total exports accounted for 22%, non-quota exports 78%. Joining the WTO, because of quota restrictions in 2003 on the United States and the European Union China's textile and apparel exports still account for only 23% of all exports. China's main textile and apparel export countries and regions are the United States, Japan, Hong Kong, Korea and Australia.

In 2006, China's textile and apparel imports and exports reach 65.136 billion U.S. dollars, grew by 22.66 percent compared to 2005, represent the country's total import and export volume of 9.38%, induce a trade surplus of 29.034 billion U.S. dollars. Of the main textiles and garments export countries (regions), the United States ranked first, the European Union, Japan and China, Hong Kong respectively ranked second, third and fourth. Exports on the United States, Japan and Hong Kong totaled 60.639 billion U.S. dollars, accounting for China's textile and apparel exports of

41.23% of the total. In the main importing countries (regions), Japan listed first, China Taiwan second and South Korea third.

3. The international environment and the challenges China's textile trade faces

3.1 Unprecedented opportunities China's textile exports are facing

First of all, the production capacity further releases, market space continues to expand. A long time, because of quota restrictions on Chinese textile and garment products in the international market, cost and quality advantages have not been fully released. With the phasing out of quotas, China's textile and garment exports grow steadily.

Secondly, the Chinese textile and garment industry will attract more foreign capital, advanced technology, advanced management, such as elements, strengthen cooperation with countries in the textile and apparel in the field of cooperation in promoting China's textile and garment industry in quality, management, environmental protection, brand development, etc. and promote industrial upgrading.

Thirdly, it can promote Chinese high-tech textile technology and textile machinery exports, so that Chinese textile and garment enterprises by virtue of their relatively strong financial and technical advantages go to North America, Central and South America, Africa, the Middle East, Europe and surrounding countries and regions to invest and set up factories, create diversified markets.

3.2 challenges China's textile trade faces

3.2.1 China's textile industry's problems in present

Although China's textiles in the world textile trade is playing an important role, but the president of the textile industry Association Du Yu zhou repeatedly in his speech said that China's textile industry take a new road to industrialization, in terms of their specific circumstances or situation at home and abroad there are many contradictions and problems must be addressed.

First of all, China's textile industry's science and technology content is not high, it is difficult to adapt to the competitive environment of the new era of globalization. Contemporary textile industrial restructuring is different from the characteristics of the previous economic era, and it is based on industry-based transnational horizontal division of labor dominant mode of production. What transfer to developing countries are low-end industrial chain technology, such as conventional capacity and equipment, and developed countries still control the commanding heights of technology, brand, market. China's textile industry need to improve its position as worker or the advanced workers, in another words, upgrade the status of the upcoming Chinese manufacturers rose to Chinese brands. The new technology is good enough for those who rose to originality must be put to use high technology to transform traditional industries as the main line of industrial upgrading and structural adjustment of the focus. China's textile enterprises overcome ills such as overweighting the hardware and underweighting software, re-expanding the scale of light Stalls investment in research and development; emphasis on technical management but neglect to management Not only to control low-level redundant construction, and but also the phenomenon of the first-rate equipment, second-rate products, third-rate price is also to be fundamentally changed.

Secondly, the current profitability of our textile industry is not strong. Analyzing the 2003 profit growth factor, we find two main factors, firstly, large-scale use of migrant workers, low wage level; secondly, good results of the years of reform. In 2003, Enterprise management fees and financial costs are lower according to the date analysis from January to November. Comparing sales revenue to the cost, it will be found that the value of the products is not high, the cost of increased risk of resistance is not strong, and this is the main performance of the low labor productivity.

Thirdly, the effectiveness of China's textile industry's fiber resources and energy should be further improved. The development of fiber materials science, improving capacity of fiber resources on performance and functionality, in process, large-scale use of emerging scientific and technological achievements, to greatly improve the efficiency of resource use, reducing consumption, studies fiber and other renewable raw materials and recycling technologies so as to reduce energy consumption and save fiber, all of this are questions to be resolved urgently.

Finally, the popularity of eco-technology in China's textile industry spread quickly in exports, but it has a great difference seen from the whole industry. Implementing eco-standards and environmental standards, is not only for export, but also for the quality of life of consumers at home and abroad, so we have to adhere to the principles of people-centered, protect the environment and sustainable development, need to go through difficulties on materials, equipment, technology, training, investment, etc. and overcome the ideological, technical, material, institutional difficulties.

3.2.2 International challenges Chinese textile industry faces

Although the global textile trade quotas will eventually be in the January 2008 cancelled, but the international environment that China is facing is not so easy, all developed countries will make use of a variety of barriers and

implementation of anti-dumping to carry out trade protectionism policy in order to set restrictions on China's textile export. Many countries have also asked for a postponement or even cancellation of the quota period. China's textile and garment export enterprises should pay special attention to the following questions:

Firstly, it is the Istanbul Declaration. March 2003, Turkey, Mexico, the United States textile industry organizations proposed the Istanbul Declaration requesting WTO to continue to apply quotas management on China's textile export until the end of 2007, and assess the competitiveness of Chinese textile exports.

Secondly, it is about safeguards of special products and textiles. According to Protocol 16 (Special Products safeguards) and the report of the Working Group 242 (textile safeguard measures) which China promise when she joined WTO, so far, the United States, the European Union, Korea, Japan, Canada, India, one after another set domestic legislation in accordance with section 242, the United States has re-imposed restrictions for the three Chinese textiles (knitted fabrics, bras, dressing gowns).

Thirdly, it is anti-dumping investigations. Now India, Turkey, Peru, South Africa and other developing countries have an anti-dumping and anti-dumping investigation on China's textile products, the EU are also brewing some plan including anti-dumping and other restrictive measures.

Fourthly, it is ecological criteria such as technical barriers to trade. Developed countries have formulated and promulgated a series of eco-textile standards. In particular, the European Union in September 11, 2003 implemented Directive 2002/61/EC banning 22 kinds of azoic dyes, June 30, 2004, blue dye formal implementation instructions on textile was come into effect, making the very stringent requirements for raw materials.

Fifthly, it is SA8000 social responsibility standards. At present, the developed countries, especially Europe and the United States and other politicians within the country, the media, social organizations continue to exert pressure on the government to require exporters of textiles and garments in the production process not to employ child, call for test on the workers working conditions and benefits.

4. China's textile trade friction problem

4.1 textile trade friction phenomenon

January 1, 2005, although global textile trade quota system is abolished, the United States and Europe settled restrictions against Chinese textiles once again; trade friction happened frequently, there were lots of incidents about textile trade friction in 2005.

4.2 Reasons of the textile trade friction

4.2.1 The re-emergence of protectionism in global trade

The reason why the re-emergence of protectionism is the only superpower the United States has gradually lost its absolute superiority in the world economy, has been unable to maintain hegemony. Holding highly the big stick of sanctions the United States points it to Europe and Japan, South Korea whose economy gradually restored Seventies twenty-first century and today's major developing countries – China.

4.2.2 Trade thought transferring from "free trade" to "fair trade", "managed trade"

70s after the 20th century, European countries restored the economy, improved international competitiveness, the United States after World War II, firstly face a serious problem in international economic competition, and gradually lose its comparative advantage in international trade, its hegemony has become increasingly frail, the United States began to comply with the "reciprocity" principle, rather than the principles of GSP, to deal with trade issues among countries. In this context, the United States Ronald Reagan and George W. Bush have gradually deviated from the ideology of free trade principles in terms of trade theory and trade thought, began to resort to the so-called fair trade and managed trade. But "fairness" is relative, the developed countries use fair competition of their domestic markets as a pretext to achieve its restrictions on foreign merchandise to protect its own industry, this is the strong place "fair trade" has itself.

4.2.3 Politics of international trade are an important of element

Trade itself contains the economic factors and political factors, not only involved in international politics, it also has something to do with domestic politics. In theory, politicians know that free trade is superior to the protection of trade. However, on the one hand, they want to seek their own benefits ingenuity, and their benefits come from different groups, especially the major economic blocs. In the era during which international competitiveness of domestic enterprises relatively decline, the economic interests of business groups is likely to conflict. On the other hand, politicians have to win the election; it must yield to some special economic blocs.

4.3 The impact of Textile trade friction

4.3.1 On the impact of China's textile industry

The textile industry belongs to labor-intensive industries, is a competitive industry in the international market.

Restricted or is likely to impose restrictions of the product of The first half of 2005 will reach 1 / 3 of the total amount of textile and apparel exporting to European and American. Restrictions of China's textile products have significant impact on employment.

In addition, the disputes between China, the United States and Europe in textile trade brought to the market more uncertainty. In the international low-end market Chinese textiles are not an irreplaceable competitiveness. Bangladesh, the Philippines, Indonesia, Cambodia, India and other countries have their own advantages. Once China fail in the trade dispute between the United States and Europe, countries mentioned above have the capacity to absorb market orders. Moreover, China's textile industry has a large number of foreign-funded enterprises, once the export setbacks; it will lead to the loss of foreign investment.

4.3.2 Can not be optimistic about the situation in textile exports

In September 5, 2005, Although China and the EU reached an agreement on Chinese textiles in respect to EU customs problem on stranded harbor: all about 8 0000000 Chinese textiles stranded in the EU customs will be released. For such a result, media defined it as "win-win", but it should be clearly recognized that this is a temporary and limited "win-win." the situation of the China's textile exports to EU in 2008 is not optimistic.

Firstly, in 2005, before 4 months, the Chinese textile exports to the EU doubled, resulting that European Union adopted a "special safeguard" measures to investigate; In June 11, 2005 EU and China reached "China-EU textile agreement", before January 1, 2008, there is 8% year-on-year 12.5% growth on 10 categories of Chinese textiles in the quota limit. The amount of such growth, as opposed to China's textile production capacity, would be tantamount to a drop in the bucket, so in 2006 the war of quota is more intense.

Secondly, in 2005 the "textile war", many export enterprises get clearance exports, launch price war, its profit is extremely low, and some even losses. Currently, some banks have been extending loans to enterprises of the textile very tightly, and even non-credit phenomenon. Some bank sectors think, China's textile industry may collapse. In fact, China's textile industry is very competitive in the world; dealing with EU textile limits requires upgrading, industrial upgrading, while textile enterprises need more support from the bank.

Thirdly, the EU will amend countervailing law as soon as possible to apply to China. Compared with the anti-dumping and safeguard measures, special safeguard measures for textiles is more powerful, but the power of the textiles-specific safeguard measures in the end of 2007 fails, and more powerful countervailing law is bound to be used by the EU. The EU is now considering granting China half-market economy status, at that time the EU anti-subsidy law will automatically apply to Chinese. EU Trade Commissioner Peter Mandelson said the EU market in 2008 will have the full liberalization of Chinese textile products. But even in 2008, domestic situation of 25 member countries comprising the European Union's is uneven; the textile industry in the EU will have a considerable share, and the EU will not automatically give up.

Fourthly, because China's textile exports to the European Union is uncertain, the EU importers will import from India, Bangladesh and other countries to reduce unnecessary trouble.

5. China's textile trade measures

In the face of the grim situation under which the trade frictions often happen after the abolition of 'ATC', the Chinese Government attached great importance, the Ministry of Commerce director of the textile start immediately trade negotiations with the countries concerned, and finally has made gratifying results. First of all, in June 11, 2005 Chinese Trade Representative and the EU reached a "part of Chinese textile exports to the EU memorandum" agreement. And after seven marathon talks, in November 8, 2005, china and the United States reached "regarding trade in textiles and clothing a memorandum of understanding." The signing of these two agreements not only broke the world report of the Working Group terms of paragraph 242 of the 7.5% limit, but also generate a stable and predictable trade environment for Chinese textile enterprises, and effectively safeguard the interests of China's textile enterprises. Since these two agreements get the overall higher growth rate, so that in 2005 China's textile and garment export has achieved 15.01 billion U.S. dollars, up to one more than one hundred billion U.S. dollars mark for the first time of great achievements. But we should realize that this is not a "once and for all" thing. As long as our country has a comparative advantage of low-cost, high degree of dependence on the textile industry's external surplus, and large trade imbalances continue to exist, thus it is difficult to avoid trade friction. Moreover, after 2008, "transition period product-specific safeguard measures" against China will continue to implement until 2013, as well as non-market economy status gets China's enterprises at a disadvantage in responding to long-term anti-dumping cases. Therefore, China's textile export enterprises and government departments still have many questions to be settled urgently.

5.1 China's textile enterprises in response to

5.1.1 Adjust and optimize the structure of the export of textiles

The comparative advantages of Chinese textile products are a large quantity and cheap, although quality increase

year-on-year, the overall level is still in the middle. Because of continuous low-level expansion of production capacity it has been shown oversupply; as a result, in the fierce international market competition it mainly relies on low prices to expand sales. This will not only lead to restrictions that developed countries take such as the United States and Europe means, but also lead a similar level of textile exports of developing countries to take the necessary means to resist China. To solve this problem completely, China's textile enterprises need to improve product development and design capabilities, and promote the product mix optimization, focus on innovation, enhance the technological content and value-added products, speed up the implementation of brand strategy, and vigorously to change the only way to expand sales increasing the number of growth and make low-end processing trade with only modest sales gains.

5.1.2 The implementation of the strategy of market diversification

The United States and the European Union are the world's largest textile and apparel import market, also are the China's main textile and apparel export market for many years, Chinese textile products in the U.S. market share has increased year by year, has been as high as 20%, in the EU market it accounted for about 14%, both rank first. Because China's textile exports market heavily relies on the United States and Europe, trade friction between china, the United States and Europe in 2005 frequently happened, seriously affecting the normal operation of China's textile order. Therefore, China's textile export enterprises must appropriately adjust the target market, with the exception of seeking to continue to consolidate the market in the United States and Europe, should we must also actively explore the implementation of the strategy of market diversification, such as Australia, Russia, Switzerland and the Middle East country who have not been restricted and so on, are new customers we should try to develop in order to diversify market risks. That is, "Can not put the whole eggs in one basket," in case the trade environment faces the event of a sudden, you were caught by surprise, so that the whole business gets in a difficult position.

5.1.3 Qualified textile enterprises go out to the country without export constraints

At present, the domestic textile industry exports in the face of various constraints should have a new breakthrough in the business strategy, conditional textile and garment enterprises may go outside to set up production plants, will not only ease the trade frictions and a variety of risks brought about by trade environmental uncertainty, help enterprises make better use of both domestic and foreign resources, optimize the allocation of resources and access to advanced technology, management expertise and marketing network, and enhance the international competitiveness of enterprises.

5.1.4 The implementation of both domestic and international market strategies for Chinese textile and garment industry are the development of direction

Textile enterprises should be in operation both inside and outside. Attaches great importance to the domestic market, make full use of their advantages and become the dominant domestic market, which is the basic law of the development of the world's textile and garment industry. with China's rapid economic sustainable development and the general standard of living of the people continuing to improve, China's domestic market potential should not be underestimated, expanding domestic demand is an important force which drives China's textile industry for sustainable development.

5.2 The responsibility of Government in the textile trade

Government should create a good, relaxed policy environment for the enterprises to participate in international competition in the market, remove constraints and factors of disharmony, it is necessary to further strengthen the service function. China's textile trade will face a variety of trade frictions and new challenges, the Government should do the following well on macro-control and development strategy.

① it is necessary to actively guide the textile industry pay close attention to improve textile product development and design capabilities, and promote upgrading of product structure, block the low-level redundant construction, strengthen supervision whether textile enterprises comply with national labor, environmental protection and safety production or not and management of relevant laws and regulations, emphasizes the control of textile and garment exports quantity and price, stop vicious competition between enterprises.

②We should carefully examine the necessary condition, market access standards and certification system for operating textile and garment export trade in order to improve the overall quality of the textile enterprises and business technology professional level in operating foreign trade.

③We should actively implement strategy of "going out" for textile enterprises, the Government should grant encouragement and related support on policy.

④We should perfect laws and regulations which has relation to textile trade, in particular, speed up amendments to a simultaneous development of market-oriented process, speed up the decentralization from the Government to industry associations, so that the latter has the related laws and regulations when carrying out various tasks .

5.3 Textile Industry Association responses

Industry associations, chambers of commerce are all non-governmental organizations, they act as a bridge between the government and enterprises. On the one hand, it assists the Government in implementing policies and regulations relating to the implementation and supervision, on the other hand, it represents the interests of the business to provide recommendations and provide advice for Government's policy measures, and gives communication, coordination, self-discipline and anti-dumping Shanghai (should be), etc. v. Service for business. In the past, under the planned economic system, all economic activities were controlled by the Government, Government and enterprises were bounded together. With the reform and opening-up policy and the transition of China's economic system to market economy, various industry associations and chambers of commerce launched and increasingly played more important role. In face of the new international economic situation during which the post-quota era of the textile trade begin, it is very necessary to strengthen organizations of our industry association to fully mobilize and exert its role.

6. Conclusions

In short, in the new circumstances, Chinese textile and apparel industry is facing unprecedented opportunities and challenges. We must deeply analyze and understand the current world economic situation, put our own business into correct position, take care of business difficulties encountered by each other and find a suitable program of its own development in today's more fierce competition.

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The Economic and Environmental Impact of a Suitable Forest Harvest Zone Allocation Using a GIS Analysis

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Abstract

Many countries are gradually adopting environmentally acceptable harvesting planning strategies. Various codes of practice such as FAO model code of forest harvesting have been developed for use at the international, regional and national levels to improve harvesting practices following concepts of low-impact harvesting. Since the last 20 years lowland forest in Peninsular Malaysia has declined gradually, and this has pushed harvesting operations to the hilly areas. The extent of damage to the forest environment, especially in hill forest has been alarming, mainly due to the complexity of its topography that lead to soil erosion. This study develops an integrated model of geoinformatics technology applied to forest harvest planning. The model determines the distribution and extent of allowable forest harvest zone from economic and environmental perspective using cartographical modelling and linear weighted combination approaches in a GIS. This study uses remote sensing data and geographic information system technology for data extraction, manipulation, analysis and evaluation of impacts of the difference perspective for forest harvest zone. The study revealed that by integrating remote sensing and GIS modelling, a suitable harvest zone for harvesting operations could be determined from the economic and environmental perspective, thus the impact to areal extent of a suitable forest harvest were analysed and determined.

Keywords: Economic impact, Allocation model, Environment, GIS analysis, Forest harvesting, Planning

1. Introduction

Forestry is a major element of the natural resource of Malaysia and the effects of its activities on Malaysian communities and the economy play a key role in determining its management. The long association of forestry and the local community has created an understanding of the relationships between the socio-economic and environmental aspects of decision-making. Planning for the management of forest resources has become more complex and controversial in recent years. Public attitudes and values have been steadily evolving, and today are more diverse including in environmental issues (Davis, 1992). Because of the complex in forest ecology and its interaction involved in wise management, it leads to necessary to decision-making process.

In the last two-decades, concerns about the economic and environmental problems of forest harvesting in Malaysia have emerged. In many states legislation has attempted to overcome some of these problems by establishing a framework for forest management. At the end of 2002, Malaysia had an estimated 19.93 X 10⁶ ha. of forest covering 60.7% (32.86 X 10⁶ ha.) of its total land area. Of this total, about 14.33 X 10⁶ ha. has been designated as the Permanent Forest Estate (PFE) under sustainable management, while 2.12 X 10⁶ ha. are protected by legislation for conservation purposes. Currently, forest management practices in Peninsular Malaysia are based on the Selective Management System (SMS) with the main objective of optimizing timber harvest while maintaining the sustainability of forest production. In forest harvesting, the main issues in forest resource survey are in the forest area estimation and determination of the suitable harvest zone. These issues need to be investigated in order to meet the objective of sustainable forest management and reduce the impact of logging. One of the major requirements for improving resource management is the need to have enough data. The knowledge of resource availability is very important in order to evaluate timber stock and to monitor

and assess forest conditions. Thus, estimating forest area for harvest is important for rapid survey and assessment (Deppe, 1994). Data regarding the extent and forest distribution are essential inputs for inventories and harvesting activities. Many factors are considered, especially when dealing with large areas, cost, time and difficult accessibility.

The value of forest land has risen because of changes in land use. While maximizing economic efficiency continues to drive changes in forest harvesting, and since 1990's it has been linked with efforts to minimize negative environmental impacts. Allocating suitable harvest zones for forestry is designed to guide forest managers, planners and decision makers with regard to the multiple uses of forestry. The allocation system has provides options for utilizing resources in the most economic way, and at the same time aims to conserve forest to safeguard the environment. The National Forest Policy for Peninsular Malaysia (1977) has supplied to forest planner and manager to analyze the impact of decision making on all forest resources, not just the standing timber. Generally, decision making in forest management follows three phases as proposed by Simmon (1960): intelligence, design and choice. Intelligence corresponds to identifying issues, concerns and opportunities. The basic tasks of the first phase include identifying public issues and management concerns, analyzing major conflicts addressed in the scope of management problem when responding to each problem. Design invents solutions to the problem defined by the intelligence phase. The process sets standards and benchmarks, formulates and develops alternatives, estimates the effects of benchmarks, constraints and alternatives. Finally, choice refers to the selection of a particular alternative, based on the significant benefits, cost and effects of the alternatives. Making a sound decision requires consideration of how present action will affect future forest patterns, species composition, and present and future economic opportunities. It is clear that the future of harvesting plans of tropical forest will be largely dictated by the availability of integrated information technology with spatial, non-spatial and computer systems. The ability of geoinformatics to integrate data and produce meaningful information makes it invaluable to forest management. The general objective of this study is to investigate the application of geoinformatics to sustainable forest harvest planning through remote sensing and GIS modelling in maximizing harvesting of timber resources with reduced impact of logging on the forest area. Therefore, the specific objective is to develop a method of using geoinformatics to determine suitability of timber harvest zones from economic and environmental perspective.

2. Materials and methods

2.1 Description of the study area

The Sungai Tekai forest reserve was located at Jerantut district of Pahang State, Peninsular Malaysia. It is situated within latitude 04°10'N - 04°30'N and longitude 103°03'E - 103°30'E, covering an area of approximately 10,000 hectares (Figure 1). The study was demonstrated within a forest management compartment which consists of several compartments namely compartments 170, 171, 173, 174, 175, 176b, 196, 197, 199a, 199b and 200, respectively. This area is chosen because harvesting operation is still on going and the result of the study is needed by the State Forestry Department for further management and planning. The forest area is composed of mixed virgin hill forest, high in species diversity with predominance of Shorea species such as Meranti Seraya (*Shorea curtisii*) and Meranti Rambai Daun (*Shorea acuminata*). The elevation is mostly over 600 m above sea level. The slope gradient is undulating with steep rugged slopes ranging from 100 to 800. The annual precipitation is about 210cm with a high tropical climate with mean temperatures ranging from 200C -310C. The precipitation occurs mainly in two seasons: April to May and November to December. The relative humidity is high ranging from 62.3 to 97.0%, with a daily mean of 85.7%

<Figure 1. A map showing the 3D view of the study area in Pahang State, Peninsular Malaysia>

2.2 Methods

2.2.1 GIS and multi criteria evaluation (MCE)

In this study GIS-based MCE was approach was applied in order to yield the allowable harvesting zone. Multi criteria evaluation is a structured process to define objectives, to formulate criteria and to evaluate solutions to a decision problem (Pullar, 1999). The procedure GIS and MCE used for land suitability analysis were using linear weighted combination (LWC) approach developed by Eastman et al (1995). Land information was transformed to a set of factors over the study area. These factors were then combined by applying a weight to each factor, followed by overlay summation to obtain a suitability map. This map can be used directly to satisfy a single objective or multiple objective analysis procedure applied to allocate areas according to the highest ranked objective. The suitability, S is computed as:

$$S = \sum (A_i \times W_i)$$

where,

S = Suitability

A_i = Criteria score of factor i

W_i = Weight of factor I

A set of standardised factors A_i and their respective weights W_i are combined by additive computation to produce a suitability map S . Weighted Linear Combination (WLC) and concordance/ dis-concordance analysis (Voogd, 1983 and Carver, 1991) were applied in GIS based multi-criteria evaluation. From above equation latter, the decision rule weight the choice of the best area by considering a set of boolean constraints. Constraints are areas which have no suitability. The relationship can be expressed mathematically as:

$$S = \sum (A_i \times W_i) \times \pi C_j$$

where,

S = Suitability to the objective

A_i = Criteria score of factor i

W_i = Weight of factor i

C_j = Value of constraint j (0/1 of constraint j)

π = Product of constraints

2.2.2 Identification of appropriate criteria

Identification of criteria is a technical process, which is based on theory, empirical research or/and common sense. In this study, criteria identification was done through consulting with a group of professional foresters and the Pahang Forest Department officer regarding the suitable zone for harvest operation. In this section, the criteria for determining suitability of forest zone for harvest were provided. It should be noted that this selection is not exhaustive, and that only those criteria for which information is available were considered. Soil series is excluded in this study because the land is covered by virgin forest, and from the foresters' point of view the soil series is not a critical for determining a suitable harvest zone.

In planning the zoning, extreme pressures of environmental constraint can be restricted to more fragile ecosystems. Two criteria groups comprising four separate sets of forest geo-environmental attributes were used for the suitability evaluation (Table 1). They are topography (slope and elevation) and hydrological aspect (river buffer and lake buffer). Topography is an important determinant of suitability assessment. Elevation is considered because high forest areas suffer from inaccessibility, are fragile to any disturbance and it is important to protect them. Slope is even more important when considering the ease of engineering forest road construction and susceptibility to land sliding. Since pollution is a concern, river buffer and lake buffer areas was taken into account due to their importance in protecting the water resources from soil erosion. The distance of harvest area to the water sources were important to control debris flow during the rain season.

<Table 1. The criteria and justification in determining suitable harvest area>

2.2.3 Standardization (rating) of criteria

In the evaluation process of the criteria, a primary step is to ensure a standardization measurement system across all the criteria considered. Since most of the maps still hold their own cell or original value, these have to be standardised to a uniform suitability rating scale. The standardization of criteria needs to combine the factor layers in creating a single ranked map of suitability ratings for the suitability harvest area. In this case study, scales of 1 to 4 are used. Assigning values to specific factors amounts to making of decision rules in the shape of a threshold for each criterion. Numbers ranging from 1 to 4 were assigned to not suitable, marginally suitable, moderately suitable, and highly suitable, respectively. The fundamental terms of land suitability were adopted from the FAO framework 1977. Standardization was performed by assigning numeric values to different levels of suitability within each factor and map layer. In this standardization, it should be noted that statistical and empirical guidelines from the related national code and literature were used to determine the boundary value for rating purposes. In this case, broad categories of forest zone from the Forestry Department of P. Malaysia were applied. They were Productive Forest and Protected Forest. The standardization criteria for these forest zones were divided into forest zone from an economic point of view and forest function from an environmental point of view. The parameters use for setting the suitability threshold with regard to economic and environmental reason were taken from National Forest policy 1992 and National Forestry Act 1993, report by Muziol (1999) under a Malaysian-German Technical Cooperation Project for sustainable forest management and conservation. In designing a hydrological buffer, reviews of related scientific literature were carried out (see Wenger, 1999; Hodges and Krementz, 1996; Keller et al., 1993; Kinley and Newhouse, 1997, Spackman and Hughes, 1995; Bren, 2003 and Mitchell, 1996). Tables 2 and 3 show the class boundaries and standardised measurement employed for each criterion.

<Table 2. Standardization rating of each criterion from economic perspective>

2.2.4 Allocation of criteria weight

A weighting process is subjective and is carried out through pairwise comparison between the criteria. Different criteria usually have different levels of importance. For this purpose, a set of relative weights for influential criteria should be

developed in advance so that it can be used as input for suitability evaluation in the next step. In this regard, the analytical hierarchy process (AHP), a theory for dealing with complex technological, economical, and socio-political problems (Saaty, 1977; Saaty, 1980; Saaty and Vargas 1991), was appropriate method for deriving the weight assigned to each factor. The weighing scale used consists of nine qualitative terms that are associated with nine quantitative values (Table 4). When the criteria on the vertical axis are more important than the factors on the horizontal axis, this value varies between one and nine. Conversely, the value varies between the reciprocal $1/2$ and $1/9$. The pairwise comparisons are the input of the AHP model that calculates the relative priority of each criterion. In calculating the relative priorities, AHP uses the eigenvalues and eigenvector of the pairwise comparison matrix (Saaty, 1980). However, in this study an approximation approach was applied because it is much easier to understand.

<Table 3. Standardization rating of each criterion from environmental perspective >

3. Results and discussion

3.1 Restricted and suitability forest harvesting zone

The preliminary harvest zones were outlined into two classes namely suitable and not suitable. In the next stages, suitable class was further divided into different levels of suitability. The area indicates the not suitable to highly suitable area using the scale of 1 to 4 categories and excludes all areas deemed unsuitable by the constraint map. The cartographies results at this stage are highly sensitive to the weights applied. The priority weights assigned to various criteria were seemed an effect on the results. The final constraint map and final combined criteria map from the economic perspective for suitability harvest zone is shown in Figures 2, while from environmental perspective are shown in Figure 3. The final suitable forest harvest zone map from both perspectives was obtained by calculating weighted overlap map in arithmetic overlay function by combining the two images to produce images as shown in Figures 4.

<Figure 2 .The final combined constraint and criterion map for suitable harvest zone area from economic Perspective>

<Figure 3. The final combined constraint and criterion map for suitable harvest zone area from economic perspectives.>

<Figure 4. A suitable harvest zone map for the Sungai Tekai Forest Reserve from economic and environmental perspectives>

The major areas that are identified as suitable for harvesting lie on the south-west region, where high topographical, steep slopes and hydrological buffer areas are avoid. The area is appropriate since it is located below 1000 m and on slopes lower than 40 degrees. The unsuitable area is located in the eastern region. The areas identified as not suitable for harvest operations were more strongly influenced by slope and elevation than by other criteria. Statistically, the suitable harvest zone result by preliminary analysis is about 9215 ha. from the economic perspective and about 7547 ha. from environmental perspective. There are 941 ha. were classified as not suitable from the economic perspective and 2610 ha. from the environmental perspective, thus remaining as a protection forest zone. This area embraces the established constraints such as excessive slope, and steepest terrain and is located in fragile zones like river and lake buffer. From the economic perspective, protected forest zones are smaller in terms of area due to application of different criteria ranking, which are much lower than applied in the environmental criteria. Tabular results of both views are illustrated in Tables 5 and 6.

<Table 4. Scale for pair wise comparisons>

The second stage of suitability classes included marginally suitable, moderately suitable, highly suitable, and not suitable classes. The predominant classes were highly suitable, followed by not suitable and moderately suitable. The substantial difference in classes between the preliminary stage and second stage is due to the fact that an individual weight for each spatial layer in GIS was included according to their importance to forest management and development. Traditionally, the evaluation and mapping suitable harvest zones were laborious and time consuming tasks because of the large amounts of data required for the manual handling and processing of spatial data. The implementation of this procedure produced a high degree of consistency and reduced time and field evaluation.

<Table 5. Total areas for each suitability ranking: Environmental perspective>

<Table 6. Total areas for each suitability ranking: Environmental perspective>

The use of MCE and AHP will enable the forestry department to evaluate the option of forest harvesting operation more thoroughly, quickly and flexibility. Thus, more forest area such as Permanent Forest Reserve can be classified into productive and protected forest, before harvesting operations take place. Hence, planning future forest harvesting areas will exclude the protected forest zone. This will reduce the areas that have potential for harvesting. This is in line with sustainable forest management practice in Malaysia. Furthermore, the system also enables planners to visualize the

forest area in spatial format. The spatial map can show the spatial implications of the decision as a platform for discussion and negotiation between the forestry department and loggers.

3.2 Implications of suitable harvest area from economic and environmental perspectives

Two suitability maps were produced from different standardizations of criteria (i.e. economic and environmental perspective). The areas affected by constraints of two perspectives were compared using cell value distributions across the study area by histogram function. In specific slope class, slope cells with more than 30° and 40° were defined and the numbers of cells for both classes were examined. Slope class with more than 30° represent about 1.77% (cell value 121271), while the cell value above 40° is in a very small number percentage, with only 0.2 % (cell value 2673). This implies that the slope that falls in the restricted area for harvesting ($>30^{\circ}$ and $>40^{\circ}$) does not show a significant impact to the suitability harvest zone due the fact that the highest slope across study area is only 44° . The similar analysis was performed on elevation in order to examine the distribution of cell value contained within the elevation grid. To compare the impact elevation cell from the economic and environmental perspectives, the class were classified into two classes. The elevation that has cells with a value of 0m-600m and more than 600m, 0m-1000m and more than 1000m can be determined. The histogram displays the elevations were between 0m-1000m (100.00% cell value) from the economic perspective and 0m-600m (79.23% cell value) from the environmental perspective. There were fewer concentrations above 600m (20.77% cell value) and none (0.00% cell value) outside 1000m and above. This indicates that the profile of elevation from both perspectives can have a significant impact on the suitability harvest area. River and lake buffer themes were merged to create a new name: the hydrological buffer theme. Comparison was made of the implication of buffers from economic and environmental perspectives. Hydrological cells also showed a significant suitability for harvest area. The total of hydrological cells from the economic perspective was 92793 cells. However, from the environmental perspective hydrological cells along rivers and surrounding lake were 445206, a different of 352413 cells (79.15%). A summary of cell values counted by constraint factors from two perspectives is shown in Table 6, while Figure 5 shows a comparison of their cell values.

<Table 7. Summary of cells counted and area affected by constraints from economic and environmental perspective>

It indicates that the suitable harvest area decreases when the environmental view is taken. The area changes from no limit to approximately 2512.76 ha (24.74%) due to changed elevation criteria from 1000m a.s.l to 600m a.s.l. Buffer criterion changed from 20m to 100m, and as a result the constraint area affected from only 873.32 ha to about 3619.8 ha, respectively. The difference in elevation threshold is affected most, due to the nature of the elevation of the study area which only ranges between 180m to 980m asl. This indicates that elevation criteria are not applicable from the economic view and the entire study area is permitted for harvesting. This is followed by hydrology criteria which show a significant difference of about 35.64 % for the environmental perspective and only 8.59% for the economic perspective. However the suitable harvest area is not significantly affected by slope characteristics because the threshold of slope is only changed by about 10° . The difference in area from both constraints perspectives is only 7.78 ha, and is considered as a minor change.

<Figure 5. Comparison of cell value distribution for each constraint factor from two perspectives>

Table 7 summarizes the area for productive forest from economic and environmental points of view. Please note that the final area extent is made up by merging all the criteria and constraint factors which take into account overlapping cells. The table illustrates the productive and protected forest after combined constraint and criteria factors. The difference in area designated for productive and protected zone reflect the criteria applied to each perspective. A significant difference was found in the protected zones, which included approximately 79.38% of the area. However, only a small percentage of difference was determined in production forest (15.74%). The results presented herein have demonstrated the great potential of GIS-based multi criteria evaluation for different views of forest land use. Therefore, it needs to be emphasized that the reliability of the evaluation depends on several factors such as quality of database, the error arising associated with data entry, manipulation, and analysis within GIS.

Allocation of forest land use and making decisions on how to use available forested land causes conflict among land users. The result of this process gives the different users a chance to view the allocation area from different perspectives before a final allocation is made. The key point for this comparison is to look into the feasibility of mutual benefit from two points of view. In other words looking into how much the suitable harvest zone is influenced by the different criteria used. Thus, the results of the map shown here are good for initial planning purposes and making judgments on which criteria threshold are more or less important from two points of view.

<Table 8. Comparison of suitable harvest area from economic and environmental view>

4. Conclusions

The total suitable area for productive forest zone from economic perspective is 9757.30 ha (96.06%) and the designated protected forest is about 399.20 ha (3.94%). The effected area from environmental perspective is very different, where

the productive zone represents about 8221.59 ha. (80.95%) and the protected zone was 1934.90 ha. (19.05%), respectively. This implies the importance of certain forest land to be classified as a restricted area for logging purposes to ensure the sustainable forest ecosystem and water resources. However the model could be used to refine the criteria in the future, particularly for further exploitation of GIS for optimisation of forest production activities. The use of GIS as a tool for planning processes is recommended, specifically when forest land use patterns are intensive, and developments must be sensitive to environment issues, as in most parts of the tropical forest area in Malaysia. The role of the decision support system in this study is to assist the user and decision maker in selecting the optimal areas from two different perspectives. The significant advantage of the use of MCE-GIS in this study is that the model generated of the suitable forest harvest area can be presented as geographical areas and understood by the public. GIS has the ability to handle large amounts of spatial data which allows for the creation of constraint maps and criteria maps that determine sites that are either suitable or unsuitable by providing a given proximity to a given feature. The model provides a number of criteria, which can be scaled up or scaled down in order to achieve the objective. Another advantage is that the same general model of decision support system can be applied to any region of forest area that requires strategic environmental consideration. Furthermore, this model is an excellent basis for further study in decision making process and can be used as more scientific data and indigenous knowledge is available.

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Table 1. The criteria and justification in determining suitable harvest area

Criteria	Justification
Elevation (m)	The suitable harvest area should not be high because the high forest area requires protecting from excessive erosion.
Slope (Degree)	The suitable harvest area should not be on very steep slopes. It is important because of the safety and accessibility of the transportation.
Hydrological aspect (River and Lake buffer)	Harvest operation should avoid rivers and lakes. This is to protect water quality, lake ecosystem and to control the erosion of soil and debris into the water point. The establishment of hydrological buffer zone is also to protect wildlife and aquatic life.

Table 2. Standardization rating of each criterion from an economic perspective

	Standardization rating/score			
Forest Zone	Protected Forest	Productive Forest		
Criteria	1	2	3	4
Slope ($^{\circ}$)	$> 40^{\circ}$	$20^{\circ} - 40^{\circ}$	$10^{\circ} - 20^{\circ}$	$0^{\circ} - 10^{\circ}$
Elevation(m)	$> 1000\text{m}^*$	$< 1000\text{m}$		
River buffer(m)	0m-20m	$> 20\text{m}$		
Lake buffer(m)	0m-20m	$> 20\text{m}$		

1-Not Suitable; 2-Marginally Suitable; 3-Moderately Suitable; 4-Highly Suitable

*A new ruling by the Forestry Department P.Malaysia prescribed that harvesting not permitted beyond elevation of 1000 m asl.

Table 3. Standardization rating of each criterion from environmental perspective

	Standardization rating/score			
Forest Zone	Protected Forest	Productive Forest		
Criteria	1	2	3	4
Slope ($^{\circ}$)	$> 30^{\circ}$	$20^{\circ} - 30^{\circ}$	$10^{\circ} - 20^{\circ}$	$0^{\circ} - 10^{\circ}$
Elevation(m)	$> 600\text{m}^*$	$< 600\text{m}$		
River buffer(m)	0m-100m	$> 100\text{m}$		
Lake buffer(m)	0m-100m	$> 100\text{m}$		

1-Not Suitable; 2-Marginally Suitable; 3-Moderately Suitable; 4-Highly Suitable

*Environmental perspective applies the old ruling adopted by most of the states, harvesting is limited below an elevation of 600m asl.

Table 4. Scale for pair wise comparisons

Numerical judgements	Verbal judgements
1	Equal importance
3	Moderately preferred
5	Strongly preferred
7	Very strongly preferred
9	Extremely preferred
2,4,6,8	Intermediate values between adjacent scales.
Reciprocals	For inverse comparison (when compromise is needed)

Table 5. Total areas for each suitability ranking: Economic perspective

Stage	Suitability class	Area (m ²)	Area (ha)	%
First/Preliminary stage	Not suitable	9411138.61	941.11	9.26
	Suitable	92153908.52	9215.39	90.74
Second stage	Not suitable	3992046.24	399.20	3.93
	Marginally suitable	7032023.51	703.20	6.92
	Moderately suitable	9327394.62	932.73	9.18
	Highly suitable	81213582.73	8121.35	79.96
Forest zone				
Productive forest (Suitable for harvest)	Marginally suitable	7032023.51	703.20	6.92
	Moderately suitable	9327394.62	932.73	9.18
	Highly suitable	81213582.73	8121.35	79.96
	Total	97573000.86	9757.30	96.06
Protected forest (Including river buffer, lake buffer, elevation and excessive slope)	Not suitable	3992046.24	399.20	3.93
	Total	3992046.24	399.20	3.93

Table 6. Total areas for each suitability ranking: Environmental perspective

Stage	Suitability class	Area (m ²)	Area (ha)	%
First/Preliminary stages	Not suitable	26096177.84	2609.62	25.69
	Suitable	75468870.13	7546.89	74.31
Second stage	Not suitable	19349048.84	1934.90	19.06
	Marginally suitable	6631133.85	663.11	6.52
	Moderately suitable	6355532.31	635.55	6.25
	Highly suitable	69229332.10	6922.93	68.16
Forest zone				
Productive forest (Suitable for harvest)	Marginally suitable	6631133.85	663.11	6.52
	Moderately suitable	6355532.31	635.55	6.25
	Highly suitable	69229332.10	6922.93	68.16
	Total	82215998.26	8221.59	80.93
Protected forest (Including river buffer, lake buffer, elevation and excessive slope)	Not suitable	19349048.84	1934.90	19.06
	Total	19349048.84	1934.90	19.06

Table 7. Summary of cells counted and area affected by constraints from economic and environmental perspective

Constraint factor	Cell value count (Constraint cell)	Area (ha)	Differential in ha and %
Slope Economic (>40°)	12483	124.83	1087.88 (89.70)
Environmental (>30°)	121271	1212.71	
Elevation Economic (>1000m)	0	0.00	2512.81 (100.00)
Environmental (>600m)	251281	2512.81	
Hydrological buffer Economic (<20m)	92793	927.93	3524.13 (79.15)
Environmental (<100m)	445206	4452.06	

Table 8. Comparison of suitable harvest area from economic and environmental views.

Forest zone	Area (ha)		Differential (ha)	%
	Economic perspective	Environmental perspective		
A Productive forest (Suitable for harvest)	9757.30	8221.59	1535.71	15.74
B Protected forest (Including river buffer, lake buffer, elevation and excessive slope)	399.20	1934.91	1535.90	79.38
Differential (ha)	9358.10	6286.69		
%	95.91	76.46		
Total (A+B)	10156.50	10156.50		

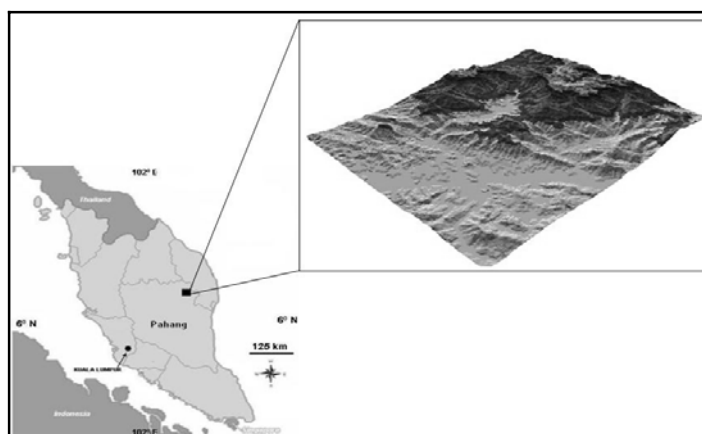


Figure 1. A map showing the 3D view of the study area in Pahang State, Peninsular Malaysia

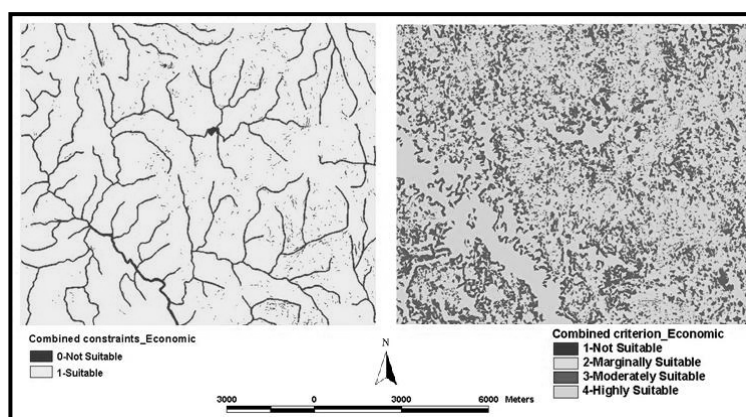


Figure 2. The final combined constraint and criterion map for suitable harvest zone area from economic perspective

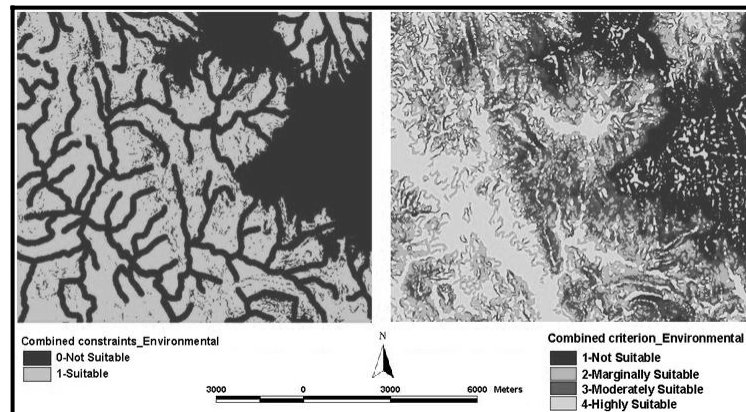


Figure 3. The final combined constraint and criterion map for suitable harvest zone area from economic perspectives

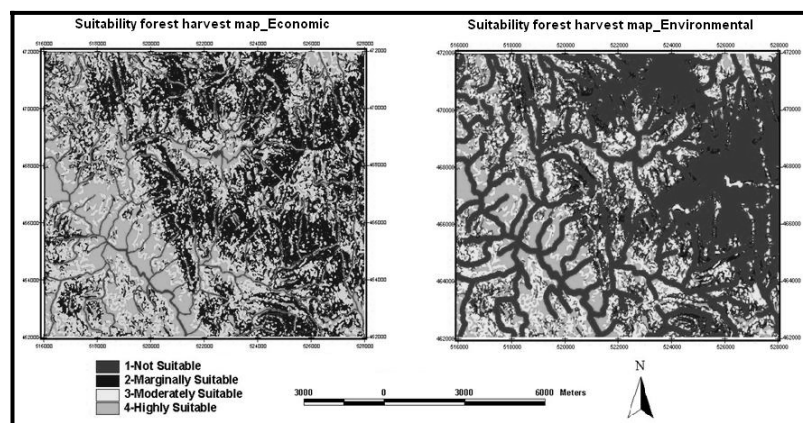


Figure 4. A suitable harvest zone map for the Sungai Tekai Forest Reserve from economic and environmental perspectives

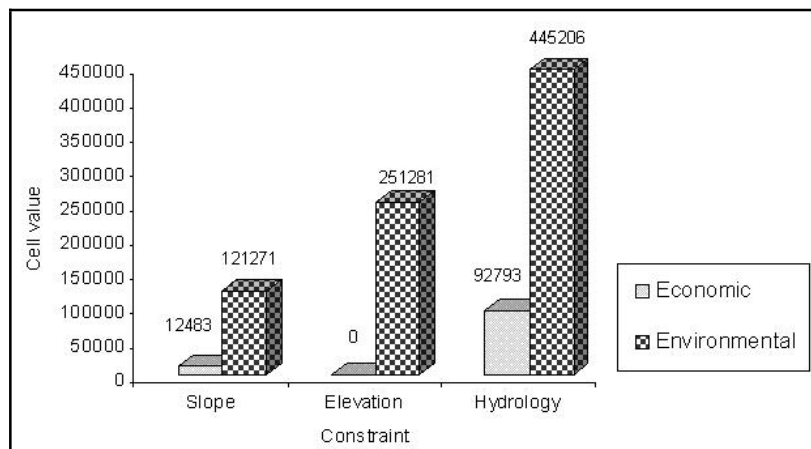


Figure 5. Comparison of cell value distribution for each constraint factor across study area from two perspectives



Market Discipline in Post- Transformation Era: A Study on Banking Sector

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Abstract

This paper attempts to investigate the existence of Market Discipline in the Indian commercial banks over the period 2001-2008 i.e., 7 years. This period is characterized by second round of banking sector reform as suggested by Narsimham Committee for banking restructuring and market discipline. A total of 63 scheduled commercial banks were taken as the sample size which included 27 public sector banks, 23 private banks and 13 foreign banks. Two dependent variables viz. total deposits held by banks and interest paid on deposits to total deposit ratio are considered in this study. We hypothesize that the dependent variables in this study, which signifies the existence or otherwise of market discipline depends on three sets of variables: a) bank-specific; b) banking industry level; and c) macroeconomic. The findings show that while bank-specific factors, and in particular, policy variables, in addition to bank-specific indicators tend to be dominant in case of private banks. For foreign banks, the macroeconomic conditions tend to overwhelm bank-specific factors in explaining behavior of depositors. This provides testimony of market discipline in the banking sector in India.

Keywords: Banking, Macroeconomic, Market Discipline, Regression

1. Introduction

Over the last few decades, both developed and developing economies have witnessed a spate of financial crisis spearheaded by failure in the banking system. The costs of such crises have often been large, ranging from a modest 3 per cent of GDP for the US Saving & Loans crisis in early 1980's to around 35 per cent of GDP for Thailand and a much higher 55 per cent of GDP for Indonesia during the period 1997-99 (Caprio and Klingebiel, 2003). A typical way to address the issue is to tighten prudential supervision (Mishkin, 2001). Alternately, rather than depending on regulatory action alone, banking authorities can supplement the same by increasing their reliance on market discipline to reinforce oversight of banks. The potential benefits of market discipline could be particularly important in developing economies. This is primarily because financial systems in these economies tend to be predominantly bank-based. Accordingly, in view of the overwhelming dominance of banks, it is widely believed that a well-functioning banking system can play a significant role in efficient allocation of savings. However, in view of the growing complexity of banking organizations, traditional procedures of supervision can, at best, have limited appeal. As a consequence, considerable interest has been generated in recent times in harnessing market forces to assist regulatory goals.

Market discipline is a process by which investors (bondholders/ depositors) assess changes in bank risk and take actions leading to the adoption of those measures needed to control the institution's level of risk. The idea of leveraging market discipline to supplement supervisory efforts and corporate governance practices is by no means new. Market discipline in the banking sector can be described as 'private counterparty supervision' (Greenspan, 2001). Such discipline usually takes one of two forms: direct discipline and indirect discipline (Federal Reserve, 2000). *Direct market discipline* is the pressure applied by investors on banks through the interest rate paid (e.g., through sub-ordinated debt), which, in turn, reflects each bank's risk profile. The higher the risk profile, the higher would be the interest rate paid. Indirect market discipline, on the other hand, is the pressure applied by regulators on the basis of sub-ordinated debt prices in the secondary market. To the extent that such prices reflect the (absolute or relative) probability of loss by issuing banks, they can provide valuable input into decisions by supervisors and counter-parties affecting the bank.

There are a number of potential benefits from enhancing market discipline in a country's banking sector. First, by punishing excessive risk-taking by banks, increased market discipline may reduce moral hazard incentives. Second, market discipline may improve the efficiency of banks by pressurizing some of the relatively inefficient banks to become more efficient or to exit the industry (Berger, 1991). Third, evidence indicates that markets give signals about

the credit standings of financial firms, which, combined with inside information gained by supervisory procedures, can increase the efficacy of the overall supervisory process. Finally, market discipline might be able to supplement traditional supervisory assessments to distinguish 'good' banks from 'bad' ones and therefore, lower overall social costs of bank supervision (Flannery, 2001).

The present study focuses on Indian banking sector as a case study. In the last decade, India has undergone widespread liberalisation of the banking sector with the avowed objective of 'enhancing efficiency, productivity and profitability' (RBI, 1991). It seems appropriate to conduct a study of market discipline for India, since it has made significant efforts to promote the role of market forces in regulating banks. Banks are presently required to disclose, among others, not only their capital adequacy (tier I and tier II, separately) ratios, net NPA to net advances, return on assets and government holdings, but also the amount of sub-ordinated debt raised as tier II capital, movements in NPAs, maturity pattern of deposits and borrowings and lending to sensitive sectors. Towards this end, we estimate reduced-form equations of individual bank deposits/interest paid on deposits as functions of bank fundamentals, banking industry-level and macroeconomic variables.

The remainder of the paper is structured as follows: Section I presents an overview of the literature on market discipline, Section II describes the empirical methodology used in the study, Section III provides a description of the data, Section IV presents and discusses the empirical results and finally, the concluding remarks are gathered in Section V.

2. Literature Review

Market discipline is however, not an issue for developed countries alone. Nakaso *et al.* (2000), for instance, argue that market discipline did not operate efficiently in Japan due largely to insufficient financial infrastructure (weak accountancy rules, inadequate disclosure standards, *etc.*). Even for the U.S., where market discipline is arguably the strongest, evidence suggests that neither supervisors, rating agencies nor equity investors are unambiguously more timely and accurate in their assessment of risk than others. All three groups produce valuable complementary information that contributes towards improving the performance of large banks (Berger *et al.*, 2000).

The majority of the existing studies on market discipline pertain to the US commercial banking industry over the last two decades. Baer and Brewer (1986), Ellis and Flannery (1992), Flannery and Sorescu (1996), Jagtiani and Lemieux (2000) and Sironi (2000) employ yield spreads (the difference between the market yield on bank debt and a risk-free asset like Government paper) as an indicator of the market's perception of bank risk. These studies support the hypothesis that yields on uninsured deposits contain risk premia. This, in effect, implies that uninsured depositors charge higher interest rates to riskier banks. Birchler and Maechler (2001), examining market discipline in the Swiss banking sector, find that depositors are sensitive to bank-specific fundamentals and to institutional changes in the Swiss depositor protection system. Finally, Martinez Peria and Schmukler (2001) observe for Argentina, Chile and Mexico, that even small, insured depositors exert market discipline by withdrawing deposits from weak banks. Park and Peristiani, 1998; Calomiris and Powell, 2001) examine market discipline by looking at the effect of depository's institution risk on both the pricing and growth of uninsured deposits. Overall, these studies find that riskier banks pay higher interest rates, but, at the same time, attract smaller amounts of uninsured deposits. A recent study addresses this topic by examining the existence of market discipline in the Indian banking sector (Ghosh and Das, 2003). In particular, the study considers two specific aspects of market discipline, viz., (a) do bank fundamentals influence depositor willingness to entrust deposits at a particular bank? and, (b) do differences among bank groups affect the degree of market discipline in the banking sector?

3. Research Methodology

We hypothesize that the dependent variable in the study, which signifies the existence or otherwise of market discipline depends on three sets of variables: (a) bank-specific; (b) banking industry-level; and, (c) macroeconomic. Towards this end, we estimate the following reduced form equation for the dependent variable:

$$Y_{i,t} = a + b S_t + e M_t + d B_{i,t-1} \quad (1)$$

In equation (1), $Y_{i,t}$ represents the individual bank-specific dependent variable, T is the number of observations per bank, S_t stands for the systemic (or bank industry specific) variable for year t , while M_t is a vector of macroeconomic variable for year t . Both the systemic and macroeconomic variables change over time, but not across banks. $B_{i,t-1}$ is a vector of bank specific variables. μ_i is the bank-specific or fixed effect. Thus, according to equation (1), the dependent variable is determined by three major factors: the behaviour of deposits in the overall banking system, the developments in the macro-economy and the evolution of bank-risk characteristics.

The question arises as regards the choice of dependent variable. Depositors can exercise market discipline on banks through two channels: by requiring higher interest rates (price variable) and/or by withdrawing their deposits from riskier banks (quantity variable). The approach adopted in the present paper focuses on both the quantity and price approaches. In case of the *quantity* approach, $Y_{i,t}$ represents the first difference of the log of total deposits held by bank i at time t . In case of the *price* approach, the only calculable interest rate is an implicit rate, rather than a market rate. This implicit rate is calculated as the interest paid on deposits to total deposits.

3.1 Bank Specific Variables

The vector $B_{i,t-1}$ contains several banks-specific fundamentals which are intended to measure bank's risk exposure. The variables are derived from the CAMEL rating system of banks (where the acronym CAMEL stands for Capital adequacy, Asset quality, Management, Earnings and Liquidity).

a) *Capital Adequacy*: Capital adequacy is measured by the ratio of capital to risk-weighted assets (CRAR). We expect the capital adequacy variable to exert a positive influence on bank deposits and a lower interest outgo.

b) *Asset Quality*: We employ the gross non-performing loans to gross advances ratio (GNPA), which is more indicative of the quality of credit decisions made by bankers. As higher GNPA is indicative of poor credit decision-making, we expect this variable to have a negative influence on deposits and an adverse outcome in terms of higher interest rates.

c) *Management*: To account for management quality, we include the ratio of non-interest expenditures to total assets (NIE). We expect this variable to have a negative relationship with deposits and a positive linkage with the interest rate variable.

d) *Earnings*: We measure bank earnings with the ratio of spread (net interest income) to total assets. We expect this variable to have a positive effect on deposits and an inverse relation with interest rate.

e) *Liquidity*: The cash plus balances with central bank to total asset ratio (LQD) is included as an indicator of bank liquidity. Banks with a larger volume of liquid assets are perceived to be safer. This would imply a positive relation between deposits and liquidity and a negative movement between liquidity and interest rate.

3.2 Bank-industry Specific Variables

In order to control for the behavior of the overall banking sector, our estimations include the following variables:

a) The ratio of cash outside banks to system deposits (CASH).

b) Capital Adequacy Ratio.

c) Prime Lending Rate (PLR)

3.3 Macroeconomic Variables

Deposits at individual banks or the price paid on deposits can also be influenced by the state of the overall economy and thus, we control for the impact of macroeconomic variables. In particular, we evaluate the effect of the following factors:

a) Growth rate of real gross domestic product (GDPR)

b) Wholesale price index (WPI), and

c) Growth rate of Money Supply (M3)

As these variables reflect the relative strength of the economy, we expect each having a positive relationship with the quantity variable and a negative relation with the price variable. In order to ascertain the joint significance of the bank-specific variables, we report the corresponding Statistics. Similar F-statistics are also report for the joint significance of macro and system variables are also reported.

4. Data Sources

Three types of data are used in this study viz. bank-specific, systemic and macroeconomic variable. The bank-specific data used in the study have been obtained from the Report on Trend and Progress of Banking in India and Statistical Tables Relating to Banks in India. Macroeconomic and systemic data come both form the Handbook of Statistics on Indian Economy as well as from the International Financial Statistics of the IMF. Bank-specific data are on an annual basis. Our analysis for the said variable pertains to the period 2001-2008 i.e. 7 years. 63 scheduled commercial banks were taken as the samples size which includes 27 public sector banks, 23 private banks and 13 foreign banks. (See Appendix-I).

5. Analysis and Findings

This section evaluates whether there is evidence of market discipline, in other words, whether depositors respond to bank risk-taking by withdrawing deposits and/or by requiring higher interest rates on deposits. Table 1 presents the results for the commercial banking sector as a whole. The results lend credence to the finding that deposits respond to bank risk taking. Among the *bank-specific factors*, a rise in the CRAR fosters deposit growth. Secondly, banks with relatively more liquid assets experience a fall in their deposit base, probably mirroring the fact of holding low yielding short-term assets as reflective of poor cash management. The coefficient on the CASH variable is positive and significant; indicating to the fact that deposits with the entire banking system grew at a slower rate than cash outside banks. The rapid growth of cash outside banks might be a consequence of increase in system-wide liquidity in the face of declining interest rates on bank deposits and limited alternative avenues for parking of funds by depositors.

Insert Table 1 Here

Finally, at the *macroeconomic level*, higher growth in GDP translates into higher growth in deposits and the impact is found to be statistically significant. Finally, deposit growth in positively related to inflation as proxied by CPI, suggesting that higher uncertainty propels depositors to lower their cash holdings and instead, keep their money in deposits. The F-test reveals that bank specific factors are jointly significant at 1 per cent and 5 per cent level.

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The results pertaining to the interest rate variable (Table-1, last Column) also paint a similar story. Banks with higher non-performing loans and lower earnings pay higher interest rates. Thus, banks with poor asset quality and limited earning capacity end up paying higher implicit price. Also, banks with lower liquidity pay higher interest rates on deposits, confirming to the fact that liquidity profile of banks acts as a crucial indicator of market discipline. The table also shows that bank risk characteristics are jointly significant in the price equation, even after controlling for fixed effects and time effects. This lends further support to the existence of market discipline in the banking sector in India.

The next obvious question which arises is: which factors tend to be more dominant for certain bank groups *vis-à-vis* others? The answer to this question is exhibited in Tables 2 and 3. Table 2 depicts the results for bank groups for the quantity (deposit growth rate) variable, whereas the results pertaining to the price variable (interest paid on deposits) is provided in Table 3.

Insert Table 2 Here

As Table 2 reveals, for the public sector bank-group, high capital ratio is associated with significantly higher deposit growth, lending credence to this risk-weighted variable in explaining depositor behaviour. Among others, poor asset quality and inefficient management practices tends to lower deposit growth in the concerned bank, while excessive liquidity also tends to exert a negative effect on deposit growth. At the bank-industry specific level, the coefficient on CASH is positive and significant; hinting at the possibility that greater liquidity in the *system* provides depositors a sense of comfort regarding the safety of their deposits, so much so that bank deposits actually rise, rather than fall, as a result. It is pertinent to mention here that examining market discipline in the Latin American economies of Argentina, Chile and Mexico, Martinez Peria and Schmukler (2001) observed that while there was evidence to support the existence of contagion effect in the Argentine and Chilean banking system, it was conspicuous by its absence in the Mexican banking industry. Finally, higher GDP growth tends to exert a positive influence on deposit growth, concluding that the macroeconomic environment has significant effect in explaining depositor behaviour in public sector banks. The F-statistics for bank fundamentals are jointly significant, attesting to the existence of market discipline among depositors of public sector banks.

The results are, however, distinctly different in the case of private and foreign banks. For private banks in particular, deposit growth is mostly driven positively by capitalization and negatively by non-performing assets to the exclusion of other bank-specific variables. More importantly however, systemic and macroeconomic variables play a crucial role in determining deposit growth among private banks. In particular, deposit growth responds positively to POLICY, hinting at the possibility that depositors with private banks responds pro-actively to a policy announcement. Finally, as in the case with public sector banks, deposit growth is driven positively by GDP growth. The results for foreign banks, on the other hand, seem to demonstrate that neither of asset quality, capital ratio or earnings plays an influential role in harnessing deposit growth. Only liquidity plays an important role in influencing deposits, hinting at the possibility that depositors take limited cognizance of the overall soundness of foreign banks in entrusting their deposits. At the bank-industry level, there is evidence to suggest the presence of contagion among the foreign bank group as evidenced by the negative and significant coefficient on CASH.

The results pertaining to the interest rate variable on various banking sectors is presented in Table 3. The lower the quantum of sticky loans, the greater is the compensation required for depositors. In particular, this impact is significant for public sector and foreign banks. Bank capitalisation plays a crucial role in determining the interest rate paid by private banks: lower the capital levels, larger the interest outgo. Interest rate paid by public and private banks are driven by non-interest expenses in the sense that lower non-interest expenditures tend to be associated with higher interest outgo. Lower non-interest expenses imply lower overhead costs (wage bill, printing and advertisement cost, etc). This, in effect, adversely affects customer sentiment regarding the service provided by the bank, so that the bank has to perforce pay higher interest rates to attract customers. Earnings are important in explaining interest paid by foreign banks. For public sector and foreign banks, size is inversely associated with interest rates, probably reflecting the public perception that larger banks have lower probability of failure and can afford to pay lower interest rates. Among bank-industry variables, there is limited evidence to support contagion effect among public sector banks.

Insert Table 3 Here

The macroeconomic variables play an important role in determining interest paid by public sector and private banks: expectedly, lower GDP growth is associated with higher interest rates. A volatile economic environment is associated with lower interest paid, reflecting consumer preferences to park their funds in bank deposits, irrespective of interest paid, in the face of uncertainties. The F-tests show that the bank-specific variables are jointly significant at conventional levels of significance. This, in effect, supports the presence of market discipline in the banking sector in India.

6. Conclusion

The purpose of the paper has been to examine the existence of market discipline in the banking sector in India during the period 2001-08. This period is characterized by second round of banking sector reform as suggested by Narasimham Committee for banking restructuring and market discipline. Towards this end, we employed bank level data to estimate reduced form equations, in which the dependent variable (quantity, as proxied by time deposits; price, as proxied by implicit interest rate) is modeled as function of bank-specific, systemic and macroeconomic variables. Our results enabled us to conclude that depositors in India punish banks for risky behaviour. The tests for the joint significance of bank fundamentals were consistently rejected across equations. Put differently, we were unable to reject the null hypothesis that the bank risk variables were not relevant in explaining the behaviour of bank deposits or the interest rate paid on such deposits. This provides testimony towards the existence of market discipline in the banking sector in India. Summing up the foregoing discussion, while bank-specific factors are dominant in case of public sector banks, systemic factors, and in particular, policy variable, in addition to bank-specific indicators tend to be dominant in case of private banks. For foreign banks, the macroeconomic condition tends to overwhelm bank-specific factors in explaining behaviour of depositors. Nonetheless, the capital ratio is a key determinant of depositor behaviour for Indian banks, in general. Irrespective of the ownership pattern, liquidity plays a significant role in fostering deposit growth. In case of state-owned banks, bigger size of banks does not translate into higher deposit growth, suggesting that depositors are insensitive to the 'too-big-to-fail' effect. For private and foreign banks, there exists evidence of contagion effects influencing the deposit accretion process. Therefore, we can conclude that there exists market discipline in the Indian banking system. Despite its potential advantages, market discipline can only complement, not substitute supervision, because the stake of the Government and the market participants in the financial system are not perfectly aligned.

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Annexure 1: List of Sample Commercial Banks

<i>I. Public Sector Bank</i>	<i>II. Private Sector Banks</i>	<i>III Foreign Banks</i>
1. Allahabad Bank	28. Bharat Overseas Bank Ltd.	51. ABN-Amro Bank N.V.
2. Andhra Bank	29. Development Credit Bank Ltd.	52. Bank Muscat SAOG
3. Bank of Baroda	30. Lord Krishna Bank Ltd.	53. Ban of America NA
4. Bank of India	31. Tamiland Mercantile Bank Ltd.	54. Bank of Ceylon
5. Bank of Maharashtra	32. The Bank of Rajasthan Ltd.	55. BNP Paribas
6. Canara Bank	33. The Catholic Syrian Bank Ltd.	56. Chinatrust Commercial Bank
7. Central Bank of India	34. The Dhanalakshmi Bank Ltd.	57. Citibank N.A.
8. Corporation Bank	35. The Federal Bank Ltd.	58. Commerzbank AG
9. Dena Bank	36. The Jammu & Kashmir Bank Ltd.	59. Credit Lyonnais
10. Indian Bank	37. The Karnataka Bank Ltd.	60. Deustsche Bank AG
11. Indian Overseas Bank	38. The Karur Vysya Bank Ltd.	61. ING Bank
12. Oriental Bank of Commerce	39. The Lakshmi Vilas Bank Ltd.	62. JP Morgan Chase Bank
13. Punjab & Sind Bank	40. The Nedungadi Bank Ltd.	63. Standard Chartered Bank
14. Punjab National Bank	41. The South Indian Bank Ltd.	
15. Syndicate Bank	42. The United Western Bank Ltd.	
16. UCO Bank	43. Bank of Punjab Ltd.	
17. Union Bank of India	44. Centurian Bank Ltd.	
18. United Bank of India	45. Global Trust Bank Ltd.	
19. Vijaya Bank	46. HDFC Bank Ltd.	
20. State Bank of India	47. ICICI Bank Ltd.	
21. State Bank of Hyderabad	48. IDBI Bank Ltd.	
22. State Bank of Indore	49. IndusInd Bank Ltd.	
23. State Bank of Mysore	50. UTI Bank Ltd.	
24. State Bank of Patiala		
25. State Bank of Saurashtra		
26. State Bank of Trancore		
27. State Bank of Bikaner & Jaipur		

Table 1. Regression Results of Total Deposits and Interest Paid On Deposits on Risk Characteristics of Indian Banking

Independent Variables	Dependent Variable	
	Y = Total Deposits Coefficient	Y = Total Interest Rate Co-efficient
<i>I. Bank – Specific</i>		
Intercept	0.768 (2.92)*	7.258 (2.25)**
C Log (CRAR)	0.519 (3.17)*	1.532 (-1.27)
A GNPA	-0.012 (-1.22)	2.412 (1.91)
M NIE	-0.872 (2.40)**	-0.123 (3.27)*
E SPREAD	2.470 (3.42)*	1.923 (3.57)*
L Log (LQD)	-0.529 (-2.07)**	-1.231 (1.44)**
<i>II. Bank-Industry</i>		
Log (CASH)	0.791 (2.59)*	-2.018 (2.01) **
CAR	0.412 (0.71)	-1.291 (-1.17)
PLR	0.872 (-1.22)	-0.923 (-2.07) **
<i>III. Macro-Economic</i>		
GDP Growth	0.351 (-1.99)**	-1.770 (1.22)
Log (WPI)	1.22 (0.171)	0.729 (-1.03)
Money Supply Growth	2.42 (3.27)*	1.51 (-2.02) **
Adjusted R ²	0.67	0.52
F-ratio	3.92 *	3.71 *
Number of Banks	63	63

N.B.: Figures in parenthesis represent the t-values, * and ** indicate significance at 1 and 5 percent respectively. Log Transformation has been performed to obtain a normal distribution of the data under the variables CRAR, LQD, CASH and WPI.

Table 2. Banking Group-Wise Analysis of Multiple Regression of Total Deposits to Bank Risk Characteristics

Independent Variables	Dependent Variable		
	Y = Total Deposits Coefficient	Y = Total Interest Rate Coefficient	Foreign Banks
<i>Bank – Specific</i>			
Intercept	0.619 (2.57)**	0.771 (2.01)**	1.212 (-1.17)
C Log (CRAR)	0.014 (2.11)**	0.512 (297) *	0.017 (-1.51)
A GNPA	-0.72 (1.12)	-0.005 (-0.91)	-0.008 (-1.26)
M NIE	-0.173 (-1.99)**	-1.72 (1.89)**	0.071 (0.79)
E SPREAD	1.271 (-2.92) *	1.92 (-2.47) **	0.014 (2.41)**
L Log (LQD)	-0.331 (1.22)	0.077 (0.52)	-0.82 (0.41)
<i>Bank-Industry</i>			
Log (CASH)	-1.72 (2.19)**	-0.921 (3.16) *	0.138 (1.17)
CAR	-0.72 (1.22)	-0.081 (-0.92)	0.171 (-0.81)
PLR	1.22 (-2.49)**	0.991 (-2.19)**	0.66 (2.07)**
<i>Macro-Economic</i>			
GDP Growth	0.517 (-1.98)**	0.021 (0.42)	0.117 (-1.51)
Log (WPI)	-0.88 (-1.19)	0.741 (1.77)	0.088 (-1.42)
Money Supply Growth	1.721 (2.79) *	0.453 (-2.99)	0.924 (2.11)**
Adjusted R ²	0.79	0.65	0.53
F-ratio	4.51 *	3.99	2.96 **
Number of Banks	27	23	13

N.B.: Figures in parenthesis devote the t-values, * and ** indicate significance at 1 and 5 percent respectively. Log Transformation has been performed to obtain a normal distribution of the data under the variables CRAR, LQD, CASH and WPI.

Table 3. Banking Group-Wise Analysis of Multiple Regression of Interest Paid on Deposits to Bank Risk Characteristics

Independent Variables	Dependent Variable		
	Y = Total Deposits Coefficient	Y = Total Interest Rate Co-efficient	Foreign Banks
<i>Bank – Specific</i>			
Intercept	8.11 (2.18)**	15.24 (2.39)**	9.97 (1.98)**
C Log (CRAR)	0.172 (2.59)*	-0.173 (1.97)**	0.249 (-0.56)
A GNPA	0.017 (-0.19)	0.007 (1.22)	-0.074 (1.61)
M NIE	-0.543 (-1.34)	-0.692 (2.01)*	0.497 (-0.01)
E SPREAD	1.412 (2.79)*	0.992 (3.40)*	0.073 (-1.97)**
L Log (LQD)	-0.453 (-1.22)	-0.382 (1.59)	-0.227 (-0.79)
<i>Bank-Industry</i>			
Log (CASH)	0.892 (2.15)**	0.711 (2.41)**	0.047 (-1.26)
CAR	0.617 (0.172)	-0.522 (0.87)	0.281 (-1.18)
PLR	0.183 (2.17)**	-0.745 (3.41)*	-0.013 (-1.78)
<i>Macro-Economic</i>			
GDP Growth	0.612 (-1.89)**	0.007 (0.012)	0.221 (-1.12)
Log (WPI)	-0.73 (1.24)	1.123 (1.41)	0.093 (-1.32)
Money Supply Growth	1.99 (2.40)**	0.337 (2.66)	1.19 (2.18)**
Adjusted R ²	0.68	0.59	10.51
F-ratio	3.77 *	3.01*	2.72**
Number of Banks	27	23	13

N.B: Figures in parenthesis devote the t-values, * and ** indicate significance at 1 and 5 percent respectively. Log Transformation has been performed to obtain a normal distribution of the data under the variables CRAR, LQD, CASH and WPI.

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