The Analyze on Accounting Information System of Third-party Logistics Enterprise

Su Yan

College of Economic and Trade, Shihezi University

Shihezi 832003, China

Tel: 86-993-259-5376   E-mail: ysaighj@163.com

Abstract

In the face of the fast developing of Information and technology and the appearance of the new management theory, the author analyze the abuse of the conventional accounting system, and use the advance ideas on modern information and technology (REA model and events drive) and the cooperation theory to redesign the frame of Accounting Information System of Third party logistics enterprise, and point out the virtue of the new system.

Key words: logistics enterprise, Accounting Information System, REA, events drive

Since the sixties of the twenty century, the competition in market become more vehement, and the work divided become more specific. In this backdrop, Information and Technology made a fast development and affect deeply other industries. Third party logistics enterprise as a new industry is being influenced with it, and do change. Accounting is an information system in enterprise, through the using of Information and Technology, Accounting not only enlarge own scope, but also enhance the quality of service. But Accounting Information System in practice in our country now drop terribly behind the practice demand and the development of its theory.

1. The analyze of conventional accounting system

The accounting information system in our country is on the foundation of Luca Pacioli's accounting theory now, and it's core is accounting subjects. This system using original documents note the business activity occurred in enterprise and the changed results of assets liabilities and equity caused by it, and depending on computer classify and compile this notes, export to user in the form of the special report in the end. Though this system in that time was introduced with IT, the basic framework of accounting information system was varied. As was said with professor Yun Gui Xue, now the rule of the computerization information system is that modern technology suit to the regulation and it's function position, not but that, using the function offered with the modern technology reengineer the conversational accounting, and the results are: 1 what the system stress on is the processing program of accounting and common absolute check and calculation, and this system was close.2 the information the system collect process and use are after the event absolutely, and don't help the enterprise do management, control and decision-making.3 the system don't settle for the requirement of the supply-chain management.4 the system don't settle for multi-user demand.(See Figure 1)

2. Rebuilding a new accounting Information System of Third party logistics enterprise

Followed the development of information technology, people's ability of using information is getting stronger, and information, as an important resource, in the operation and the decision-making process of enterprises play an important role. Although third-party logistics enterprises is an emerging industry, but also the extent of competition is rather fierce, in order to gain a firm place in the market and develop, every third-party logistics enterprises must use information technology to reengineer it's business processes and enhance it's core competitiveness. Under the guidance of that "supply chain is the third source of profit", the third-party logistics enterprises as parts of the chain was required in due time and place to provide consumers with personality, specialization, and serialization of logistics services according to the due price. At the same time, consumers also keep close relate to third-party logistics companies, so as to manage and control the whole logistics process. According to Michael Porter's value chain management theory, we believe that, in the value chain, the third-party logistics enterprise create the time and space value for the entire supply chain. The essence of Accounting is the utilization of the means of value to reflect the enterprise's economic activity, and ultimately meet the needs of accounting information. Third-party logistics enterprises through accounting methods manage the economic business activities occurred in enterprises, but part of the economic business activities can not be measured according to the monetary value, consequently bring the loss of business activities information. The development of information technology has widened accounting measurement scales and changed the measurement

scope of the third-party logistics enterprises accounting information system.

This paper mainly rebuilt the framework of third-party logistics enterprises accounting information systems by using REA model, the revised E-R model and events driven approach. The so-called E-R model is a relationship data model of classifying data information of entry system to by subject, respectively storing in a specific entity table, and establishing the linkages between the corresponding form. REA model brought forward by the American scholar William E. McCarthy's, and its main idea is to model the resource, the events and the agents of enterprise and the relationship among them. Combining the two, the economic business activities in third-party logistics enterprises are involved in the nature, the participants and the change of the enterprises' resource. According to the principle of E-R model, and all the enterprise objects can divided into three entities: events entities, resources entities and agent entities. Each entity also can be divided into more specific entities, such as agent entities including employees, suppliers, customers and other entities.

Following let's example the warehousing activities of third-party logistics enterprises, and demonstrate the process of designing model. (See Table 1)

"event-driven" is an idea in computer science, which is that most of the programs stored in database are events waiting for the completion of some activities, users according to their own needs, implement the corresponding events, the computer system respond to the events users make and transfer the particular procedure automatically to complete the user's requirements. When the idea is applied to the accounting information systems, it is that when economic business activities occurring, accounting information systems record the real situation of the activities, and don't to do any modification. Then, user-oriented event-driven procedures dealt with certain related economic business activities, ultimately the information needed was extracted by the accounting information system. We call these event-driven programs as unit events, which including not only accounting matters, but non-accounting matters. In short, it can be said that it is matter oriented all user information needs.

Based on the above ideas, and the author implement value approaches and matters approaches, combining with modern internal control technology, and rebuilt the framework of third-party logistics enterprise accounting information system, the specific architecture as shown below (See Figure 2)

From a logical perspective, the system including four major parts: business process, entity record, event-driven and usage of information.

(1) Business process. When business activities were at the time of the forthcoming, the enterprise's operational departments requested to the accounting department's budget and Standard Management Centre, and reported the business impropriating or spending resources, management control centre based on past experience and standards budget decide whether the business occur, and timely inform the operational departments.

(2) Entity record. Operational departments based on good pre-recorded format do a real record on the economic business of activities, and store it into entity DB. During this process, the accounting departments cooperate with the operation departments; do a good job of canonical operating record.

(3) Event-driven. Users through the interface of man-pc, based on their own information needs, drive some program stored in the Unite DB, the program will automatically transfer the data stored in entity DB and process, finally make feedback to the users with the gained information.

(4) Usage of information. On one hand, accountant use the information make standard-setting, confirm the budget and provide various accounting statements; on the other hand non-accountant refer to the information and other tools to do decision-making and maximize their own interests.

Clearly, such a accounting information system is a decision-making-oriented, organic and open system with having an effective internal control mechanism.

3. The advantages of the accounting information system

3.1 A good cooperation

Any thing is always linked to certain environment, exists and develops, third-party logistics enterprises in the supply chain linking play a role of a bridge. Although the third-party logistics business as a separate entity exist in the market, it and other enterprises still have to maintain a close relationship. This is because the consumers in order to ensure normal operation of their production, they must understand and control the flow and the keeping of materials timely, which calls that third-party logistics enterprises accounting information systems cooperate with up-downstream enterprises, together control and manage the value-added activities occurred in the whole supply chain, and achieve really supply chain competition. In addition, in the traditional enterprise organization mode, the enterprise's business activities are divided in accordance with the functions and implement, so the lack of co-ordination between departments the "islands of information" inevitably come into being. The new system really record and reflect the economic business activities, do not require accountants note into the system according to the pre-format, consequently avoid duplication

of information collection and shortcomings; and accountant no longer were limited to the accounting departments, but to participate in the enterprises operational activities to coordinate other departments do well accounting information records and analytical work. In addition, other companies could line on a third party logistics enterprises accounting information system through the Internet, timely query and know the flow situation of logistics, do well their production plans.

3.2 To meet the needs of multi-users

With the change of the environment, the use objects of accounting information become expansion, including all levels of enterprise management, all investment bodies outside, government agencies, intermediary organizations, and so on, among them there are accountant and non-accountant. Traditional accounting information system can only generate financial statements afforded to financial executive and fewer accounting information, which make the use objects become narrow. But in the new system entity DB record all resources and economic business activities, users through event-driven buttons on interactive interface can get the information they want. According to the value chain management, any of the activities should be the value-added process, and account is a measure means of the value of economic activity, therefore, any economic activity through the accounting information system can be measured and reflected. However, as part of the current business activities can not be measured by money, and we are currently unable to find suitable means of measuring the value, which caused some economic activities not reflected through accounting information system.

3.3 To control afterwards, and control in advance and in concurrent

Account has the functions of supervision and control of the economic activities of the enterprise. And the traditional manual account and of the computer accounting system for "accounting" can only do inspection afterwards, the mistakes could not be avoided. New accounting information system integrate of real-time processing, the standard cost, authorized the approval process control, budget management, and so on, so that employees based on the standard budget, change from passive to active to manage their own activities, do Real-time check, control, and timely identify problems, correct deviations and do truly Control afterwards, in advance and in concurrent.

Reference

Colanoni. C. S. R. P. Manes, and A. B. Winston(1971). "A Unified Approach to the Theory of Accounting and Information Systems". *The Accounting Review*. January,1971

Michael E. Porter Strategy and the Internet.(2001).*Harvard Business Review*, March

Ron Weber(1999), Information Systems Control and Audit. prentice-Hall, Inc., 1999

William E. McCarthy(1982)."The REA Accounting Model: A Generalized Framework for Accounting Systems in a Shared Data Environment",[J]. *The Accounting Review*, July 1982

Table 1. Simple warehousing activities and E—R entity table

economic activities	Business events	E—R entity table		
		events	resources	agents
warehousing	entry safekeeping leave	Entry requisition Entry checker Checked entry checker leave requisition checked leave	inventory storage	warehouseman transport-team stevedore porter

Figure 1 the flow chart of the conventional accounting system

Figure 2 the framework of the accounting information system