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Job Engagement as a Mediator of the Relationship between Organizational Agility and Organizational Performance: A Study on Teaching Hospitals in Egypt

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Abstract

Purpose: The purpose of this study is to examine the moderating significant role of Job Engagement (JE) in the relationship between Organizational Agility (OA) and Organizational Performance (OP).

Research Design/Methodology: To assess positive OA, refer to (OA Questionnaire, Jaworski and Kohli 1993), JE (JE Questionnaire, Rich et al., 2010) and OP (OP Questionnaire, Darroch, 2003; Pathirage, et al., 2007; and Chen & Mohamed, 2007). The data of the study was collected from 310 employees at Teaching Hospitals in Egypt. Out of the 357 questionnaires that were distributed to employees at Teaching Hospitals in Egypt, 310 usable questionnaires were returned, a response rate of 86%. Multiple Regression Analysis (MRA) was used to confirm the research hypotheses.

Findings: The research has found that there is significant relationship between OA, JE and OP at Teaching Hospitals in Egypt. JE significantly influenced OA and OP. The finding reveals that OA affects OP through JE. Accordingly, the study provided a set of recommendations including the necessity to pay more attention to OA as a key source for organizations to enhance the competitive advantage which is of prime significance for OP through JE.

Practical implications: This research helps boost scientific research, particularly in terms of testing the model content, as well as studying the study variables and the factors affecting them. In addition, it pointed to the need for organizations to practice OA in order to be able to meet contemporary intense competition, as this trend is to play an important role in enhancing JE.

Originality/value: This research dealt with OA in terms of its concept and dimensions, in addition to dealing with the role of OA in promoting JE at Teaching Hospitals in Egypt.

Keywords: organizational agility, job engagement, organizational performance

1. Introduction

In the beginning of 21st century, the world faced considerable changes in all aspects, especially great changes in the communicational channels. These changes require organizations to revise their strategic priorities and visions (Sharifi & Zhang, 1999, 2001). The organizational agility (OA) is one of the methods for responding to these changes and revolution factors. Indeed, the OA is a new paradigm for engineering competitive organizations and firms.

In the unpredictable and competitive world of today, the organizations must have different competitive features to compete; otherwise, they will move towards annihilation. One of these features that organizations need in the turbulent environments of today is agility. Agility provides the organization with the possibility of quick response and compatibility with environment and allows the organization to improve its efficiency (Yeganegi & Azar, 2012).

Since human mind capabilities are limited in terms of grasping important changes that take place in the environment surrounding it, so has the current business environment for any organization in the world become complicated and highly dynamic (Zain et al; 2005). Therefore, it has become necessary that organizations in dire need for light movement of human capital be characterized with sensing agility, decision-making, and agility in carrying out work properly. This should be done in a manner which makes them engaged at work, devoting all

their efforts, feelings and realization in order to achieve the objectives of the organization (Markos & Sridevi, 2010; Warr & Inceoglu, 2012).

Continuous change is increasingly the new norm rather than the exception in contemporary organizations (Brown & Eisenhardt, 1998). As a result, interest in OA has grown exponentially for practitioners and researchers (Tallon & Pinsonneault, 2011).

OA has become the topic of interest of both academics and practitioners in recent years. Nine out of ten executives ranked OA as both critical to business success and growing in importance over time in a McKinsey & Company survey (Sull 2009).

OA plays an important role in the life of the organization as it provides personnel with knowledge, high skills, restructuring and organizational processes, employing new technology (Sherehiy, 2008).

Research on OA is emerging in the information systems fields (Izza et al., 2008) due to the extensive reliance of contemporary organizations on information, in general, and information system, in particular. OA refers to organizations' ability to thrive by sensing and responding to environmental changes which has become critically important nowadays when the business environment is getting highly competitive and turbulent. It is regarded as a key business factor and a potential enabler to organization's competitiveness (Mathiassen & Pries-Heje 2006),

This study is structured as follows: Section one is introductory. Section two presents the literature review. Section three presents the research model. Section four presents the research questions and hypotheses. Section five explains the research strategy. Empirical results are provided in section six. Section seven handles the main findings. Finally, section eight presents the research recommendations.

2. Literature Review

2.1 Organizational Agility

The concept of agility needs to be well grounded in management theory (Yusuf et al. 1999). Early in the 1990s, the new solution for managing a dynamic and changing environment emerged; agility. Agile manufacturing is the ability of surviving and prospering in a competitive environment of continuous and unpredictable change by reacting quickly and effectively to changing markets, driven by customer-defined products and services (Gunasekaran, 1999).

The creators of "agility" concept at the Iacocca Institute, of Lehigh University (USA), defined it as a manufacturing system with capabilities (hard and soft technologies, human resources, educated management, information) to meet the rapidly changing needs of the marketplace (speed, flexibility, customers, competitors, suppliers, infrastructure, responsiveness). Agility is the successful application of competitive bases such as speed, flexibility, innovation, and quality by the means of the integration of reconfigurable resources and best practices of knowledge-rich environment to provide customer-driven products and services in a fast changing environment (Yusuf et al.,1999).

Agility emphasizes the speed and flexibility as the primary attributes of an agile organization (Gunasekaran, 1999). An equally important attribute of agility is the effective response to change and uncertainty (Goldman et al., 1995). Some authors state that responding to change in proper ways and exploiting and taking advantages of changes are the main factors of agility (Sharifi & Zhang, 1999).

Agility refers to the proactive responses to changes (Bessant et al., 2001). Agility refers to the use of changes as inherent opportunities in turbulent environment (Sharifi & Zhang, 2001). Agility refers to the ability to survive and progress in the variable and unpredictable environment (Dove, 2001).

Organizational flexibility represents an organization's capacity to adjust its internal structures and processes in a predetermined response to changes in the environment. Adaptability underlies the fit of organizational operations to their environment while flexibility emphasizes the readiness of organizational resources and the ease of resource mobilization. The "agility" concept encompasses both flexibility and adaptability. Agility, as a business concept, was coined in a manufacturing context-particularly in relation to flexible manufacturing systems (Christopher & Towill 2001).

Agility is a new concept in contemporary administrative thought. One writer has defined the process of agility in terms of the capabilities necessary to achieve light movement in the organization (Sherehiy, 2008).

Agility is the ability to respond to unpredictable changes with quick response and profitability (Erande & Verma, 2008).

Agility is an organizational ability to react quickly and effectively to an environment which can change radically

(Janssen, 2010).

The concept of agility means rapid, agile, and active movement. Also, agility refers to the ability of rapid and easy movement and rapidly thinking with a thoughtful method. The root or origin of agility is derived from agile production and this is a concept that has been presented during later years. The agile production has been accepted as a successful strategy by producers that prepare them for a considerable performance (Mehrabi, et al., 2013).

According to the different definitions of the word agility, the concept of speed and quick response, and also the concepts of group work and common goal regarding the word organization, can be inferred. Agility can be defined as swiftness and quick response of a harmonious group to the changes made by the environment surrounding them in order to reach a goal (Yeganegi & Azar, 2012).

OA is the organization's ability to respond quickly and effectively to unexpected opportunities, in addition to providing, in advance, solutions that meet potential needs. (Nelson & Harvey, 1995)

OA is the ability to survive and grow in an unexpected competitive environment of constant change through rapid response to changing markets and through meeting the desires and needs of customers, whether of products or services (Gunasekaran, 1999).

OA is the successful application of the competition rules, such as speed, flexibility, innovation and quality, through the means of integration of resources and the restructuring of best practices in the environment of technical knowledge, through the provision of services or products that meet customers' preferences in light of a rapidly changing environment (Yusuf, et al., 1999).

OA is the organization's ability to work comfortably in a quickly and consistently changing and fragmented global market environment, through producing high quality and effective performance (Tsourveloudis & Valavanis, 2002).

OA enables the organization to carry out a series of specific tasks successfully, in addition to managing the opportunities and risks in the business activities effectively (Ardichvile et al, 2003).

OA makes organizations more responsive to market trends, and faster in terms of the delivery of products and services compared to non-agile ones. OA is composed of three basic dimensions of the sensor agility, decision-making, and agility practice and application (Sambamurthy, et al, 2003).

OA is not only “flexible” to cater for predictable changes but also able to respond and adapt to unpredictable changes quickly and efficiently (Oosterhout et al. 2006). OA can be viewed as the state of organizational performance in terms of flexibility and adaptability and is attainable through organization’s activities. In particular, from the process-based perspective, OA is a set of processes that allow an organization to sense changes and respond efficiently and effectively in timely and cost-effective manner in the internal and external environments. Sensing refers to an organization’s ability to detect, capture and interpret organizational opportunities (Seo & Paz 2008). Responding represents an organizational ability to mobilize and transform resources to react to the opportunities that it senses (Gattiker et al. 2005; Oosterhout et al. 2006). These two capabilities must be aligned to optimally obtain OA. OA is the organizational capacity to sensor response successfully to the opportunities and threats in the market in a timely manner (Overby et al., 2006).

OA is a proactive management strategy that aims at maintaining the organization's resources and achieving the desires of customers in a timely manner (Hitt et al, 2007). The concept of OA is derived from performance characteristics of an agile organization and is rooted in two related concepts- “organizational adaptability” and “organizational flexibility”. Organizational adaptability focuses on how an organization’s form, structure, and degree of formalization influence its ability to quickly adapt to its business environment (Sherehiy et al. 2007).

OA consists of several key elements. They are (1) speed and flexibility, (2) responding to changes in the surrounding environment, (3) high quality products, (4) products and services of accurate information, (5) interacting with social issues and the environment, (6) different technologies collecting, and (7) internal integration inside the institutions and among each other (Sherehiy, 2008).

OA is the process of arrangement, and abolition of business units, markets and industries to re-focus on differentiated core capabilities (Hill & Jones, 2009). OA is a package of ideas that aims at continuous improvement, flat organizational structures, work teams, stopping waste or loss, efficient use of resources, and managing the chain of preparation. Japanese companies have adopted the concept of OA in terms of reducing costs through the removal of waste (David, 2009).

OA is a construction of three basic elements. They are (1) sensing agility, (2) decision-making, and (3) acting

using agility and its application (Pavlou & El Sawy, 2010). OA quickly meets customer requests, offers new products, and gets on strategic alliances or gets rid of them. This means that organizations are in an urgent need of strategic alliances in order to solve the problems of its customers, rather than provide products or one service. The fundamental reason behind the necessity of OA is searching for the core capabilities, on the one hand, and identifying the business environment and capturing opportunities, on the other hand (McCarthy et al, 2010).

OA is the manufacturing system for physical and non-physical technology, human resources, educated management and information in order to meet the rapidly changing needs of the market in a manner that achieves the desires and needs of the customers in time (Park, 2011).

In light of this, the researcher does identify OA as the organization's ability to achieve its objectives, through the development of its products increasing knowledge of its human resources, effecting the development of the organization and lightening its movement in a rapidly changing environment.

The dimensions of the OA are three main types. They are sensing agility, decision-making agility and acting agility (Park; 2011).

1. **Sensing Agility:** Sensing agility is the organizational capacity to inspect and monitor events and changes in the surrounding environment (customer preferences changes, the movements of the new competitors, new technology) in a timely manner (Park, 2011). The task of sensing means the strategic monitoring of environmental events that could have an impact on organizational strategy, competitive work, and future performance, including several activities such as access to information related to the events which show environmental change, on the one hand, and getting rid of the trivial information, on the other hand, in light of predetermined foundations and rules (El-Sawy, 1985). This task is related to decision-making and its execution (Daft & Weick, 1984; Dutton & Duncan, 1987). It is interested in organizational adaptation to change in the surrounding environment (Smircich & Stubbart, 1985).
2. **Decision-Making Agility**: The decision-making agility process is the ability to collect, accumulate, restructure and evaluate relevant information according to a variety of sources to explain the implications of the business without delay, and to identify opportunities and threats based on the interpretation of events, along with the development of action plans, which direct the reconfiguration of resources and the development of new competitive procedures (Park, 2011). The decision-making task consists of several interrelated activities, which explain many events and identify opportunities and threats in the surrounding environment. The task of decision-making focuses on collecting information from multiple and diverse sources in order to understand the implications of their work (Thomas et al, 1993). The task of decision-making seeks to capture the utmost opportunities and minimize the impact of threats on the life of the organization (Houghton, et al, 2004).
3. **Acting Agility/Practicing:** The acting task consists of a set of activities for re-assembling organizational resources and modifying business processes on the basis of the principles of work resulting from the task of decision-making in order to address the change that occurs in the surrounding environment (Eisenhardt & Martin, 2000). Organizations can change the business processes by various procedures and resources, redesigning the organizational structure of the organization (Dutton & Duncan, 1987; Thomas et al, 1993). The three-dimensions of OA can be explained through the following table (Park, 2011).

Table 1. The Dimension of Organizational Agility

Dimensions of OA	Clarification of dimensions
Sensing Agility	Detecting and attracting important business at one time
Decision-Making Agility	Interpreting events, identifying opportunities and threats and taking the actual plans in time
Acting Agility	Reshaping organizational resources drastically and modifying business processes and the provision of services or new products to market in time

Source: Park, (2011). The Dynamics of Opportunity and threat Management in Turbulent Environments: The Role Information Technologies, PhD Dissertation.

2.2 Job Engagement

Job Engagement (JE) is the emotional link between the employee and the organization, in which he works (Joshi & Sodhi, 2011).

JE means that employees do what they are told and adapt their work according to job description and in light of the traditional work environment (Frese, 2008).

JE is the involvement and enthusiasm of the employee to the organization in terms of being ready to devote more

effort and innovation, cooperation with the rest of his colleagues and adapting, effectively, to the changes in the surrounding environment under the contemporary organizational environment characterized by global pressures, intensive customers' demands, low supervision, growing technology, and increasing need for teamwork and communication (Griffin et al, 2008).

JE is the internal merging of the individual to work, or the psychological congruence and responding to work, something which will affect the individual self-achievement or his commitment to work (Kanungo, 1982).

JE means that the individual likes to do or interested in the work he is associated with, since individuals who love their jobs are working with more productivity and efficacy (Pollock, 1997).

JE represents the degree to which the individual merges with the job he exercises by sensing its importance, so that JE is associated with both the mental and emotional aspects (Riipinen, 1997).

JE means that the employee is aware of the nature of work in the organization, and working closely with co-workers in order to improve the functionality for the benefit of the organization (Bevan et al, 1997).

There are three basic elements of JE. They are (1) work as the primary interest of man's life, (2) active participation in labor, (3) performance as the basis of self-realization, and (4) performance association with self-conception (Rasmey et al, 1995).

JE is the commitment and communication of the employee to the job and the organization to which he works (Sweem, 2008).

There are three key aspects to encourage the employee engagement which are (1) workers' experience and their psychological and personal affairs, (2) employers and their ability to create the conditions that encourage employees' engagement and (3) interaction among employees at all the administrative levels of the organization (Tiwar, 2011).

In light of this, the research identifies JE as the positive feeling of the employee towards the organization to which he works in a way that contributes in a high degree in achieving their goals and values.

Rich (2010) maintains that there are three dimensions of JE. They can be explained as follows:

1. **Cognitive Engagement:** Cognitive engagement means that individuals are fully engaged in exercising the tasks they are assigned with (Rothbard, 2001). Engaged individuals focus intensely on the task given to them within the organization (Rich, 2010).
2. **Emotional Engagement:** Emotional engagement means the existence of a strong relationship between emotions, thoughts, and feelings of the individual and the organization, to which he works (Kahn; 1990). This increases feelings of enthusiasm and pride of the individual towards the organization (Rich, 2010).
3. **Physical Engagement:** Physical engagement means directing man's physical energies towards the completion of a specific task in a way that contributes to achieving the organization's objectives efficiently and effectively (Rich, 2010).

2.3 Organizational Performance

In English, the term "performance" is derived from "to perform" which means "doing work, achieving a mission or realizing a given activity. It is a reflection of the organization's ability and aptitude to realize its goals (Eccles, 1991).

OP is the ability of the organization to achieve its long-term goals (Robins & Wiersema, 1995). It is that which exceeds the normal average performance, besides being a part of a series of excellent performance (Privett, 1983).

OP is a determinant of its very existence. Systematic or abrupt decline in OP level may lead to organizational death or mortality (Baum & Singh, 1994), a situation that occurs when an organization fails, closes down its operations, and disbands its constituent elements (Carroll & Delacroix, 1982).

Despite the large corpus of research and studies on OP, no agreement on the concept of OP is found. In spite of this difference, most researchers express their OP through the success achieved by the organization in achieving its objectives. OP is a reflection of the organization's ability to achieve its goals, or in other words, the organization's ability to achieve long-term goals (Miller & Broamiley, 1990).

OP can be defined as a combination of resources, capabilities of the organization that are being used efficiently and effectively in order to achieve its objectives (Collis & Montgomrey, 1995). OP is the level of the outputs of the organization after conducting operations on its inputs. OP is the output of the activities that occur within the

organization (Wit & Meyer, 1998).

Hence, after a thorough review of the different concepts of OP, it can be argued that OP in its simplest form is the desired results which the organization seeks to achieve efficiently and effectively.

Darroch (2003) maintains that the dimensions of OP are in two basic dimensions of OP. They can be explained as follows:

1. ***Comparative Performance*** refers to the understanding of the different categories of employees to the level of profitability of the organization where they work, the market share, and the level and speed of growth of the organization compared to organizations working in the same area.
2. ***Internal Performance*** refers to the understanding of the different categories of employees to the level of the OP to which they belong in the short term and long-term, and also the possibility of achieving the OP targets set for the organization, both in the short term and long term.

3. Research Model

The proposed comprehensive conceptual model is presented in Figure (1). The diagram below shows that there is one independent variable of OA. There is one dependent variable of OP. There is one mediating variable of JE (cognitive engagement, emotional engagement, and physical engagement). It shows the rational link among the three types of observed variables i.e. independent, dependent, and mediating variables.

From the above discussion, the research model is as shown in Figure (1) below.

The research framework suggests that JE plays a significant role in the relationship between OA and OP. OA as measured consisted of sensing agility, decision-making agility and acting agility (Jaworski & Kohli 1993). JE is measured in terms of cognitive engagement, emotional engagement, and physical engagement (Rich et al., 2010). OP is measured in terms of comparative performance and internal performance (Darroch, 2003; Pathirage, et al., 2007; and Chen & Mohamed, 2007).

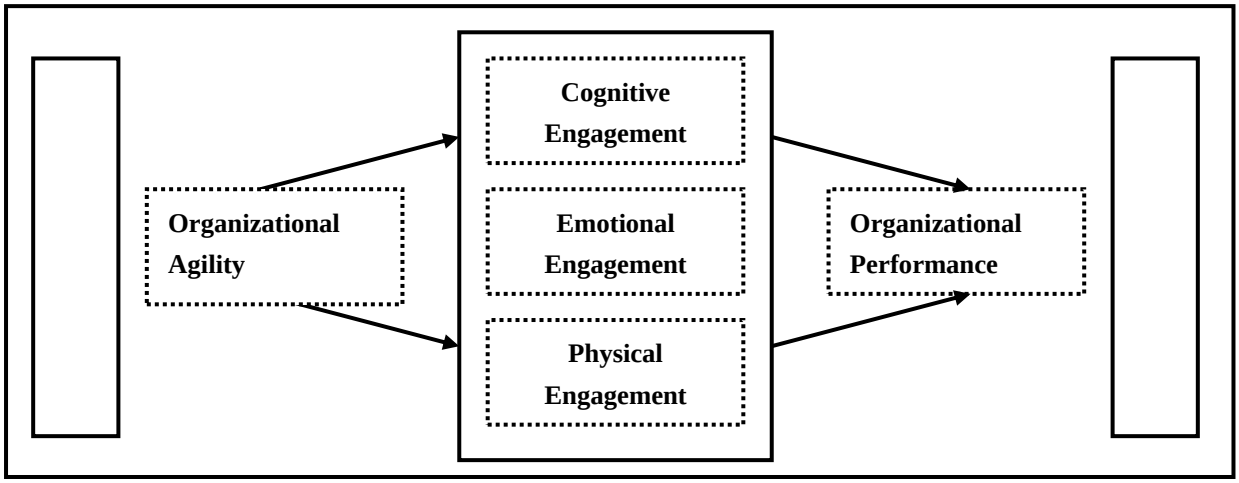

Figure 1. Proposed Comprehensive Conceptual Model

4. Research Questions and Hypotheses

The researcher found the research problem through two sources. The first source is to be found in previous studies, and it turns out that there is a lack in the number of literature reviews that dealt with the analysis of the relationship between OA, JE and OP at Teaching Hospitals in Egypt. This called for the researcher to test this relationship in the Egyptian environment. The second source is the pilot study, which was conducted in an interview with (30) employees in order to identify the relationship between OA, JE and OP. The researcher found, through the pilot study, several indicators; notably the important and vital role that could be played by OA in reinforcing JE at Teaching Hospitals in Egypt.

As a result of the discussions given above, the research questions of this study are as follows:

Q1: What is the nature and extent of the relationship between OA (sensing agility, decision-making agility, and acting agility) and JE at Teaching Hospitals in Egypt?.

Q2: What is the nature of the relationship between JE (cognitive engagement, emotional engagement, and physical engagement) and OP at Teaching Hospitals in Egypt?.

Q3: What is the extent of the relationship between OA (sensing agility, decision-making agility, and acting agility) and OP at Teaching Hospitals in Egypt?

The following hypotheses were developed to test if there is significant correlation between OA, JE and OP.

H1: OA (sensing agility, decision-making agility, and acting agility) of employees has no statistically significant effect on JE at Teaching Hospitals in Egypt.

H2: There is no statistically significant relationship between JE (cognitive engagement, emotional engagement, and physical engagement) and OP at Teaching Hospitals in Egypt.

H3: There is no statistically significant impact of OA (sensing agility, decision-making agility, and acting agility) of employees and OP at Teaching Hospitals in Egypt.

5. Research Strategy

5.1 Population and Sample

The population of the study included all employees at Teaching Hospitals in Egypt. This sector includes nine Hospitals. They are Ahmed Maher, El-Matrya, El-Galaa, El-Sahel, Benha, Shebin El-Kom, Damanhour, Sohag and Aswan. The researcher excludes Hospitals in Sohag and Aswan. This explains why the population of this study includes 5,135 employees. The random sampling was used for collecting the primary data as it was difficult to get all of the items of the research population, because of time limitations. The stratified random sample was used while selecting items from the different categories of employees. The following equation determines the sampling size (Daniel, 1999):

$$n = \frac{N \times (Z)^2 \times P\,(1\text{-}P)}{d^2\,(N\text{-}1) + (Z)^2 \times P\,(1\text{-}P)}$$

Accordingly, the sample size has become 357 employees at Teaching Hospitals in Egypt.

Table 2. Distribution of the Sample Size on the Population

Job Category	Number	Percentage	Size of Sample
Physicians	1926	37.50%	357 X 37.50% = 134
Nurses	2714	52.86%	357 X 52.86% = 189
Administrative Staff	495	9.64%	357 X 9.64% = 34
Total	**5135**	**100%**	**357 X 100% = 357**

Source: Personnel Department at Teaching Hospitals in Egypt, 2013

Proportionality with the number of employees in the research population is proved in Table (1). By using the lists of employees at the Staff Affairs Department, Teaching Hospitals in Egypt random choice of categories was attained. Table (2) illustrates the features of sample units.

Table 3. Characteristics of Items of the Sample

Variables		Number	Percentage
1- Job Title	Physicians	125	40.3%
	Nurses	165	53.2%
	Administrative Staff	20	6.5%
	Total	**310**	**100%**
2- Sex	Male	117	37.7%
	Female	193	62.5%
	Total	**310**	**100%**
3- Marital Status	Single	85	27.4%
	Married	225	72.6%
	Total	**310**	**100%**
4- Age	Under 30	125	40.3%
	From 30 to 45	128	41.3%
	Above 45	57	18.4%
	Total	**310**	**100%**
5- Educational Level	Secondary school	105	33.9%
	University	154	49.7%
	Post Graduate	51	16.5%
	Total	**310**	**100%**
6- Period of Experience	Less than 5 years	99	31.9%
	From 5 to 10	79	25.5%
	More than 10	132	42.6%
	Total	**310**	**100%**

5.2 Procedure

The goal of this study was to identify the significant role of JE in the relationship between OA and OP. A survey research method was used to collect data in this study. The questionnaire included four questions, relating to OA, JE, OP and biographical information of employees at Teaching Hospitals in Egypt. Data collection took approximately two months. About 357 survey questionnaires were distributed by employing diverse modes of communication, such as in person and post. Multiple follow-ups yielded 310 statistically usable questionnaires. Survey responses were 86%.

5.3 Research Variables and Methods of Measuring

The 15-item scale OA section is based on Jaworski & Kohli 1993. There were three items measuring sensing agility, five items measuring decision-making agility, and seven items measuring acting agility.

The 18-item scale JE section is based on Rich et al., 2010. There were six items measuring cognitive engagement, six items measuring emotional engagement, and six items measuring physical engagement. The survey form has been used as a key tool to collect data to measure JE at Teaching Hospitals in Egypt.

The 7- item scale of OP section is based on Darroch, 2003; Pathirage, et al., 2007; Chen & Mohamed, 2007; and Lurdvall & Nielsen, 2007. There were three items measuring comparative performance, and four items measuring internal performance.

Responses to all items scales were anchored on a five (5) point Likert scale for each statement ranging from (5) "full agreement," (4) for "agree," (3) for "neutral," (2) for "disagree," and (1) for "full disagreement."

5.4 Methods of *Data Analysis* and *Testing Hypotheses*

The researcher has employed the following methods: (1) The Alpha Correlation Coefficient (ACC), (2) Multiple Regression Analysis (MRA), and (3) the statistical testing of hypotheses which includes F- test and T-test. They are found in SPSS.

6. Hypotheses Testing

Before testing the hypotheses and research questions, descriptive statistics were performed to find out means and standard deviations of OA, JE and OP.

Table 4. The mean and standard deviations of OA, JE and OP

Variables	The Dimension	Mean	Standard Deviation
OA	Sensing Agility	3.8796	0.81683
	Decision-Making Agility	3.8394	0.71262
	Acting Agility	3.7923	0.72652
	Total Measurement	**3.8114**	**0.72086**
JE	Cognitive Engagement	3.7167	0.90977
	Emotional Engagement	3.5887	0.83990
	Physical Engagement	3.8177	0.74175
	Total Measurement	**3.7077**	**0.77602**
OP	Comparative Performance	3.7237	0.98166
	Internal Performance	3.7016	0.80632
	Total Measurement	**3.7111**	**0.86064**

According to Table (4), the first issue examined was the different facets of OA (sensing agility, decision-making agility and acting agility). According to Table (4), among the various facets of OA, most of the respondents identified the presence of sensing agility (*M*=3.87, *SD*=0.816), decision-making agility (*M*=3.83, *SD*=0.712), and acting agility (*M*=3.79, *SD*=0.726).

The second issue examined was the different facets of JE (cognitive engagement, emotional engagement, and physical engagement). Most of the respondents identified the presence of a cognitive engagement (*M*=3.71, *SD*=0.909). This was followed by emotional engagement (*M*=3.58, *SD*=0.839), and physical engagement (*M*=3.82, *SD*=0.741).

The third issue examined was the different facets of OP (comparative performance and internal performance). According to Table (4), among the various facets of OP, most of the respondents identified the presence of comparative performance *(M=3.72, SD=0.981),* and internal performance *(M=3.70, SD=0.806).*

6.1 Evaluating Reliability

Data analysis was conducted. All scales were first subjected to reliability analysis. ACC was used to assess the reliability of the scales. Item analysis indicated that dropping any item from the scales would not significantly raise the alphas.

Table 5. Reliability of OA, JE and OP

Variables	The Dimension	Number of Statement	ACC
OA	Sensing Agility	3	0.7157
	Decision-Making Agility	5	0.7487
	Acting Agility	7	0.8351
	Total Measurement	**1**5	**0.9303**
JE	Cognitive Engagement	6	0.9391
	Emotional Engagement	6	0.8901
	Physical Engagement	6	0.7632
	Total Measurement	**18**	**0.9490**
OP	Comparative Performance	3	0.8809
	Internal Performance	4	0.8259
	Total Measurement	**7**	**0.9243**

To assess the reliability of the data, Cronbach's alpha test was conducted. Table (5) shows the reliability results for OA, JE and OP. All items had alphas above 0.70 and were therefore excellent, according to Langdridge's (2004) criteria.

Table (5) presents the reliability of OA. The reliabilities of sensing agility, decision-making agility and acting agility are generally higher. The 15 items of OA are reliable because the ACC is 0.9393. Sensing agility, which consists of 3 items, is reliable because the ACC is 0.7157. Decision-making agility, which consists of 5 items, is reliable because the ACC is 0.7487. Acting agility, which consists of 7 items, is reliable because the ACC is 0.8351. Thus, the internal consistency of OA can be acceptable.

According to Table (5), the 18 items of JE are reliable because the ACC is 0.9490. The cognitive engagement, which consists of 6 items, is reliable because the ACC is 0.9391. The 6 items related to emotional engagement are reliable because ACC is 0.8901 while the last six-item variable (physical engagement) is reliable because the ACC is 0.7632. Thus, the reliability of JE can be acceptable.

Table (5) presents the reliability of OP. The 7 items of OP are reliable because the ACC is 0.9243. The comparative performance, which consists of 3 items, is reliable because the ACC is 0.8809. Furthermore, internal performance, that consists of 4 items, is reliable because the ACC is 0.8259. Thus, the reliability of OP can be acceptable.

Accordingly, three scales were defined, OA (15 variables), where ACC represented about 0.9303, JE (18 variables), where ACC represented about 0.9490, and OP (7 variables), where ACC represented 0.9243.

6.2 The Correlation among the Research Variables

Table 6. Means, Standard Deviations and Intercorrelations among Variables

Variables	Mean	Std. Deviation	OA	JE	OP
Organizational Agility	3.8114	0.72086	1.000		
Job Engagement	3.7077	0.77602	0.538**	1.000	
Organizational Performance	3.7111	0.86064	0.466 **	0.951 **	1.000

Table (6) shows correlation coefficients between the research variables, and results indicate the presence of significant correlation between variables (OA, JE, and OP). The level of OA of employees is high (Mean=3.81; SD=0.720), while JE is high (Mean=3.70; SD=0.776) which led to higher OP (Mean=3.71; SD=0.860). Table (5) reveals the correlation between OA and JE (R=0.538; P <0.01), which means that the high level of OA leads to higher JE. The table shows the correlation between JE and OP (R= 0.951; P < 0.01) and this shows that the high level of JE contributes to mitigation of feelings of OP. Finally, Table (5) refers to the correlation between OA and OP (R= 0.466; P < 0.01) implying that the high level of OA increases OP.

6.3 Organizational Agility and Job Engagement

The relationship between OA and JE is determined. The first hypothesis to be tested is:

H1: There is no relationship between OA (Sensing Agility, Decision-Making Agility, and Acting Agility) and JE at Teaching Hospitals in Egypt.

Table 7. Correlation between OA and JE

Hypothesis	Independent Variables		Dependent Variable	Pearson Correlation	Sign
H1	*OA*	Sensing Agility	JE	0.529**	0.000
		Decision-Making Agility		0.562**	0.000
		Acting Agility		0.517**	0.000
Total Measurement				**0.538****	**0.000**

Note: ** Correlation is significant at 0.01 level.

Based on the Table (7), correlation between OA (sensing agility) and JE is 0.529. For OA (decision-making agility) and JE, the value is 0.562 whereas OA (acting agility) and JE shows correlation value of 0.517. The overall correlation between OA and JE is 0.538.

6.3.1 The Relationship between OA (Sensing Agility) and JE

Table 8. MRA Results for OA (Sensing Agility) and JE

The Variables of OA (Sensing Agility)	Beta	R	R^2
1. The organization has been slow in terms of detecting changes that occur in customer preferences for products.	4.686**	0.437**	0.191
2. The organization has been slow in terms of detecting changes that occur in the movements of competitors.	7.660	0.502**	0.252
3. The organization has been slow to detect changes in technology.	0.215	0.336**	0.113
▪ MCC		0.572	
▪ DC		0.327	
▪ Calculated F		49.559	
▪ Degree of Freedom		3,306	
▪ Indexed F		3.78	
▪ Level of Significance		0.000	

** P < .01 * P < .05

As Table (8) proves, the MRA resulted in the R of 0.572 demonstrating that the 3 independent variables of OA (sensing agility) construe JE significantly. Furthermore, the value of R square, 3 independent variables of OA (sensing agility) can explain 32.7% of the total factors in JE level. Hence, 67.3% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

6.3.2 The Relationship between OA (Decision-Making Agility) and JE

Table 9. MRA Results for OA (Decision-Making Agility) and JE

The Variables of OA (Decision-Making Agility)	Beta	R	R^2
1. The organization analyzes important events concerning customers, competitors, and technology without any delay.	4.327**	0.324**	0.105
2. The organization detects the opportunities and threats to changes in customers, competitors, and technology in time.	0.076	0.400**	0.160
3. The organization carries out a specific action plan in order to meet customer needs without any delay.	4.543**	0.437**	0.191
4. The organization implements a plan of action in order to respond to the strategic movements of competitors without delay.	6.279**	0.502**	0.252
5. The organization is implementing an action plan on how to use the new technology without delay.	0.047	0.336**	0.113
▪ MCC		0.605	
▪ DC		0.365	
▪ Calculated F		35.107	
▪ Degree of Freedom		5, 304	
▪ Indexed F		3.01	
▪ Level of Significance		0.000	

** P < .01

As Table (9) proves, the MRA resulted in the R of 0.605. This means that JE has been significantly explained by the 5 independent variables of OA (decision-making agility). As a result of the value of R^2, the five independent variables of OA (decision-making agility) justified only 36.5% of the total factors in JE level. Hence, 63.5% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

6.3.3 The Relationship between OA (Acting Agility) and JE

Table 10. MRA Results for OA (Acting Agility) and JE

The Variables of OA (Acting Agility)	Beta	R	R^2
1. The organization can reconfigure its resources in the proper time.	5.907**	0.496**	0.246
2. The organization can re-adjust operations carried out in a timely manner.	2.201*	0.383**	0.147
3. The organization can use new technology in the proper time.	0.765	0.397**	0.157
4. The organization can change strategic things in the proper time.	0.519	0.279**	0.078
5. The organization can solve customers' needs and complaints without delay.	4.846**	0.345**	0.119
▪ MCC		0.574	
▪ DC		0.329	
▪ Calculated F		29.821	
▪ Degree of Freedom		5,304	
▪ Indexed F		3.01	
▪ Level of Significance		0.000	

** P < .01

As Table (10) proves, the MRA resulted in the R of 0.574 demonstrating that the 5 independent variables of OA (acting agility) construe JE significantly.

Furthermore, the value of R square, 5 independent variables of OA (acting agility) can explain only 32.9% of the total factors in JE level. Hence, 67.1% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

6.4 Job Engagement and Organizational Performance

The relationship between JE and OP is determined. The second hypothesis to be tested is:

H2: There is no relationship between JE (Cognitive Engagement, Emotional Engagement, and Physical Engagement) and OP at Teaching Hospitals in Egypt.

Table 1. Correlation between JE and OP

Hypothesis	Independent Variables		Dependent Variable	Pearson Correlation	Sign
H2	*JE*	Cognitive Engagement	OP	0.935**	0.000
		Emotional Engagement		0.928**	0.000
		Physical Engagement		0.788**	0.000
Total Measurement				**0.951****	**0.000**

Note: ** Correlation is significant at 0.01 level.

Based on the Table (11), correlation between JE (cognitive engagement) and OP is 0.935. For JE (emotional engagement) and OP, the value is 0.928 whereas JE (physical engagement) and OP shows correlation value of 0.788. The overall correlation between JE and OP is 0.951.

6.4.1 The Relationship between JE (Cognitive Engagement) and OP

Table 12. MRA Results for JE (Cognitive Engagement) and OP

The Variables of JE (Cognitive Engagement)	Beta	R	R^2
1. At work, my mind focused on my job.	0.203**	0.824**	0.678
2. At work, I give a lot of attention to my job.	0.039	0.857**	0.734
3. At work, I focus a great deal of attention on the job.	0.303**	0.882**	0.777
4. At work, I am engaged in my job.	0.071	0.816**	0.665
5. At work, I focus on my job.	0.004	0.702**	0.492
6. At work, I devote a lot of attention to my job.	0.437**	0.857**	0.743
▪ MCC		0.950	
▪ DC		0.903	
▪ Calculated F		469,459	
▪ Degree of Freedom		6,303	
▪ Indexed F		2.80	
▪ Level of Significance		0.000	

** P < .01 * P < .05

As Table (12) proves, the MRA resulted in the R of 0.950. This means that OP has been significantly explained by the 6 independent variables of JE (cognitive engagement).

As a result of the value of R^2 the six independent variables of JE (cognitive engagement) justified 90.3% of the

total factors in OP level. Hence, 9.7% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

6.4.2 The Relationship between JE (Emotional Engagement) and OP

Table 13. MRA Results for JE (Emotional Engagement) and OP

The Variables of JE (Emotional Engagement)	Beta	R	R^2
1. I am excited for my job.	0.032*	0.460**	0.211
2. I feel vividly in my job.	0.470**	0.917**	0.840
3. I am interested in my job.	0.169**	0.795**	0.632
4. I am proud of my job.	0.080**	0.869**	0.735
5. I have positive feelings about my job.	0.019	0.642**	0.412
6. I feel thrilled in my job.	0.395**	0.859**	0.737
▪ MCC		0.973	
▪ DC		0.947	
▪ Calculated F		905,002	
▪ Degree of Freedom		6,303	
▪ Indexed F		2.80	
▪ Level of Significance		0.000	

** P < .01

Table (13) proves that there is a relationship between JE (emotional engagement) and OP in significance level of 0,000.

Moreover, the value of R^2, the 6 independent variables of JE (emotional engagement) can explain 94.7% of the total differentiation in OP level.

For the results of a structural analysis of the MRA, the direct effect of JE (emotional engagement) and OP is obtained.

Because MCC is 0.973, it is concluded that there is enough empirical evidence to reject the null hypothesis.

6.4.3 The Relationship between JE (Physical Engagement) and OP

Table 14. MRA Results for JE (Physical Engagement) and OP

The Variables of JE (Physical Engagement)	Beta	R	R^2
1. I work force and intensity in my job.	0.034**	0.909**	0.826
2. I do my best to my job.	0.253**	0.790**	0.624
3. I am trying so hard to the best of ability to accomplish the job.	0.027	0.249**	0.062
4. I do a lot of energy in my job.	0.284**	0.536**	0.287
▪ MCC		0.967	
▪ DC		0.935	
▪ Calculated F		1105,402	
▪ Degree of Freedom		4, 305	
▪ Indexed F		3.32	
▪ Level of Significance		0.000	

** P < .01

As Table (14) proves, the MRA resulted in the R of 0.967. This means that OP has been significantly explained by the 6 independent variables of JE (physical engagement). Furthermore, the R^2 of 0.935 indicates that the percentage of the variable interprets the whole model, that is, 93.5%. It is evident that the four independent variables of JE (physical engagement) justified 93.7% of the total factors of OP. Hence, 6.3% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

6.5 Organizational Agility and Organizational Performance

The relationship between OA and OP is determined. The third hypothesis to be tested is:

H3: There is no relationship between OA (Sensing Agility, Decision-Making Agility, and Acting Agility) and OP at Teaching Hospitals in Egypt.

Table 15. Correlation between OA and OP

Hypothesis	Independent Variables		Dependent Variable	Pearson Correlation	Sign
H3	*OA*	Sensing Agility	OP	0.479**	0.000
		Decision-Making Agility		0.492**	0.000
		Acting Agility		0.439**	0.000
Total Measurement				**0.466****	**0.000**

Note: ** Correlation is significant at 0.01 level.

Based on Table (15), correlation between OA (sensing agility) and OP is 0.479. For OA (decision-making agility) and OP, the value is 0.492 whereas OA (acting agility) and OP shows correlation value of 0.439. The overall correlation between OA and OP is 0.466.

6.5.1 The Relationship between OA (Sensing Agility) and OP

Table (16) proves that there is a relationship between OA (sensing agility) and OP. As a result of the value of R^2, the 3 independent variables of OA (sensing agility) can explain 28.7% of the total differentiation in OP level.

Table 16. MRA Results for OA (Sensing Agility) and OP

The Variables of OA (Sensing Agility)	Beta	R	R^2
1. The organization has been slow in terms of detecting changes that occur in customer preferences for products.	0.324**	0.420**	0.176
2. The organization has been slow in terms of detecting changes that occur in the movements of competitors.	0.363**	0.460**	0.212
3. The organization has been slow to detect changes in technology.	0.058	0.277**	0.076
▪ MCC		0.536	
▪ DC		0.287	
▪ Calculated F		41,024	
▪ Degree of Freedom		3,306	
▪ Indexed F		3.78	
▪ Level of Significance		0.000	

** P < .01 * P < .05

For the results of a structural analysis of the MRA, the direct effect of OA (sensing agility) and OP is obtained. Because MCC is 0.536, there is enough empirical evidence to reject the null hypothesis.

6.5.2 The Relationship between OA (Decision-Making Agility) and OP

Table 17. MRA Results for OA (Decision-Making Agility) and OP

The Variables of OA (Decision-Making Agility)	Beta	R	R^2
1. The organization analyzes important events concerning customers, competitors, and technology without any delay.	0.148**	0.258**	0.066
2. The organization detects the opportunities and threats to changes in customers, competitors, and technology in time.	0.072	0.333**	0.110
3. The organization carries out a specific action plan in order to meet customer needs without any delay.	0.344**	0.420**	0.176
4. The organization implements a plan of action in order to respond to the strategic movements of competitors without delay.	0.360**	0.460**	0.211
5. The organization is implementing an action plan on how to use the new technology without delay.	0.051	0.277**	0.076
▪ MCC		0.557	
▪ DC		0.310	
▪ Calculated F		27, 283	
▪ Degree of Freedom		5,304	
▪ Indexed F		3,01	
▪ Level of Significance		0.000	

** P < .01

As Table (17) proves, the MRA resulted in the R of 0.557. This means that OP has been significantly explained by the 5 independent variables of OA (decision-making agility).

Furthermore, the R^2 of 0.310 indicates that the percentage of the variable interprets the whole model, that is, 31%. It is evident that the five independent variables of OA (decision-making agility) justified 31% of the total factors of OP. Hence, 69% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis.

6.5.3 The Relationship between OA (Acting Agility) and OP

Table 18. MRA Results for OA (Acting Agility) and OP

The Variables of OA (Acting Agility)	Beta	R	R^2
1. The organization can reconfigure its resources in the proper time.	0.345**	0.452**	0.204
2. The organization can re-adjust operations carried out in a timely manner.	0.183*	0.333**	0.110
3. The organization can use new technology in the proper time.	0.020	0.333**	0.110
4. The organization can change strategic things in the proper time.	0.082	0.213**	0.045
5. The organization can solve customers' needs and complaints without delay.	0.185**	0.286**	0.082
▪ MCC		0.509	
▪ DC		0.259	
▪ Calculated F		21.306	
▪ Degree of Freedom		5,304	
▪ Indexed F		3.01	
▪ Level of Significance		0.000	

** P < .01

Table (18) proves that there is a relationship between OA (acting agility) and OP. As a result of the value of R^2, the 5 independent variables of OA (acting agility) can explain 25.9% of the total differentiation in OP level. For the results of a structural analysis of the MRA, the direct effect of OA (acting agility) and OP is obtained. Because MCC is 0.509, there is enough empirical evidence to reject the null hypothesis.

7. Research Findings

The present study on analyzing the moderating significant role of JE in the relationship between OA and OP at Teaching Hospitals in Egypt revealed the following results:

1. There is a significant relationship between OA and JE. This is consistent with the finding that the employees who believed their organization had agility were more JE with their job. JE plays an important role in influencing OA. Also, JE contributes significantly to the promotion of OA.
2. This study concluded that the JE positively related with OP. Overall findings from this study suggested that JE does affect OP. Hence, management should ensure that suitable JE be applied in the organization through the encouragement of cooperative teamwork.
3. There is a positive relationship between OA and OP of employees in the organization.
4. There is a significant role of JE in the relationship between OA and OP. In other words, OA affects OP through JE.

8. Research Implications

We can conclude that managers at Teaching Hospitals in Egypt might be able to improve OP through OA and JE. OA may be affected by JE. OA is mostly affected by top management as it supports JE. It also helps employees pay attention to professional standards. JE may exist with the help of top management at Teaching Hospitals in Egypt. This is achieved by taking employees' interests into account. OA and OP may be boosted if JE is encouraged. In this way, absenteeism and turnover will be lower. Productivity and profitability, also will be higher.

9. Limitations and Future Research

There are some limitations of this study. Firstly, the data was collected from employees in one country, Egypt. Therefore, the generalization of the results must be made with caution. Secondly, the findings may not be generalized to other organizations in Egypt. Thirdly, a small sample size is used.

There are several areas for future research. They are (1) the relationship between JE and OCB, (2) the mediating variables which link JE to OP, (3) similar studies should be undertaken in other organizations in Egypt, using a larger sample size, (4) future studies should look at a comparative study of another sector such as education, and tourism, and (5) future studies should examine the relationship between JE and quality of work life.

10. Conclusion

This study attempted to investigate the moderating significant role of JE in the relationship between OA and OP.

The study proved that there is a statistical significant relationship between OA, JE and OP. It revealed that OA, JE and OP proved to be related.

Managers or policy-makers may make use of the present study. It will highlight types of JE, the impact of JE on

OA and OP.

The study findings present valuable understanding for policy makers regarding how to make hospitals engaged to enhancing their employees, learning effectiveness, improving professional practices, and reducing turnover.

OA and JE are accepted as a promoter of OP. So it is asserted that OA and JE have a positive impact on OP. Top management of the organizations can enhance the dimensions of OP by developing and encouraging some facets of OA and JE.

Teaching Hospitals can increase OP by ensuring OA and JE within their organizations.

Research on OA, JE and OP increased over the past decade. However, this rapid growth caused several problems, including the need to better understand the conceptual similarities and differences between various forms of OA, JE and OP, as well as their antecedents and consequences. Overall, this is an exciting and dynamic field of research, and we are hopeful that this paper will help speed progress in this area by highlighting several key issues that need more attention.

References

Ardichvili, A., Cardozob, R., & Rayc, S. (2003). A Theory of Entrepreneurial Opportunity Identification and Development. *Journal of Business Venturing, 18,* 105. https://doi.org/10.1016/S0883-9026(01)00068-4

Baum, J., & Singh, J. (1994). Organizational Niches and the Dynamics of Organizational Mortality. *American Journal of Sociology, 100,* 346-380. https://doi.org/10.1086/230540

Bessant, J., Knowles, D., Francis, D., & Meredith, S. (2001). Developing the Agile Enterprise, Agile Manufacturing: The 21 st century competitive strategy. Elsevier science

Bevan, S., Barber, L., & Robinson, D. (1997). Keeping the best: a practical guide to keeping key employees, Report 337, Brighton: Institute for Employment Studies (IES).

Brown, S., & Eisenhard, K. (1998). Competing on the Edge. Harvard Business School Press, Boston, MA.

Carroll, G., & Delacroix, J. (1982). Organizational Mortality in the Newspaper Industries of Argentina and Ireland: An Ecological Approach. *Administrative Science Quarterly, 27,* 169-198. https://doi.org/10.2307/2392299

Chen, L., & Mohamed, S. (2008). Contribution of knowledge management activities to organisational business performance. *Journal of Engineering, Design and Technology, 6*(3), 269-285. https://doi.org/10.1108/17260530810918289

Christopher, M., & Towill, D. (2001). An Integrated Model for the Design of Agile Supply Chains. *International Journal of Physical Distribution & Logistics Management, 31*(4), 235-246. https://doi.org/10.1108/09600030110394914

Collis, D., & Montgomrey, C. (1995). Competing on Resources: Strategy in the 1995.

Daft, L., & Weick, E., (1984). Toward a Model of Organizations as Interpretive Systems. *Academy of Management Review, 9,* 284-295.

Darroch, J. (2003). Developing A Measure of Knowledge Management Behaviors and Practices. *Journal of Knowledge Management, 7*(5), 41-54. https://doi.org/10.1108/13673270310505377

David, F. (2009). Strategic Management- Concepts and Cases, 12th ed., Prentice-Hill Pearson Education International Inc. U.S.A., 46.

Dove, R. (2001). Responsibility: the language, structure, and culture of the agile enterprise. New York: Wiley

Dutton, J., & Duncan, R. (1987). The Creation of Momentum for Change through the Process of Strategic Issue Diagnosis. *Strategic Management Journal, 8,* 279-295. https://doi.org/10.1002/smj.4250080306

Eccles, V. (1991). The Value Evolution: Addressing Larger Implications of Intellectual Capital and Intangibles Perspective. *Journal of Intellectual Capital, 1*(1), 1.

Eisenhardt, M., & Martin, J. (2000). Dynamic Capabilities: What Are They? *Strategic Management Journal, 21,* 1105-1121. https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

El Sawy, O. (1985). Personal Information Systems for Strategic Scanning in Turbulent Environments: Can the CEO Go Go-Line? *MIS Quarterly, 9*(1), 53-60. https://doi.org/10.2307/249273

Erande, A., & Verma, A. (2008). Measuring Agility of Organizations– A Comprehensive Agility Measurement Tool (CAMT)",Old Dominion University, Proceedings of The 2008 IAJC-IJME International Conference.

Frese, M., & Fay, D. (2008). Personal initiative (PI): An active performance concept for work in the 21st Century. In B. M. Staw & R. M. Sutton (Eds.), Research in Organizational Behavior (Vol. 23, PP. 133-187). Amsterdam: Elsevier Science.

Gattiker, T., Chen, D., & Goodhue, D. (2005). Agility through Standardization: A Crm/ Erp Application," in: Strategic Erp Extension and Use, F.R. Jacobs and B. E. (eds.). Stanford Business Books, 87-96.

Goldman, S., Nagel, R., & Preiss, K., (1995). Agile Competitors and Virtual Organizations: Strategies for Enriching the Customer. Van. Nostrand Reinhold, New York.

Griffin, M. A., Parker, S. K., & Neal, A. (2008). Is behavioral engagement a distinct and useful construct? *Industrial and Organizational Psychology, 1,* 48-51. https://doi.org/10.1111/j.1754-9434.2007.00007.x

Gunasekaran, A. (1999). Agile Manufacturing: A Framework for Research and Development, International *Journal of Production Economics, 62,* 87-105. https://doi.org/10.1016/S0925-5273(98)00222-9

Hill, C., & Jones, G., (2009). Strategic Management, An Integrated approach, 13th ed., Houghton Mifflin Company, Boston.

Hitt, Michael, A., Hoskisson, E., Robert, I., & Duane, R. (2007). Management of Strategy: Concepts and Cases, South-Western, 1st Ed., New York.

Houghton, R., El Sawy, O. A., Gray, P., Donegan, C., & Joshi, A. (2004). Vigilant Information Systems for Managing Enterprises in Dynamic Supply Chains: Real-Time Dashboards at Western Digital. *MIS Quarterly Executive, 3*(1), 19-35.

Izza, S., Imache, R., Vincent, L., & Lounis, Y. (2008). An Approach for the Evaluation of the Agility in the Context of Enterprise Interoperability. *Enterprise Interoperability III),* 3-14. https://doi.org/10.1007/978-1-84800-221-0_1

Janssen, L. (2010). Organizational agility in an institutional context", Supervisors: drs. M.C.P. Nijssen & prof. dr. J. Paauwe.

Jaworski, B., & Kohli, A. (1993). Market Orientation: Antecedents and Consequences. *Journal of Marketing, 57*(3), 52-70. https://doi.org/10.2307/1251854

Joshi, R., & Sodhi, J. (2011). Drivers of Employee Engagement in Indian Organizations. *The Indian Journal of Industrial Relations, 47*(1), 89-96.

Kahn, W. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work.

Kanungo, R. (1982). Measurement of Job and work Involvement. *Journal of Applied psychology, 67*(3), 341-349. https://doi.org/10.1037/0021-9010.67.3.341

Markos, S., & Sridevi, M. (2010). Employee Engagement: The Key to Improving Performance, International *Journal of Business and Management, 5*(12).

Mathiassen, L., & Pries-Heje, J. (2006). Business Agility and Diffusion of Information Technology. *European Journal of Information Systems, 15,* 116-119. https://doi.org/10.1057/palgrave.ejis.3000610

McCarthy, I., Lawrence, T., Wixted, B., & Gordon, B., (2010). A Multidimensional Conceptualization of Environmental Velocity. *Academy of Management Review, 35*(4), 604-626. https://doi.org/10.5465/AMR.2010.53503029

Mehrabi, S., Siyadat, S., & Allameh, S. (2013). Examining the Degree of Organizational Agility from Employees' Perspective (Agriculture-Jahad Organization of Shahrekord City). *International Journal of Academic Research in Business and Social Sciences May 2013, 3*(5), 315-323.

Miller, K., & Bromiley, P., (1990). Strategic Risk and Corporate Performance: An Analysis of Alternative Risk Measure. *Academy of Management Journal, 33*(4), 756-779. https://doi.org/10.2307/256289

Nelson, A., & Harvey, F. (1995). Technologies for Training and Supporting Your Agile Workforce. In Creating the Agile Organization: Models, Metrics and Pilots. 4th Agility Forum Annual Conference.

Oosterhout, M. V., Waarts, E., & Van Hillegersberg, J. (2006). Change Factors Requiring Agility and Implications for It. E*uropean Journal of Information Systems,15*(2), 132-145. https://doi.org/10.1057/palgrave.ejis.3000601

Overby, E., Bharadwaj, A., & Sambamurthy, V. (2006). Enterprise Agility and the Enabling Role of Information Technology. *European Journal of Information Systems, 15*(2), 120-131.

https://doi.org/10.1057/palgrave.ejis.3000600

Park, Y. (2011). The Dynamics of Opportunity and Threat Management in Turbulent Environments: The Role Information Technologies, Doctor Dissertation.

Pathirage, C., Amaratunga, D., & Haigh, R. (2007). Tacit knowledge and organizational performance. *Journal of Knowledge Management, 11*(1), 115-126. https://doi.org/10.1108/13673270710728277

Pavlou, P., & El Sawy, O. (2010). The "Third Hand": IT-Enabled Competitive Advantage in Turbulence Through Improvisational Capabilities. *Information Systems Research, 21*(3), 443-471. https://doi.org/10.1287/isre.1100.0280

Pollock, T. (1997). Building Employee's Interest in their work. *Automotive Manufacturing & Production, 109*(10), 10.

Privett, D. (1983). Working Knowledge, Boston Press, Harvard Business Review.

Ramsey, R., Lassk F., & Marshall, G. (1995). A Critical Evaluation of a Measure of Job Involvement: The Use of the Lodahl and Kejner (1965) scale with salespeople. *Journal of personal selling & Sales Management, 15*(3), 65-74.

Rich, B., Jeffrey, A., & Eean, R., (2010). Job Engagement: Antecedents and Effects on Job Performance. *Academy of Management Journal, 53*(3), 617-635. https://doi.org/10.5465/AMJ.2010.51468988

Riipinen, M. (1997). The Relationship between Job involvement and well-being. *The Journal of psychology, 131*(1), 81-89. https://doi.org/10.1080/00223989709603506

Robins, G., & Wiersema, R. (1995). Organization & Behavior, Princeton, New Jersey.

Rothbard, N. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46,* 655-684. https://doi.org/10.2307/3094827

Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping Agility through Digital Options: Reconceptualizing the Role of Information Technology in Contemporary Firms. *MIS Quarterly, 27*(2), 237-263.

Seo, D., & Paz, A. (2008). Exploring the Dark Side of Is in Achieving Organizational Agility. *Communication of the ACM, 51*(11), 136-139. https://doi.org/10.1145/1400214.1400242

Sharifi, H., & Zhang, Z. (1999). A methodology for achieving agility in manufacturing organizations. An introduction. *International Journal of Production Economics, 62*(1-2), 7-22. https://doi.org/10.1016/S0925-5273(98)00217-5

Sharifi, H., & Zhang, Z. (2001). Agile Manufacturing in Practice. Application of a Methodology, International *Journal of Operations & Production Management, 21*(5), 772-794. https://doi.org/10.1108/01443570110390462

Sherehiy, B. (2008). Relatioships Between Agility Strategy, Work Organization and Workforce Agility, Doctor Dissertation, University of Louisville.

Sherehiy, B., Karwowski, W., & Layer, J. (2007). A Review of Enterprise Agility: Concepts, Frameworks, and Attributes. *International Journal of Industrial Ergonomics, 37*(5), 445-460. https://doi.org/10.1016/j.ergon.2007.01.007

Smircich, L., & Stubbart, C. (1985). Strategic Management in an Enacted World. *Academy of Management Review, 10*(4), 724-736.

Sull, D. (2009). How to Thrive in Turbulent Markets. *Harvard Business Review, 87*(2), 78-88.

Sweem, S. (2008). Engaging a Talent Management Strategy for the 21st Century: A Case Study of How Talent Management is Defined and Initiated", Midwest Academy of management Doctoral student paper.

Tallon, P. P., & Pinsonneault, A. (2011). Competing perspectives on the link between strategic information technology alignment and organizational agility: Insights from a mediation model. *MIS Quarterly, 35,* 463-486.

Thomas, J., Clark, S., & Gioia, D. (1993). Strategic Sensemaking and Organizational Performance: Linkages among Scanning, Interpretation, Action, and Outcomes. *Academy of Management Journal, 36*(2), 239-270. https://doi.org/10.2307/256522

Tiwari, S. (2011). Employee Engagement-The Key to Organizational Success, ICOQM-10, Kolkata.

Tsourveloudis, N., & Valavanis, K., (2002). On the Measurement of Enterprise Agility. *Journal of Intelligent & Robotic Systems, 33*(3), 329-342. https://doi.org/10.1023/A:1015096909316

Warr, P., & Inceoglu, I. (2012). Job Engagement, Job Satisfaction, and Contrasting Associations with Person–Job Fit. *Journal of Occupational Health Psychology, 17*(2), 129-138. https://doi.org/10.1037/a0026859

Wit, B., & Meyer, R., (1998). Strategy: Process, Content, Context: An International Perspective, Thompson Business Press.

Yeganegi, K., & Azar, M., (2012). The Effect of IT on Organizational Agility, Proceedings of the 2012. International Conference on Industrial Engineering and Operations Management, Istanbul, Turkey, July 3-6.

Yusuf, Y., Sarhadi, M., & Gunasekaran, A. (1999). Agile Manufacturing: The Drivers, Concepts and Attributes. *International Journal of Production Economics, 62*(1-2), 33-43. https://doi.org/10.1016/S0925-5273(98)00219-9

Zain, M., Rose, R., Abdullah, I., & Masrom, M. (2005). The Relationship between Information Technology Acceptance and Organizational Agility in Malaysia. *Information & Management, 42*, 829-839. https://doi.org/10.1016/j.im.2004.09.001