

Organizational Learning and Organizational Resilience Knowledge Management as a Mediator in Public Organizations of Iran

Ali Asghar. Fani Hasan. Danaee Fard
Department of Management, University of Tarbiat Modares

Hossein.Yakhkeshi
Tarbiat Modares University

Abstract

The purpose of this article is the findings of the mediating effect knowledge management in the relationship between organizational learning and organizational resilience. The study adopts a cross-sectional design to collect data used to carry out mediation analysis. 28 public organizations in Iran were selected as the samples of this study. The survey was conducted among middle and senior managers and respondents were asked to express the opinions related to the effects organizational learning as mediator in relationship between management and organizational resilience. Knowledge management had an effect on organizational resilience. Organizational learning did not have a direct effect on organizational resilience, except through the full mediation of Knowledge management. This suggests that without Knowledge management, public organizations of Iran may not improve their level of resilience. Utilizing a cross-sectional design with questionnaires is one of the limitations of this study. The results may be different in the private sector. A future research strategy that may overcome this limitation is one that involves longitudinal studies in which flow of study variables can be followed over time. In addition, using objective measures, archival data for some variables, may give results that are more objective.

Keywords: Organizational learning, Knowledge management, Organizational resilience, Public section organizations

1. Introduction

You can learn from past adversities and anticipate what you might do to deal with future ones, but what do you do when you're unexpectedly faced with adversity? However, No matter how robust you've become by dealing with tough times, you still remain vulnerable to coping poorly with future adversities. No one has an absolute resistance to adversity. Resilience cannot be seen as a fixed attribute of the person, when circumstances change, resilience alters (Rutter, 1987; Neenan, 2009). In these new circumstances, you might cope badly and believe that your resilient qualities have vanished. Changes can be devastating unless one has the resilience to accept the change and appreciate what he or she is still able to do. Confucius says, "Our greatest glory is not never falling, but in rising every time we fall."

Like an organism, organization also to survive and find a constructive way forward during hard times should adapt itself to change or face extinction. Because Organizations does not exist in vacuum rather it is mutually dependent on its external environment (Koontz and Weihrich, 1999). In the present era, which become a global village and Shapiro and Varian (1999) has called Information Age, and Thurow (2003) the Third Industrial Revolution, investment choices on one side of the world can affect the cost of living on the other. This implies that organizations cannot control the variety unless they possess the requisite variety to bring the organization to a state of acceptable space (Umoh and Amah, 2013).

Therefore organizations to survive and thrive must prepare themselves to deal with such threats. Organization that can actively adapt to future and before changes occur, react, called resilient. But researches showed that most organizations are buffeted with the forces of globalization, shifts in the economy, and an ever-changing workforce. According KPMG 40 percent of companies that the disturbance businesses mainly suffer within 2 years of their business go out because they were unable to recover from the long-term effects of a crisis not. Data from the past decade note that 80 percent of all businesses that have a major fire do not recover; an estimated 40 percent of organizations without business continuity and recovery plans go out of business after a major disaster; and, 93 percent of companies that have a significant loss of data fail within five years (Devargas, 1999; Cocchiara, 2005; Michigan State, 2000). Irving & Anderson (2004) in their study found that 50 percent of organizations without business continuity and recovery plans go out of business after a major disaster. Curtis (2008) cites department of Labor data showing that of all companies that experience disaster, 65 percent fail, with 40 percent not re-opening, and 25 percent closing within 2 years.

Organizational resilience which has been qualitatively studied in the private sector (McManus, 2008) can be built based on organizational learning (Bonanno, 2007; Jackson et al., 2007; McAllister and McKinnon, 2009) through the mediation of knowledge management (Dalziel and McManus, 2004; Mitroff, 2005;

Parsons,2007; Umoh and Amah, 2013). But cannot say that exactly match the results of other cultures because, each culture has its own characteristics. Also, evidence suggests that public organizations resilience due access easy to public funds has been slow. Public sector organizations due to the changes the world around have not changed much. The space that between public and private organizations to gain more knowledge is created, more become daily. This study sought the examined influence organizational learning on organizational resilience with the mediator's knowledge management. To see that whether the two variables of organizational learning and knowledge management of influence or not on organizational resilience in public sector organizations. The hope that on done this study partial of organizations problems removed and somewhat increased organizations work and productivity on thus society people satisfaction increased or can be of society people dissatisfaction level decreased.

2. Literature review

2.1 Organizational Resilience

The word “resilience” comes from the Latin word “salire,” which means to spring up (Resnick et al., 2011) and the word “resilire” which means to spring back (Dalziell and McManus, 2004; Resnick et al., 2011; Pflanz and Levis, 2012; Rochas et al., 2014) as well as ‘resilio’ which mean the ‘ability to rebound or jump-back’ (Dalziell and McManus, 2004; Pflanz and Levis,2012; Rochas et al., 2014). Garmezy (1973) published the first research findings on resilience. In ecological research Holling (1973), that proposed by many as the father of ecological resilience theory used resilience term to describe both systems (ecosystem, community or organization) that remains in a state of equilibrium under the extreme conditions, or the way dynamic systems behave when they are stressed and moved away from the state of equilibrium. In Organizations also the first Wildavsky (1988) used the term resilience. But after the attack on September 11, 2001 to answer the question that Sandler O'Neill and Partners despite the huge losses that saw how they were able to survive? This term is common in organizations. Some critics argue the concept introduces an additional and unnecessary level of complexity, and further extends an already stretched management vocabulary. But the concept is already being applied to organizations in the private, public, not-for-profit and non-governmental sectors, and there is a growing consensus on its utility. A US standard on the requirements of organizational resilience has been translated into a number of languages, and recently has been accepted by the US, Danish and Dutch national standards bodies (McAslan, 2010).

Resilience will be a necessary capacity “to cope with unanticipated dangers after they become manifest” (Wildavsky, 1988). Resilience is an adaptive process that can fluctuate depending upon one’s changing life circumstances. Resilience is neither linear nor permanent (Lester et al., 2006; Werner and Smith, 1982). Resilience is the most important defense people have against stress. Resilience is the capacity to rebound from adversity strengthened and more resourceful. This is why it is at the heart of positive organizing (Sutcliffe and Vogus, 2003). In fact organizational resilience saw as an important factor enabling an organization to leverage its resources and capabilities not only to resolve current dilemmas but to exploit opportunities and build a successful future (Lengnick-Hall et al., 2011).

The literature review showed that used various types of fields the term resilience. For example, in neuroscience science (Siegel, 1999, La Cerra and Bingham, 2002), psychology (Masten et al., 1990; Luthar et al., 1997; Luthar, 2003), social science (Fraser et al., 1999; Saleebey, 2001) and education (Williams and Newcombe, 1994; Brown et al., 2001) which recognizes resilience not only internally in individuals but also externally in families, communities, and wider social environments (Truebridge, 2010). The concept of organizational resilience has been studied in and applied to a number of settings including hospitals (Mallak, 1998), fire fighting teams (Weick, 1993), business and industry (Coutu, 2002; Hamel and Valikangas, 2003; Horne and Orr, 1998), terrorist attacks (Beunza and Stark, 2004; Freeman et al., 2004; Kendra and Wachtendorf, 2001; Mitroff, 2005).

2.2 Knowledge management

The can be argued that traces the origin and evolution of knowledge management comes back to the third millennium BC. All thinkers from Plato to Descartes and Kant in the search term used to express the nature of knowledge. Why did not specify a name for it could be the one reason that the concept is that does not need to manage. Or do not specify a name for it. Because used in practice but informally and whatever that nowadays new is about knowledge management, awareness of the process of knowledge management. Several experts and specialists involved in the development of knowledge management concept that they some of the most famous are include Drucker, Strawsman and Senge. The biggest research done to today about knowledge management is related to Nonaka and Takeuchi (1995) to title “The knowledge creating company: How Japanese companies create the dynamics of innovation”.

Davenport and Prusak (1998) define knowledge as a fluid mix of experiences, values, contextual information and intuition that provides a structure to evaluate and incorporate new experiences and information.

Koskinen and Philanto (2008) consider “knowledge (as) an individual's perception, skills and experience, which are all dependent on what experiences the individual's worldview contains in the form of meanings.” According to Probest et al., (2000) knowledge management is a systematic process comprises a range of strategies and practices used in an organization to identify, create, organize storage, represent, distribute, and enable adoption of knowledge. Knowledge management is defined as a systematic and integrative process of coordinating organization wide activities of acquiring, creating, storing, sharing, developing, and deploying knowledge, value information, and expertise by individuals and groups in pursuit of organizational goals (Rastogi, 2000).

The firms and organizations despite many investments that for use of knowledge creation in itself organizations pay very not success and investments hardware and software that done for implementation knowledge management, not achieved result acceptable. Organizations yet on this question are facing that on traverse what way and process can be utilize of knowledge creation in itself for new requirement and aims? For meaning full use of knowledge as a rivalry and guideline advantage and also organizing phase development knowledge management in organization, cognition situation real organization in set knowledge management is necessary and vital. In other words, do in-depth analysis of the level of maturity of the organization in the field of knowledge management is essential. Organization maturity in knowledge management is level of an organization's capabilities and abilities in different aspects of knowledge management. Therefore, likewise organizations grown and complex these processes, the more knowledge-intensive processes to manage this complexity will be needed (wiig, 2004).

2.3 Organizational learning

Richard Cyert and James March, the first people that in 1963 to put two words learning and organization together and introduce learning as organizational phenomenon. The several researchers also it analyzed from different perspectives. Among these approaches, psychological approaches (Cyert and March, 1963; Daft and Weick, 1984), social studies approach (Nelson and Winter, 1982; Levit and March, 1988) and organization theory view (Nonaka, 1994; Huber, 1991; Gomez et al., 2005) can mention. The number of study also helped to spread concept organizational learning, as divide learning to single-loop and double-loop learning Argyris and Schon (1978), The Age of Unreason Charles Handy (1989), The living company Arie De Geus (1997), The Fifth Discipline senge (1990).

Garcia Morales et al. (2007) defines organizational learning as organization capability to maintain or improve performance based on experience. This activity involves the acquisition of explicit and tacit knowledge, knowledge sharing, and knowledge use. Huber (1991) realization of organizational learning involves a four-step process knows. The steps are: 1- Knowledge Acquisition: Knowledge Acquisition by monitoring the environment, rearrangement of existing knowledge, the revision of previous knowledge structures, and the building and revision of theories. 2- Information Distribution: Information distribution by which an organization shares information among its units and members, thereby producing new knowledge or understanding, letters, memos, informal conversations, and reports. 3- Information Interpretation: The interaction between stored mental models and interpretation is critical to understanding how organizations learn. Greater learning occurs when more and more varied interpretations are developed. 4- Organizational Memory: organizational memory refers to the repository where knowledge is stored for future use (Balasubramanian, 1995).

Argyris and Schon (1978) describe three types of organizational learning: Single-loop learning (SLL): Organizational learning occurs when errors are detected and corrected and firms carry on with their present policies and goals. Double-loop learning (DLL): DLL occurs when, in addition to detection and correction of errors, the organization is involved in the questioning and modification of existing norms, procedures, policies, and objectives (Albrecht, 2008). Deutero-learning occurs when organizations learn how to carry out single-loop and double-loop learning. The first two forms of learning will not occur if the organizations are not aware that learning must occur (Balasubramanian, 1995).

The paradigm of organizational learning needs to shift from single-loop or double-loop learning to triple loop learning or unlearning, from knowledge creation through incremental changes to knowledge creation through radical changes, from system thinking to creative thinking, and from continuous improvement to creative and innovative improvement (Lee and Tsai, 2005).

3. Relationship between research variables

3.1 Organizational Learning and Organizational Resilience

Grotberg (1999) argues that `resilience is not magic; it is not found only in certain people. Reivich and Shattea (2003) state: that the number-one roadblock to resilience is not genetics, not childhood experiences, not a lack of opportunity or wealth. The principal obstacle to tapping into our inner strength lies with our cognitive [thinking] style. Professor Windy Dryden (2001) state Resilience comprises a set of flexible cognitive, behavioral and emotional responses that can be learned. Research (Aguirre, 2007; Bonanno, 2004) has shown that resilience is ordinary, not extraordinary, and that people regularly demonstrate this ability. Resilience is not a static state that

is inherent in you nor is it a transient phenomenon. Rather, it is a dynamic process that can be cultivated in most individuals (McAllister and McKinnon, 2009; Jackson et al, 2007). Carvalho et al. (2008), Herrera et al. (2010), Shirali et al. (2012) in their study founded factor including: management commitment, reporting culture, learning/training, awareness, and flexibility.

Werner and Smith (2001) provide compelling insights into resilience in individuals through their forty-year study of 698 native Hawaiian children born in 1955. These children experienced various challenging conditions in their lives (poverty, violence, parental alcoholism, discord, desertion, or parental mental illness). However, one out of every three of these high-risk children was able to overcome these conditions and grow into healthy, and became competent, confident, and caring young adults. They study identified four factors that distinguished resilient from non-resilient individuals: problem solving abilities, favorable perceptions, positive reinforcement, and strong faith. These findings suggest that resilience is a capability that can be developed deliberately.

The IBT project began in 1975 by Maddi (1987). Maddi and a research team evaluated 450 male and female supervisors, managers, and decision makers with annual interviews, psychological tests, medical examinations, and work-performance reviews. During the dozen years of the study, companies in the "Ma Bell" monopoly experienced monumental upheaval due to the deregulation of the telecommunications industry. Nearly half the employees in the sample lost their jobs; One-third of the employees survived and thrived despite the stressful changes. Maddi et al. (1987) determined that three basic attitudes permitted the stronger group to do well: commitment, control, and challenge.

Sandler, O'Neill & Partners was decimated in the September 11, 2001 attacks, losing 39% of its workforce, 2/3 of its management committee, and its entire physical plant, but a week later was able to continue his work and within one year, the firm had not only recovered, rather, was doing better than ever. Freeman et al. (2004) found in their research on results, including the ability to get help, the pull of opportunity, Demonstrating Commitment, limit the effects of grief and anxiety. Flexibility, Teamwork and Self-Management, Organic Structure, One of the most important factors that was obtained the good relations with staff and customers extended to the company's reputation, as on Wall Street, Sandler O'Neill and Partners were known as a 'relationships' firm. They found that the key to successful recovery Sandler O'Neill was his moral purpose. Because he thought they were helping those who suffered from the accident. These findings suggest that resilience is the ability of an organization that can grow with reflection. These findings suggest that resilience is the ability of an organization that can grow with reflection and Resilience is ordinary, not extraordinary. What is questionable though is the extent to which learning influences organizational resilience, which this study sought to examine.

3.2 Knowledge Management and Organizational Resilience

The several researchers examined of knowledge management as a system used for knowledge acquisition, knowledge storage, knowledge sharing, and knowledge utilization to enhance the resilience (Mafabi et al., 2012; Umoh and Amah, 2013). For example Mafabi et al. (2012) And Umoh and Amah (2013) indicate effective knowledge management can lead to increase organizational resilience. We can describe a better organization as one that is resilient since organizational resilience is defined as characteristics and properties of organizations which help organizations to be resilient to disruption in the face of change and adaptive in the face of adverse situations. Therefore, a way of doing business that is critical to the ability of a Head Start program to survive and thrive within a changing landscape and is a continuously moving target which contributes to performance during business-as-usual and crisis situations (Mitroff, 2005).

Organizations that strive to be resilient accumulate knowledge resources that are useful for enhancing organizational resilience. This means that as organizations learn and accumulate knowledge, the individuals gain the ability to develop better or new ways of organizing business operations to improve organizational resilience. All organizations need to possess knowledge about their environment and about the state of their internal affairs (Liao et al., 2011). Can highlight the importance for an organization to establish a repository of existing knowledge and maintain that existing knowledge capability can serve as an endogenous source of organizational resilience. Knowledge and its availability are so central in decision making that a number of management theorists advocate, via KM, increasing the availability of knowledge (Argote et al., 2003). Tacit knowledge is personal, context-specific, and therefore hard to formalize and communicate. Tacit knowledge is deeply rooted in individuals' experiences, ideas, values and emotions (Nonaka and Takeuchi, 1995). These can have a significant impact on organizational resilience.

Knowledge can be shared through individual factors (e.g., trust, power, and leadership), organizational factors (e.g., social network, reward system, and sharing opportunities), and technological factors (e.g., information technology systems and member training) (Riege, 2005). The organization can proactively review this factor for coping variety of complexities and internal and external treats and thus achieved on organizational resilience. What is questionable though is the extent to which knowledge management influences organizational

resilience in public sector organizations of Iran.

3.3 Organizational learning and knowledge management

If in the agricultural age, arm strength and in the industrial age, tools and machinery ingredient important were considered to the survival and sustainability, in the present age that McLuhan's of global village, Shapiro and Varian (1999) Information Age, and Thurow (2003) has called the Third Industrial Revolution, the only source of strength and durability, learn better and faster than competitors. Because people may come and go, but would be ready to die if lose valuable knowledge organization (Davenport and Prusak, 1998).

Technology is a necessary condition but not sufficient, because the new technology sooner or later to other companies will happen, so do not be-can create sustainable competitive advantage. The relationship between knowledge and knowledge management can satisfy the needs of the company. Christensen and Raynor, (2003) bluntly stated that "Resources are usually people or things – they can be hired and fired, bought and sold, depreciated and built". "The only irreplaceable capital an organization possesses is the knowledge and ability of its people. Knowledge also, There is within human. Thus, man is the most important factor in gaining competitive advantage. Because man knowledge to produce and the application of resources. Wisdom also needful having is knowledge. Because you do not know everything, and what you know may not always be applicable in a particular situation. Knowledge management also, most important of knowledge is, because want in organizations style complexity, conversion information and witting individual and organizational on knowledge and skills individual and grouping specifying.

In fact, natural and human capitals when become the wealth that mixed and stirred on knowledge. Development knowledge also would not be possible without learning.

However, both organizational learning and knowledge management approaches are related to increased rationally capitals and to the human capacity and capability complementary for effective measures. No wonder that both organizational learning and knowledge management have provides the potential to achieve higher levels of effectiveness. Because has been formed the concept knowledge management of organizational learning researches. In some of the writings related on organizational learning literature, organizational learning process is considered equivalent knowledge management and process mastery on knowledge (Nonaka and Takeuchi, 1995). The results research Liao and Wu (2009) also suggests that organizational learning a mechanism related with knowledge management. This means that organizational learning acts as an intermediary in a positive relationship between knowledge management and organizational performance. So those who cannot learn, adapt and embrace change simply be destroyed. Learning will save us and it will be done by managing on organizational knowledge (Fernandez and Sabherwal, 2001). What is questionable though is the extent to which Organizational learning influences organizational resilience in public sector organizations of Iran.

4. Research hypotheses

The literature review, we propose the following hypothesis.

H1: There is a significant positive relationship between organizational learning and organizational resilience in public organizations of Iran.

H2: There is a significant positive relationship between knowledge management and organizational resilience in public organizational of Iran.

H3: There is a significant positive relationship between organizational learning and knowledge management in public organizational of Iran.

H4: There is a mediation effect of knowledge management in the relationship between organizational learning and organizational resilience.

5. Methods

This section presents a brief description of the sample and an overview of the survey procedure used in this study, followed by an explanation of how the research variables were operationalized and measured.

This study was conducted as a cross-sectional survey. In the past decade, researchers on study about factor effective on organizational resilience, but cannot told that these studies accordance in various cultures. Hence, researcher after library studies, interviews did with people who had management experience in prominent positions in the country, as well as management prominent scholars. Therefore in most interviews mention that two variables of organizational learning and knowledge management effective in increase organizational resilience. Also, responds at the time of completing the questionnaire frequently stated that they do not pay particular attention to organizational learning. Hence, in this research, organizational learning considered as independent variable and knowledge management as the mediator variable.

5.1 Population and sample

In this study, 30 of the public organizations of Iran were selected as study population. All these organizations are

owned by the government, who are responsible for the timely delivery of services to citizens. The intent of whole property is that the government controls all functions of the organization's and their choice senior managers. Organizational resilience which has been qualitatively studied in private sector (McManus, 2008), appears to be the least explored in the public sector (Mafabi et al., 2012) especially Iran. Therefore, this study to fill the gap existent focused within public Organizations in Iran. The sample size was determined on the basis krejcie and Morgan table (1970). According to this table ($n = 28$) were determined. It is believed that managers are in position to truly respond to questions about organizational attributes (Baer and Frese, 2003). Questionnaires were distributed among middle and senior managers. The distribute questionnaires presence researcher personally in more than half of the organizations. In other organizations, assists with her friends and relatives. 320 questionnaires distributed and collected among samples within 34 days. 307 copies were returned to the researcher. 28 questionnaires were excluded because they lacked the concurrent validity. The managers that they not time had to fill out questionnaires and answers to rushed to the questionnaires, they questionnaires were removed. 9 questionnaires were excluded because they were incomplete. Finally, data from 270 questionnaires were analyzed.

5.2 Measuring Tools

Through literature review and conceptualization identified of certain measures of knowledge management, organizational learning and organizational resilience. Questionnaires set in two Sections. First section consists of questions that evaluate the individual and job characteristics and including such characteristics as age, sex, education, work experience and management experience. The second section is of the questionnaires Mafabi et al. (2012) organizational resilience, Umoh and Amah (2013) KM and Watkins and Marsiek (2003) organizational learning questionnaire. Organizational Resilience questionnaire consists of 20 items, knowledge management consists of 16 items and organizational learning questionnaire Watkins and Marsiek (2003) also has 43 items. But in the research 16 items questionnaire Watkins and Marsiek (2003) that has been used in research Bess et al. (2011) were used. The questions were used with Likert five options scale for the respondents' views, and of the samples were requested to determine the importance of each of these factors. With give a score of 1 to 5 in the respective range, scores was calculated for each factor. Mafabi et al., (2012) in their study found reliability organizational resilience ($\alpha=0.893$), Umoh and Amah (2013) in their study found reliability KM ($\alpha=0.88$) and Bess, Perkins and Mc Cown in their study found reliability organizational learning ($\alpha=0.939$). In this study, was tested renew the reliability of the questionnaires. For this purpose, were distributed an initial sample of 30 questionnaires among the studied sample. Then, using data obtained from the questionnaire was calculated Cronbach's alpha reliability coefficient. The reliability was calculated for Organizational Resilience ($\alpha = 0.821$), knowledge management ($\alpha = 0.953$) and organizational learning ($\alpha = 0.960$).

The data analyzed using SPSS version 20 for both descriptive and inferential. The descriptive statistics examined on the demographic characteristics including age, gender, education, work experience and management experience. In inferential statistics were used, correlation coefficient, multiple regression coefficient and MedGraph technique of jose (version 3).

6. Results and discussion

First, using collected demographic data, various aspects of the target population analysis in terms of demographic variables. Information in this section extracted of the sample on the basis of demographic questions included in the questionnaires. To describe the sample is used of age, gender, education, work experience and management experience. 27.4 percent of managers younger than 40 years. 51.1 percent between 40 and 50 years and 21.5 percent more than 50 years. Minimum age is 32 years and maximum age is 59 years. 8.4 percent of managers were women and 95.2 percent male. The results show that the scale middle managers in public organizations quite heavily toward men. 3 percent had a lower of undergraduate and diploma degree. 19.3 percent graduate, 72.6 percent. 2.5 percent of managers also had a PhD degree. 22.6 percent of managers were less than 15 years of service. 56.3 percent of those between 15 and 23 years of service, and 21.1 percent had more than 23 years of service. 51.1 percent had Less than 10 years management experience, 39.3 percent of those between 10 and 18 years of management experience, and 9.6 percent had more than 18 years of management experience.

The results the descriptive statistics research variables shown in Table 1. The inadequate or poor average considered of 1 to 2, the mean average of 2.1 to 3, high average of 3.1 to 4 and very high average of 4.1 to 5. Table 1 shows the mean average for variables organizational learning ($X = 2.79$) and knowledge management ($X = 2.74$) and high average for organizational resilience ($X = 3.28$). This reveals that other factors than organizational learning and knowledge management is effected to increase the resilience of public organizations in Iran.

6.1 Study hypothesis

Pearson correlation coefficient used for showing the correlation between the variables of organizational resilience, organizational learning and knowledge management, and is shown in Table 1.

Table1. Zero order correlation between organizational learning, KM, and organizational resilience

	Mean	SD	1	2	3
1. Organizational resilience	3.28	1.022	–		
2. Knowledge management	2.78	1.227	0.610	–	0.605
3. Organizational learning	2.74	1.258	0.342		–

The results of Table 1 shown that there is a significant positive relationship between organizational learning and organizational resilience ($r = 0.342$, $p < 0.01$). The findings support of H1 that represent there is a significant positive relationship between organizational learning and organizational resilience. This suggests that organizational resilience can be achieved through organizational learning. Research Luthar et al. (2000), and American Psychological Association (2006), has shown that resilience is ordinary, not extraordinary, and that people regularly demonstrate this ability and resilience can be achieved through learning. Coutu (2003) also states that we will not be able to fully understand resilience, but we can it learn and must to learn.

Results Table 1 shows that there is a significant positive correlation between knowledge management and organizational resilience ($r = 0.610$, $p < 0.01$). These findings reveal that H2 confirmed, which reveals there is a positive relationship between knowledge management and organizational resilience. This suggests that knowledge management related to building organizational resilience. This finding is consistent with the results of research conducted by Mafabi et al. (2012), Umoh, and Amah (2013). Mafabi et al. (2012) founded that there is a significant positive Correlation ($r = 0.464$) between knowledge management and organizational resilience and Umoh, and Amah (2013) divided knowledge management to four dimensions of to knowledge acquisition, knowledge storage, knowledge sharing, and knowledge utilization and organizational resilience divided to the three dimensions of organizational adaptability, organizational resourcefulness and organizational learning and found that all 4 dimension of the knowledge management has a significant positive relationship with all 3 dimension of organizational resilience. Therefore, if the organizations attend to knowledge management, can increased resilience in organization.

Results Table 1 shows that there is a significant positive relationship between knowledge management and organizational learning ($r = 0.605$, $p < 0.01$). Hence, the results supports of H3 that there is a significant positive relationship between knowledge management and organizational learning. This finding is consistent with the results of research carried out by Lopez et al. (2004), Zhang et al. (2009). yoon (2009) do research to topic "The design of integrated systems and knowledge management", theoretical and practical considerations. Research yoon (2009) findings indicate that the interaction between the processes strategy and guideline of knowledge management and organizational learning is a key point and a competitive advantage for the business organizations.

To further validate hypothesis of multiple regression coefficient was used. Regression coefficient shown assuming was linear of correlation between the two variables. Also, the survey influence of the independent variable on the dependent variable and the zero hypothesis reject suggest that the independent variable influence on the dependent variable. In this section we considered organizational learning and knowledge management as independent variables and organizational resilience as the dependent variable. Multiple regression results are shown in Table 2.

Table2. Hierarchical regression analysis: organizational resilience

	Dependent variable: organizational resilience		
Variable	Model 1	Model 2	Model 3
Managers age	– 0.071	– 0.076	– 0.027
Work experience	– 0.040	0.019	– 0.009
Knowledge management		0.606	0.633
Organizational learning			– 0.046
F	1.469	52657	39.564
R ²	0.011	0.373	0.374
ΔR ²		0.366	0.364

In analyzing the results, we note that in model 1, the control variables of age and experience of managers contribute an insignificant explanatory power of 1.1 percent ($R^2 = 0.011$, $p > 0.05$) of 37.4 percent total

variance explained. The regression results also indicate that managers age ($\beta = -0.027, \rho > 0.05$) and work experience ($\beta = -0.009, \rho > 0.05$), as control variables do not have a statistically significant relationship with organizational resilience. This, therefore, may imply that age and experience of public organizational in Iran do not have an effect on organizational resilience. This seems to suggest that organizational resilience of public organizational in Iran can occur, regardless managers age or experience. In fact, we can say that depend organizational resilience in Iranian public organizational to factors other than age and experience of the managers.

In model 2, when knowledge management was entered in the regression, it added a very large predictive power of 36.4 percent ($\Delta R^2 = 0.364, \rho < 0.05$). Also, the results shown a significant relationship between knowledge management and organizational resilience ($\beta = 0.633, \rho < 0.05$). The findings support of H2, that a there is significant relationship between knowledge management and organizational resilience.

In Model 3, when we organizational learning entered in the regression, shown predicting power 36.4 percent ($\Delta R^2 = 0.364, \rho < 0.05$). Also, Model 3 shown a significant negative correlation between organizational learning and organizational resilience ($\beta = -0.046, \rho < 0.05$). These findings suggest that the effect of organizational learning on organizational resilience with presence the knowledge management becomes meaningless.

6.2 Testing for mediation

In this study, mediation was investigated about the mediating effect of knowledge management in the relationship between organizational learning and organizational resilience. This review is about H4 that there is a mediation effect of knowledge management in the relationship between organizational learning and organizational resilience. To test this hypothesis we used the appropriate regression model, and the results are shown in Table 3.

Table3. Regression analysis: mediation effect of Knowledge management

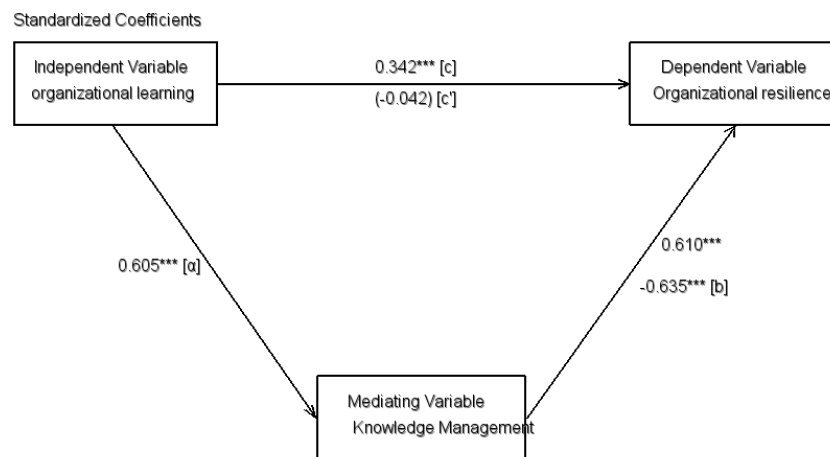
Variables	organizational resilience		
	KM Model 1	Model 2	Model 3
Organizational learning	0.605		
Organizational learning		0.342	
Organizational learning			- 0.042
Knowledge management			0.635
B	0.621	0.283	-0.035
			0.513
SE b	0.05	0.048	0.05
			0.049

The results in model 1, which is the regression of knowledge management (mediator) on organizational learning (predictor) show that the relationship between knowledge management and learning is significant ($\beta = 0.605, \rho < 0.01$). Results of model 2, which is a regression of organizational resilience (criterion variable) on organizational learning also reveal a significant relationship between organizational learning and organizational resilience ($\beta = 0.610, \rho < 0.01$). Also, the results in Model 3, which is the regression of organizational resilience on both knowledge management and organizational learning, indicate that while knowledge management has a significant effect on organizational resilience ($\beta = 0.635, \rho < 0.01$), the effect of organizational learning on organizational resilience in presence knowledge management reduces and becomes insignificant ($\beta = -0.042, \rho > 0.05$).

However, the significance of the mediation effect is not yet tested and may require other tests like the Sobel' z-test. Accordingly, the researchers employed the Medgraph (mediation testing) technique of Jose (2013), which requires a computation of correlation coefficients of the three variables in the mediation relationship including the unstandardized regression coefficients which were in-put into the Medgraph that produced the results (Table4 and Figure 1). The results in Table4 show that the mediator knowledge management between organizational learning and organizational resilience has significant effect ($Z = 8.004, \rho < 0.01$). The finding support of H4 that there is a mediation effect of organizational learning in the relationship between knowledge management and organizational resilience.

Table4. Sobel test results

Sobel Z- value	8.004836	$\rho = 0.000001$
Total	0.342	
Direct	-0.04	
Indirect	0.38	
Indirect to Total ratio	0	



NOTE: The numerical values in the parentheses are beta weights taken from the second regression and the other values are zero order correlations.

Figure1. Sobel test results

7. Discussion and suggestion

This study focuses on the following two major issues of interest:

- 1) The interrelationships among organizational learning, knowledge management, and organizational resilience; and
- 2) The impact of research constructs on organizational resilience.

H1 proposed that there are positive relationships among organizational learning and organizational resilience. The results indicate that organizational learning is significantly related to organizational resilience. Accordingly, H2 and H3 proposed that there are positive relationships among knowledge management and organizational resilience, also organizational learning and knowledge management, learning and knowledge management would significantly impact on organizational resilience. The empirical analysis results supported these hypotheses and the results further depict influential path on organizations performance. H4 there is a mediation effect of knowledge management in the relationship between organizational learning and organizational resilience, proposed that organizations will achieve higher levels of organizational resilience when they are operated under an appropriate organizational learning and knowledge management. The empirical results also highly support these hypotheses on the factors.

The above results can be drawn into several managerial implications. First, the interrelationship between learning and knowledge management has been recognized as major factors increase of organizational resilience. It is suggested that managers need to synchronize their operation patterns in the consideration of learning and knowledge management. It is only when there are the contingency fit between these research constructs can the organization perform better.

Second, In the case of organizational resilience, the results clarify organizations managers at Iran perceive themselves to have a moderately high level of organizational resilience. This result suggests that organizations managers at Iran are able to meet the demands of reforms and able to absorb the moderate highly level of disruptive change that comes with organizations. Organizations managers should all learn to be better prepared to manage their change resources by demystifying the dynamics of resilience, and learning to understand how it functions. Further, by being better equipped to manage the KM process, decision makers can increase their capacity and that of others to absorb change. With proper education and practice, major changes can be accomplished by drawing the minimum points from organizations managers (Abu - Tineh, 2011).

Therefore, workshops and training courses to increase the level of awareness of the principles,

disciplines, and mechanisms of the organizational learning and knowledge management processes should be conducted. Providing institutional training and support would certainly increase individual and organizational effectiveness and enhance the resilience. Finally, answering organizations manager questions about research variables decreases ambiguity, reduces anxiety, and restores a measure of control. Also, the study results suggest that organizational learning and KM should be integrated into the above management activities.

Although the research results are interesting, several limitations exist in this study. These limitations suggest areas and directions for future research. First, this study adopts the cross-sectional research design and examines organizations at one point in time. This study identifies organizational learning and KM as a crucial factor for increase organizational resilience. Some other factors may also have significant effects on organizational resilience. Due to the limitation of sample size, this study could not analyze comparatively. It will be valuable for further studies to concentrate on comparison of public and private sector.

ACKNOWLEDGEMENT

We thank our reviewers who provided us with probing comments that helped us improve this article.

REFERENCES

- Abu- Tineh, A.m. (2011). Exploring the relationship between organizational learning and career resilience among faculty members at Qatar University, *International Journal of Educational Management*, 25(6), pp.635 –650.
- Aguirre, B. (2007). Dialectics of vulnerability and resilience. *Georgetown Journal of Poverty Law and Policy*, 14(39), pp.1–18.
- Albrecht, K. (2008). *Knowledge Management, Organizational Intelligence, Learning and Complexity*; Research Project. pp. 5-8.
- American Psychological Association. (2006). *The road to resilience*. Retrieved, from <http://www.apa.org/helpcenter/road-resilience.aspx>
- Argote L, McEvily B, Reagans R. (2003). *Managing knowledge in organizations: an integrative framework and review of emerging themes*. *Manage Sci* ; 49(4), pp.571–582.
- Argyris, C. & Schon, D. (1978). *Organizational learning: a theory of action perspective*, New York: Addison-Wesley.
- Baer, M. and Frese, M. (2003). Innovation is not enough: climates for initiative and psychological safety, process innovations, and firm performance, *Journal of Organizational Behavior*, 24 (1), pp. 45-68.
- Balasubramanian, V. (1995). *Organizational Learning and Information Systems*, E-Papyrus, Inc.
- Bess, K. Perkins, D. Mc Cown, D. (2011). Testing a Measure of Organizational Learning Capacity and Readiness for Transformational Change in Human Services. *Journal of Prevention & Intervention in the Community*, 39, pp. 35–49.
- Beunza, D. and Stark, D. (2004), *Survival and Sensemaking: Organizational Resilience in a Wall Street Trading Room After 9/11*. Universitat Pomeu Fabra, Department of Economics and Business, Barcelona, Spain.
- Bonanno, G. (2004). *Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events?* *American Psychologist*, 59, pp.20–28.
- Brown, J., D’Emidio - Caston, M. & Benard, B. (2001). *Resilience education*. Thousand Oaks, CA: Corwin Press.
- Carvalho, P.V.R., DosSantos, I.L., Gomes, J.O., Borges, M.R.S., (2008). Micro incident analysis framework to assess safety and resilience in the operation of safe critical systems: a case study in a nuclear power plant. *J. Loss Prev. Process Ind.* 21, pp. 277–286.
- Christensen, C.M. & Rarnor, M. E. (2003). *The Innovators Solution: Creating and Sustaining Successful Growth*. Harvard Business School Press, Cambridge, MA.
- Cocchiara, R. (2007). *Beyond disaster recovery: Becoming a resilient business*. IBM Global Services, pp.1-24.
- Coutu, D. (2002). *How Resilience Works*, Harvard Business Review, 80(5), pp. 46–55.
- Curtis, G. (2008). *Beyond Disaster Recovery (Special Report: Risk Management)*. *Directorship*, pp. 38-43.
- Cyert, R., March, J. (1963). *A Behavioral theory of the Firm*. Englewood Cliffs (NJ) Prentice-Hall
- Daft, R. L & Weick, K. E. (1984). *Toward a Model of Organizations as Interpretation System*, *Academic Management Review* 9 (2), pp.284-295.
- Dalziell E.P., McManus S. T. (2004). *Resilience, vulnerability, and adaptive capacity: implications for system performance*. Stoops, Switzerland: 1st International Forum for Engineering Decision Making (IFED) 5-8th, p.17.
- Davenport, T. & prusak, L. (1998). *working knowledge: how organization manage what they know*. Harvard Business School Press, Boston, Massachusetts.

- De Geus, A. (1997). *The Living Company*. Harvard Business Review, 75(2), pp. 51-59. See also his book of the same name. *The Living Company: Habits for Survival in a Turbulent Business Environment*. Longview Publishing.
- Devargas, M. (1999). *Survival is not compulsory: An introduction to business continuity planning*. *Computers & Security*, 18(1), pp.35-46.
- Drucker, P. (1993). *Post capitalist society*. New York, NY: Harper Business.
- Dryden, W. (2001). *Reason to Change: A Rational Emotive Behaviour Therapy (REBT) Workbook*. Hove, UK: Brunner-Routledge.
- Fernandez, I.B. & Sabherwal, R. (2001). Organizational Knowledge Management: A Contingency Perspective. *Journal of Management Information Systems* 18(1), pp. 23-55.
- Fraser, M. W., Richman, J. M., & Galinsky, M. J. (1999). *Risk, protection, and resilience: Toward a conceptual framework for social work practice*. *Social Work Research*, 23 (3).
- Freeman, S. F., Hirschhorn, L., and Maltz, M. (2004). *Organizational Resilience and Moral Purpose: Sandler O'Neill and Partners in the aftermath of 9/11/01*. Paper presented at the National Academy of Management meetings, New Orleans, LA.
- Garcia Morales, V., Lorens Montes, F.J. Verdu Jover, A.J. (2007). *Influence of personal mastery organizational performance through organizational learning and innovation in large firm and SMEs*. *Technovation*, 27, PP. 547-568.
- Garmezy, N. (1973). *Competence and adaptation in adult schizophrenic patients and children at risk*, in Dean, S. R. (Ed.), *Schizophrenia: The first ten Dean Award Lectures*. NY: MSS Information Corp. pp. 163-204.
- Gomez, J. & Cespedes- Lorente, J. & Valle - cabreva, R. (2005). Organizational Learning capability: a proposal of management. *Journal of Business Research*.18, pp.715-725.
- Grotberg, E. H. (1999). *How to Deal With Anything*. New York: MJF Books.
- Hamel, G. and Valikangas, L. (2003). *The Quest for Resilience*, Harvard Business Review, 81(9), pp.52-63.
- Herrera, I.A., Hollnagel, E., Høbrekke, S., (2010). *Proposing safety performance indicators for helicopter offshore on the Norwegian Continental Shelf*. In: Proceeding of the 10th International Probabilistic Safety Assessment & management Conference, Seattle, USA.
- Holling, C. S. (1973). *Resilience and stability of ecological systems*. *Annual Review of Ecology and Systematics*, 4, pp.1-23.
- Horne III, J. and Orr, J. (1998). *Assessing Behaviors that Create Resilient Organizations*, *Employment Relations Today*, 24 (4), pp. 29-39.
- Huber, G., (1991). *Organizational learning: the contributing process and the literature*. *Organization Science* 2(1), pp. 88-115
- Irvine, W. & Anderson, A. (2004). Small tourist firms in rural areas: agility, vulnerability and survival in the face of crisis. *International Journal of Entrepreneurial Behavior & Research*, 10(4), pp.229-246.
- Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing*, 60(1), pp.1-9.
- Jose, P. E. (2013). *MedGraph-I: A programme to graphically depict mediation among three variables: The internet version, version 3.0*. Victoria University of Wellington, Wellington, New Zealand. Retrieved [date] from <http://pavlov.psyc.vuw.ac.nz/paul-jose/medgraph/>
- Kendra, J. & Wachtendorf, T. (2001). *Elements of Community Resilience in the World Trade Center Attack*. University of Delaware, Disaster Research Center, Newark, DE.
- Koontz H. & Weihrich H., (1999) *Management: A Global Perspective*, 11th Edition. Mc. Graw Hill, Mexico.
- Koskinen, K., Pihlanto, P., (2008). *Knowledge Management in Project-based Companies An Organic Perspective*. Palgrave Macmillan, New York
- La Cerra, P., & Bingham, R. (2002). *Origin of Minds*. New York: Harmony Books.
- Lee, T. S. and Tsai, H. J. (2005). The Effects of Business Operation Mode on Market orientation, Learning Orientation and Innovativeness, *Industrial Management & Data Systems*, 105(3), pp. 325-348.
- Lengnick-Hall, C.A. & Beck, T. E. & Lengnick-Hall M. L. (2011). *Developing a capacity for organizational resilience through strategic human resource management*. *Human Resource Management Review*, 21, pp.243-255.
- Lester, B. M., Masten, A., & McEwen, B. (Eds.) (2006). *Resilience in children*. Annals of the New York Academy of Sciences, New York: The New York Academy of Sciences.
- Liao, S. & Wu, C. (2009). The Relationship among Knowledge Management, Organizational Learning, and

- Organizational Performance, *International Journal of Business and Management*, 4.
- Liao, C. Chuang, S-H. & Pui-Lai, T. (2011). How knowledge management mediates the relationship between environment and organizational structure. *Journal of Business Research*. 64, pp.728–736.
 - Levit, B. & March, J.G. (1988). *Organizational Learning Annual, review Sociology* 14, pp.319-340.
 - Lopez, S., Perez, J., and Manuel, M., (2004), Managing Knowledge: The Link Between Culture and Organizational Learning, *Journal of Knowledge Management*, 8, (6), pp. 93-104.
 - Luthar, S. S. (2003). *Resilience and vulnerability: Adaptation in the context of childhood adversities*. Cambridge, United Kingdom: Cambridge University Press.
 - Luthar, S., Burack, J., Cicchetti, D. & Weisz, J. (Eds.). (1997). *Developmental psychopathology: Perspectives on adjustment, risk, and disorder*. Cambridge, United Kingdom: Cambridge University Press.
 - Luthar, S. S., Cicchetti, D., & Becker, B. (2000). *Research on resilience: Response to commentaries*. *Child Development*, 71, pp. 573-575.
 - Maddi, S.R. (1987). *Hardiness training at Illinois bell telephone*. In: J.P. Opatz (Ed.), *Health Promotion Evaluation*. Stevens Point, WI: National Wellness Institute.
 - Mafabi, S. Munene, J. & Ntayi, J. (2012). Knowledge management and organizational resilience Organizational innovation as a mediator in Uganda parastatals. *Journal of Strategy and Management*. 5 (1). Pp. 57-80.
 - Mallak, L. (1998). *Resilience in the Healthcare Industry*. Paper Presented at the 7th Annual Industrial Engineering Research Conference, Banff, Alberta, Canada.
 - Masten, A. S., Best, K. M., & Garmezy, N. (1990). *Resilience and development: Contributions from the study of children who overcome adversity*. *Development and Psychopathology*, 2, pp.425-444.
 - McAllister, M., & McKinnon, J. (2009). *The importance of teaching and learning resilience in the health disciplines: A critical review of the literature*. *Nurse Education Today*, 29, pp. 371-379.
 - McAslan, A. (2010). *Organizational Resilience Understanding the Concept and its Application*. Torrens Resilience Institute. pp.1-17.
 - McManus, S.T. (2008). *Organizational resilience in New Zealand*, PhD thesis, University of Canterbury, Christchurch.
 - Michigan State University (2000). *Critical Incident Protocol – A Public and Private Partnership*.
 - Mitroff, I. I. (2005). *From My Perspective: Lessons from 9/11 Are Companies Better Prepared Today?* *Technological Forecasting & Social Change*, 72(3), pp.375-376.
 - Nelson, R. R & Winter, S. G. (1982). *An Evolutionary Theory of Economic Change*, Cambridge: Belknap Press.
 - Nonaka, I. (1994). *A dynamic theory of organizational knowledge creation*. *Organization Science*, 5 (1), pp. 14-37.
 - Nonaka, I., Takeuchi, H. (1995). *The knowledge creating company: How Japanese companies create the dynamics of innovation*; New York: Oxford University Press.
 - Parsons, D. (2007). National Organizational Resilience Framework Workshop: The Outcomes, *National Organizational Resilience Framework Workshop, 5-7th December 2007, Mt. Macedon, Victoria, Australia* p. 15.
 - Pflanz, M. & Levis, (2012). *An Approach to Evaluating Resilience in Command and Control Architectures*. *Procedia Computer Science* 8, pp. 141 –146.
 - Probest, G. Raub, S. & romhardt, K. (2000). *Managing knowledge building blocks for success*. John Wiley and Sons.
 - Rastogi, P. N. (2000). Knowledge management and intellectual capital - the new virtuous reality of competitiveness. *Human Systems Management*, 19(1), pp. 39-48.
 - Reivich, K. and Shatte, A. (2003). *The Resilience Factor: 7 Keys to Finding Your Inner Strength and Overcoming Life's Hurdles*. New York: Broadway Books.
 - Resnick, B. Lisa P, Gwyther Karen, A. (2011). *Resilience in Aging Concepts, Research, and Outcomes*. Springer New York Dordrecht Heidelberg London.
 - Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management*, 9(3), pp. 18–35.
 - Rochas, C. & Kuznecova, T. & Romagnoli, F. (2014). The concept of the system resilience within the infrastructure dimension: application to a Latvian case. *Journal of Cleaner Production*.
 - Rutter, M. (1987). Psychosocial resilience and protective mechanisms, *American Journal of Orthopsychiatry*, 57 (3), pp. 316-331.
 - Saleebey, D. (Ed.). (2001). *The strengths perspective in social work practice* (3rd ed). Boston: Allyn Bacon.
 - SchWeber, C. & Bouchard, M. (2011). *Organizational Resilience: Is There Evidence for What Works to Support Business Continuity?* Paper for the 2011 Conference.

- Senge, P. (1990). *The Fifth Discipline: The art and practice of learning organization*. New York: Doubleday Dell.
- Siegel, D. (1999). *The developing mind*. New York: The Guilford Press.
- Shirali, G.H.A., Motamedzade, M., Mohammadfam, I., Ebrahimipour, V., Moghimbeigi, A., (2012). *Challenges in building resilience engineering (RE) and adaptive capacity: a field study in a chemical plant*. *Process Safety Environ. Prot.* 90, pp. 83–90.
- Shapiro, Carl, and Varian, H. (1999). *Information Rules: A Strategic Guide to the Network Economy*. Boston: Harvard Business School Press.
- Sutcliffe, K.M. & Vogus, T.J. (2003). *Organizing for Resilience*. In Cameron, K., Dutton, J.E., & Quinn, R.E. (Eds.), *Positive Organizational Scholarship*. San Francisco: Berrett-Koehler. Chapter 7. pp. 94-110.
- Thurow, L.C. (2003). *Fortune Favors the Bold: What We Must Do to Build a New and Lasting Global Prosperity*. New York, NY: Harper Collins.
- Truebridge, S. (2010). *Tell Me A Story: Influencing Educators' Beliefs about Student Resilience in an Effort to Enhance Student Success*. Dissertation Submitted in partial fulfillment of the requirements for the Degree of Doctor of Education
- Umoh, G. Amah, E. (2013). Knowledge Management and Organizational Resilience in Nigerian Manufacturing Organizations. *Journal of Developing Country Studies*. 3(9), pp.104-120.
- Weick, K. (1993). *The Collapse of Sensemaking in Organizations: The Mann Gulch disaster*. *Administrative Science Quarterly*, 38(4), pp. 628–652.
- Werner, E., & Smith, R., (1982). *Vulnerable but not invincible: A study of resilient children*. New York: McGraw-Hill.
- Wiig, K. (2004). *People-focused knowledge management: how effective decision making leads to corporate success*, Oxford: Elsevier Butterworth-Heinemann.
- Wildavsky, A. (1988). *Searching for safety*. New Brunswick: Transaction Books.
- Williams, B. & Newcombe, E. (1994). *Building on the strengths of urban learners*. *Educational Leadership*, 51, pp.75-78.
- Yoon, Aug, (2009). *Designing integrative knowledge management System: theoretical considerations and practical application*. *Advances in Developing Human Resources*, sanfrancisco. 11(3), p. 307.
- Zhang, Li., Tian, Y., & Zhongying Q, A. (2009). *A conceptual model organizational learning based on knowledge sharing*. *Advanced Learning Technologies*, 2006. Sixth International Conference, 20(5), pp.4-6.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:

<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

