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Risk and Knowledge in the context of Organizational Risk Management

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Abstract
This paper helps us to understand the emerging concept of knowledge management by exploring the relation between risk and knowledge. It tries to determine whether a logical relation between risk and knowledge indeed exists or not. The preliminary work on the above question reveals that such a relation does exist; however, there are some indications that worry the decision makers. Therefore, in this regard, various authors/scholars from other disciplines like Informatics, Economics, Organizational Behavioral Sciences, and Social Psychology, have importantly emphasized on the scrutiny of relationship between risk and knowledge management. Similarly, experts of information technology engage themselves in finding out risks involved in data mining, information exploration, and knowledge. Thus it is essential to express that the data and knowledge is being captured at all levels to measure risk management.
Key word: Risk, Risk Management, Knowledge, Organizational Risk Management

1-Introduction:

We start by underlining the significance of knowledge which can be aptly summarized through a famous poem by Nesbit (1905), whereby he shows how human beings express their feelings about happening of death and fate of knowledge that goes waste when very imminent scholars and technical persons meet the cruelty of death. With the death of the person, his knowledge and wisdom gained through his life experiences are buried under the earth that is lost forever if it is not recorded in any of the formats of preservation for the others to get benefit.

With the loss of human lives we have to face the loss of knowledge, which is the core debate to interlink the risk associated to various types of knowledge which goes lost due to pervasive threats to human life. It cannot be ignored that uncertainty is increasing day by day to human life either at work, at office or at home. Hence, it is pertinent to look into various definitions which have been proposed by several scholars with regard to the concept of risk.

2- Related Work:

2.1. Risk and Uncertainty

One of the early discussions on the relationship between risk and knowledge management was conducted by famous Knight(1921) who discussed the chief factor that human beings have always considered knowledge as a source of their survival and existence. Knowledge has always emerged itself as a light and hope for human beings in the event of grave uncertainties, ambiguities, and feelings of threats in everyday life. Thus, it has been argued by Knight. However, it has been further argued that a man becomes knowledgeable with his experience, observations and wisdom that he gains during his life time and he makes it sure that his acquired knowledge is correct. In this regard

Risks are present in almost every part of human life and there exist different kinds of risks for different people, but it is the knowledge and knowledge management that help people to eliminate risks

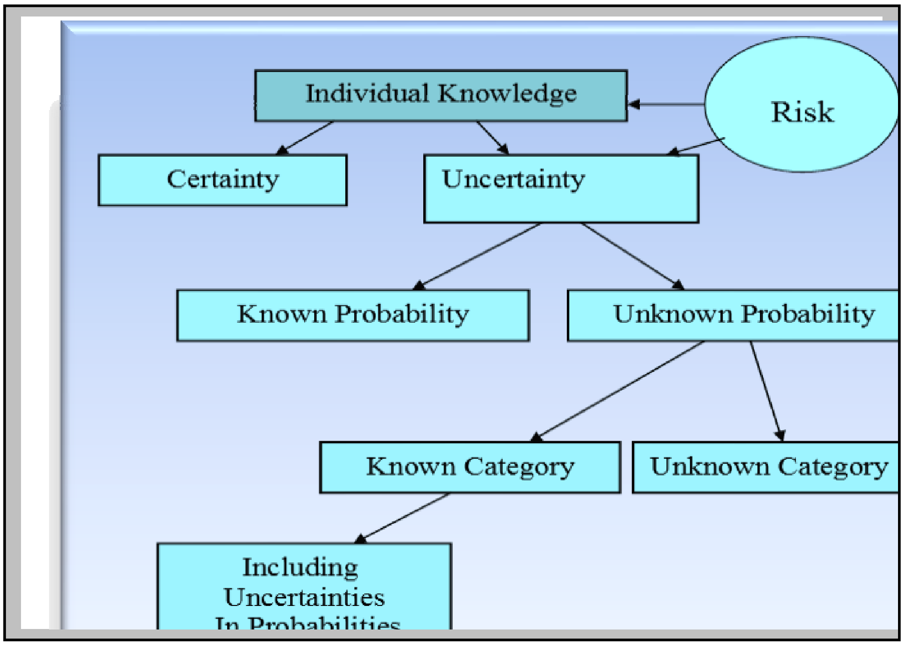
Gharehbiglo et. al.,(2012) express their concern about knowledge management and according to them knowledge management is combination of capturing knowledge, wisdom, staff experiences and implementation of this knowledge in decision making processes. Inappropriate mechanism for evaluating and implementation of knowledge management cause failure in the organizations. Many studies have been conducted and recurrent problem observed in these studies is the lack of definition of ‘knowledge management’, which has made very difficult to draw the desired results.

Szczepanski and Szczepanska (2012) discuss the strategic importance of large companies’ mergers to establish business partnerships to compete in the market and maintain their share. Trust is an independent factor which they have to maintain for the control, ownership and market value. If the companies are unable to maintain their trust in the market it becomes a risk for their survival in the market. Reich et.el, (2014) in their study found that the impact of knowledge on project based management and its IT enabled projects through sharing of knowledge and knowledge alignment. They mentioned that the subject matter experts are usually hesitant to share their knowledge with the non-domain experts due to time pressure and power. In another paper Hossain (2012) explains that knowledge management utility in productivity and decision making processes of governmental agencies; academia and complex organizations with technological fixes, improves the efficiency of the organizations. Analysis between human capital and autonomous techniques illustrate the productivity and growth of the organizations.

According to Pollack (2012) knowledge management program creates a culture of coaching and knowledge sharing of the aging workforce. It is needed to attain both the tacit and explicit knowledge to mitigate risks associated with the loss of business or employment at the age of the retirement. However uncertainty lies there in harvesting the knowledge of the retiring class and it requires a significant level of efforts to remove the cognition of their jobs being threatened. The productivity of the organizations is at risk due to aging workforce. A good knowledge management program can secure the capability of the workforce to maintain the level of productivity. A study by Al-Qdah and Salim (2013) found that while dealing with day to day procedures, clients and productions the workforce develops a knowledge base and the organizations need holistic approach to manage that acquired tacit knowledge. Due to knowledge management programmers and information technology many knowledge transfer mechanisms, organizational learning and community of practice have been adopted to develop a good knowledge management system. Hence, there prevail some factors which hinder the successful implementation of the knowledge management.
However, for this paper, we need to clarify the importance of knowledge in its true definitions, meanings and usage of relevant terms in context organizational risk management. In this regard, in his research Cool (1999) briefs about exact definitions of uncertainty and knowledge management, and the complex relationship in between them. In figure 1 he expresses his concepts of clarification, classification and their causes and consequences on our daily life.

Similarly, in order to achieve a clear understanding in this context it is important that we define and distinguish between ‘risk’ and ‘uncertainty’. Generally, ‘risk’ has been defined as an imperfect knowledge of a certain event with multiple outcomes from probabilities, whereas, ‘uncertainty’ can be described as an imperfect knowledge where probabilities are unknown. This could be clarified with the following example that if a person says he is uncertain about tomorrow’s weather, it is a statement of imperfect knowledge about his future. On the other hand, if a person says that he is planning to go for a picnic and there is a risk of rain tomorrow, such statement is also an imperfect knowledge but, unlike the former, it involves a preference for alternative outcomes and consequences. Thus, taking a risk can be described as exposing oneself to considerable chances of injury and loss.

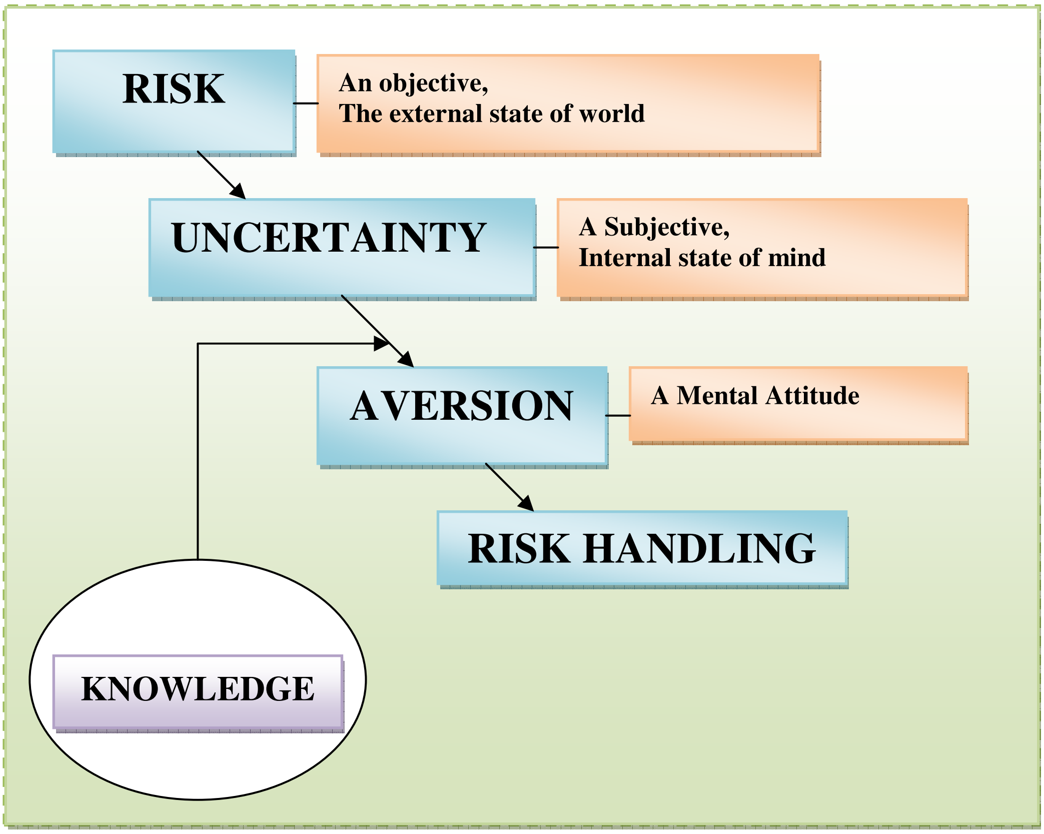
Figure 1 Classification of Risk



Moreover, the classification of risk as shown in the above figure does not define the concept of risk very clearly and it indicates that the risk is a probable loss of the absolute value or the threat of loss of value. But when we look into the matter from insurance economists and behavioral scientists perspective, we find different propositions which deal with different concepts of the risk involved. Darwish (1987) explains risk and risk management as the important factors which different people, organizations, governmental bodies and nations consider threat to the knowledge and its management and exert focus on recovery from the risk. According to the concepts of Harington and Niehaus (1999) risk has diverse and multiple meanings in the everyday life and in business communities. Risk can be described as uncertainty about the outcomes and in specific situations risk indicates variability in outcomes and the expected values. Dean (2001) clearly expresses about the risk that it is a perception,

Now, with respect to the management of such risks, Athearn et al (1989) has formulated a great model which provides the necessary steps for identification of the risk and then formulating strategy to deal with the risk. This model provides reasonable logic of procedures required for the management of the risk. However, for making more effective model, it is proposed to add 'knowledge' as a major component in the logical order of the model, and hypothetically it is assumed

Model



The use of knowledge in relation to management is a new phenomenon which has been constantly developing with the passage of time. (See Figure 2) In this regard, the work of Wilson (2002) is of particular importance and worth mentioning here. He scrutinizes in the most recent time "knowledge management "has evolved itself as a new management field and the surveys reveal that knowledge management is an emerging field in the business management.

The basic purpose of knowledge management is the overall wellbeing of the society. Up till now, knowledge management has proved significance in various aspects of the society. In business arena, knowledge management has proved to be a valuable asset for development of different companies. Similarly, in digital space knowledge management has been seen as the coordinating function for its infrastructure. Thus, it has become necessary to scrutinize risks associated with knowledge management. However, it is pertinent to note that identification of risks in a complex society is not simple and as Berry (2003) argues that living in such a society multiplies the chances of risks, dangers and feeling of vulnerability. Therefore, in such situations it becomes difficult to distinguish between "acceptable" or "unacceptable" risk. But, at the same time, if we dig much deeper then we can find a possible solution which in this regard is the information itself. Hence, Berry (2003) notes that "information is the answer". Thus, it could be argued here that there is an intimate relationship between risk and knowledge and it is mainly affected by the risk and uncertainty factors. Sometimes risk encourages individuals or organizations to come up with explicit knowledge to survive in the competitive environment.

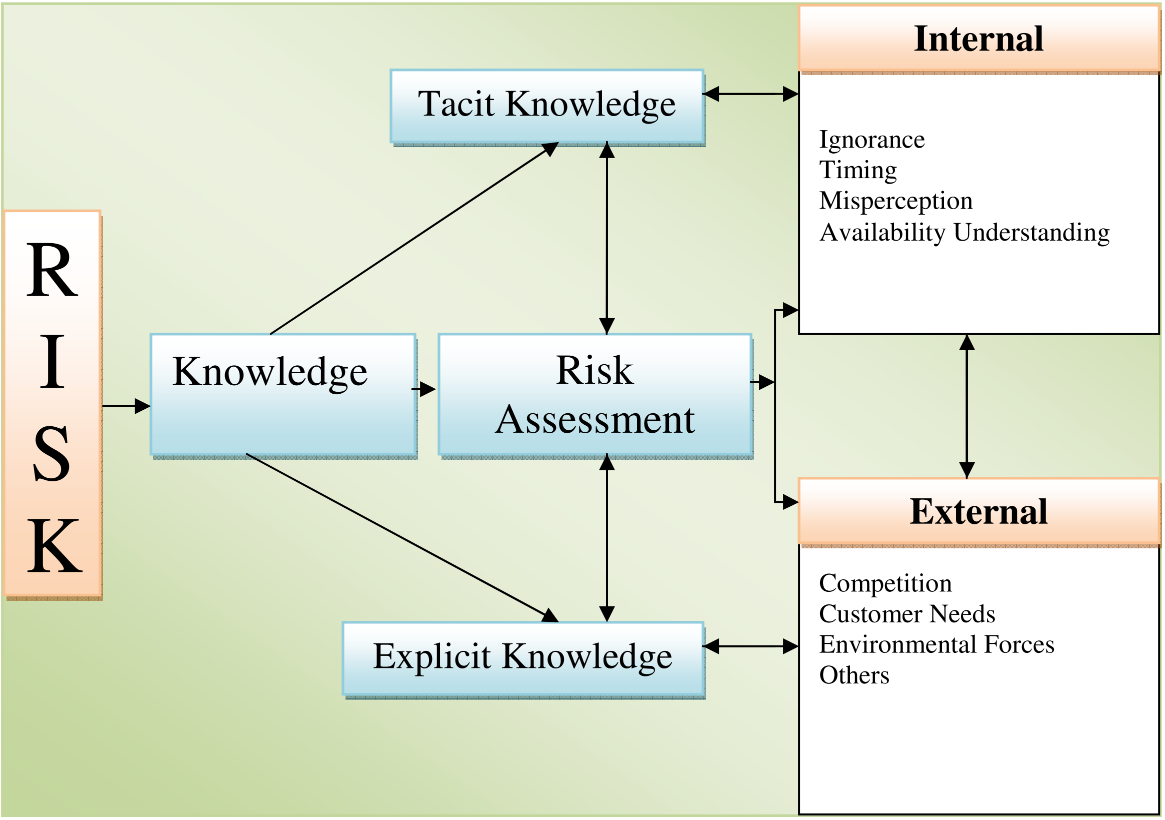
Such intricate relationship between risk and knowledge demands that almost every kind and every bit of knowledge needs to be captured. Simply put, human beings have always been involved in acquiring knowledge since the beginning of their existence and they have been continuously storing it from early history to the digital age, i.e. zero is the invention of the Babylonians in the earlier history (who symbolized zero by space) have become the basis for the binary system today consequently, revolutionizing the knowledge and society globally.

Gregory (1981)explains that human mind not only performs various functions like measuring quantities, calculating figures and thinking ideas but also power of speaking, writing, communication skills, storing knowledge, reading and scanning pictures and realizing ideas to realities. So knowledge management is not the core issue of today it was with us from centuries ago. But with the advancement of science and technology, with advent of information and communication technologies, more disciplines have been devised from software and hardware engineering to biomedical engineering and so on. Thus, knowledge management has become more important in the new horizons of science, technology and business studies.

3-Perception of Risk and Knowledge:

Slovic (2000) expresses knowledge and risk as "the ability of person to sense and avoid harmful environmental conditions, is necessary for the survival of all living organisms. Survival is also aided by the ability to codify and learn from the past experiences. Humans have an additional capability that allows them to alter their environment as well as respond to it. This capacity both creates and reduces risk". The above mentioned quote highlights the major issues which focus their concern about the notion of capturing and identifying knowledge.,(2001)express their concerns about knowledge management that it is a major source in the processes of evaluation, analysis, designing, planning, diagnosis, forecasting, intuitive judgment in the decision making. There are many risks associated to the organizational collective knowledge, and the loss of individual knowledge is major threat that influences the organizational capacity. The decision makers must be careful about it and focus on the psychological impact of personnel's risk perception. Wade et.al., (2003) define cognitive knowledge as a vital element which is perceived by person's reasoning, remembrance, ability of solving issues, sharing experiences, myths and beliefs. It also plays a very important role in the developmental of how an individual approaches ways in life. Such knowledge must be captured, preserved and utilized for benefit of the organization.

Figure 3 Tacit and Explicit Knowledge Risk involved



The proposed hypothetical debate must be tested empirically so that we may establish theoretical relation between the risk and knowledge management which will stimulate

4- Knowledge and Knowledge Management

Knowledge is the base of every development being taken place in the entire world. However, as the knowledge is now becoming vast and it is becoming very difficult to record every bit ofit. That's why in present life the idea of knowledge management is gaining momentum in the organizations. The scholars are now trying to explore the methods, how organizations can manage their asset of licit and explicit knowledge for their development and growth. The latest development in the information and communication technology gadgets, software applications and intellectual capital of the organization have the impulsive power to compete in favorable and unfavorable environment and to keep the organization sustainable in the competitive market. Denning (2001) describes

With the passage of time, organizations have realized the potential of knowledge and knowledge management in providing organizations, not only a risk-free environment but also a greater chance of success in the competitive market. However, in order to achieve such goals, it is imperative to understand how knowledge could be transformed to organizational settings in an efficient manner. In this regard, computers, software and specialized personnel are regarded as the 'intellectual capital' of an organization; they all play a pivotal role for keeping sustainability in the organization in the competitive market.

In accordance to the above mentioned data table, Denning (2001) emphasizes the fact that in any organizational setting, storytelling technique can be a powerful tool in understanding complex issues of the organization and with its effective use by managers and employees the complex issues can be solved in better and favorable environment. Moreover, the notion that 'organizations have no memory' should be washed away because it is fact if organizations do not learn from their past experiences, they would be at risk for risking their existence.

Mckellar (2000) has referred to a survey conducted from the CEO's, finance and marketing directors of largest 423 companies each having a revenue of 2.7 billion dollars or above in developed countries of Europe and America. The highlights of the survey reveal that knowledge management has been deployed in all the companies. However, it is observed that major benefits of knowledge management have not yet been attained by them. The results of the surveys are shown below in Table 2 and Table3.

Organizations have failed in acknowledging the knowledge management cultural implications. Therefore, they have been facing huge problems in implementing knowledge management effectively. The survey reveals that 31% of the companies have difficulties in sharing knowledge, 33% have difficulty with knowledge management policies and only 18% of them have a knowledge map for the required information.
Considering the challenges faced by the knowledge management and the associated risks, the decision makers adopt a conservative approach with regard to the status of knowledge management. In this regard, Liatutaud (2001) argues that managers are reluctant to invest huge sums of money in those projects which are adopting IT based latest technologies which they consider a threat to them as well. In the same way, it argues that the top management is anxious about the quantity of information or knowledge present and that eventually they consider it a risk to them.

Furthermore, Mc Briar (2003illustrates in his research that knowledge management plays a pivotal role in gaining a competitive advantage for the organizations. Hence, it is closely linked with the economic values of the organizations. In the same way William et.al,(2001) considers 'knowledge' as a kind of asset which always presents special problems and hence, their solutions are also specific one. However, Bethell Mc Briar (2003has a different point of view regarding the productive knowledge. He says that its preservation is difficult because it has different dimensions from machinery to other physical instruments. Thus, under such conditions the economic wellbeing of the creator of knowledge is insecure and incentives given to him are undermined.

Whatsoever the environment is, there is always an uncertainty associated with recording or capturing the knowledge because there remains a threat of losing knowledge. Bocij et.al.,(2003) describe that essential business knowledge in an organization is like a bird which will fly away and never comes back if it is not valued timely. It has been argued that when employers leave their customers unsatisfied, the knowledge goes waste. Therefore, both employers and customers have to pay for such information drain.

Therefore, assumption of (2000) converting tacit knowledge into explicit is embodied with huge difficulties resulting from the prevailing state of fear. Under such conditions the employees avoid utility of organizational knowledge due to their mind setup. Fernandez et.al (2000) also expresses their concern about knowledge management system and handling tacit knowledge of the organizations without any threat of knowledge drain. Therefore, the decision makers must adopt procedures to respond accordingly to different kind of threats and risks. Similarly, Teece (2000)in very clear words explains that "what is required is an intellectual apparatus that is able to incorporate the idiosyncrasies that exists in executive risk-taken behavior".

Christensen et.al.,(2003) argue that the concepts and ideology of tacit knowledge of the organization are hardly applied quickly as too much is at stake there. In such situations implementing new idea simply for the sake of experimentation is not an option for most of the managers. Furthermore, according to Widmer (2001), knowledge economy provides risks to mangers with a new perspective which involve a shift from tangible assets to the management of intangible assets, hence, evolving a new concept of knowledge management. Risks associated to human capital, intellectual property, customers and suppliers' relationship are considered as physical assets and inventory. Figure 3 explains conceptual framework between risk and types of knowledge with its categories. It suggests that potential risks are involved in converting implicit knowledge to explicit knowledge.

5-Conclusions:

- Risk and uncertainty are the factors which need more statistical data, information and knowledge. Therefore it is imperative to conduct further studies to this problem further. The current theoretical study with its proposed hypothetical model draws a sensible acceptance that risk is a factor which becomes activator of knowledge management. Many factors are involved in creating hurdles in converting tacit knowledge of an organization into the explicit knowledge. It requires a deeper examination and analysis of those factors and readily resolve those issues so that organizations are able to release tacit knowledge. Organizations should have to develop sound basis for preservation of their tacit knowledge and convert it to their valuable explicit knowledge. It will help the organizations to develop such environment which will promote the organizational knowledge base favoring both the organizations and the employees.
- It is determined that the risk and uncertainty are the major factors motivating to capture more data, information and knowledge. The discussions and the hypothetical models proposed in this paper prove

that risk could be an activator as well as a motivator of knowledge. Risk factor associated with knowledge and knowledge management is not based upon static definition of risk. Instead, these risks are unique and their definitions by scholars may not be applicable in its true sense

- The managers have to encounter several challenges associated with knowledge management including the risks of employee's resignation or retirement, knowledge drain, difficulties in knowledge recording, and mapping of knowledge. It is very much needed that decision makers must get benefit from risk management system to identify,.
- For converting implicit knowledge into organizational explicit knowledge without fear of losing vital information, the process must be a strategic object for decision makers to set the organizational goals. It seems to the decision makers of the organizations must pay attention to all these risk factors and try to identify, quantify and scrutinize risk associated with knowledge management.

6. Recommendations

1. Philosophical conclusive remarks regarding the behavior of businessman towards his business and his employees that knowledge is functional part of the organization and its effective implementation may improve the business in the competitive market.
2. Moreover, difficulties involved in quantifying the risk factors associated with knowledge management are paramount.
3. Quantify, analyze and handle such risks. The researchers have great responsibility that a risk management function should be developed through which risks would be identified and investigated. Risk management also includes the intangible risk factors associated with knowledge management

References

1. Al-Qdah, M. S., & Salim, J. (2013). A Conceptual Framework for Managing Tacit Knowledge through ICT Perspective. Procedia Technology, 11(0), 1188-1194.
2. Athearn, J. L., Pritchett and S.T., Schmit J.J. (1989). Risk and Insurance. West Publishing Company. N.Y
3. Bethell, T., (1998). The NoblestTriumph: Property and Prosperity Through The Ages. Martin's Griffin, N.Y.
4. Berry, C. (2003). The Future of Risk., The Royal Institution in London, In: www.spiked-online.com.
5. Bocij,P., Chaffey, D., Greasley A., and Hickie. S., (2003). Business Information Systems: Technology, Development and Management for the e-business. 2nd Ed., Prentice Hall, London
6. Christensen, C.M. and Raynor, M., (2003). Why Hard Nosed Executives Should Care About Management Theory. Harvard Business Review, September,pp. 67-74.
7. Cool, T. (1999). http://econwpa. Wustl.edu.
8. Darwish, S.Z. (1987). Risk Management Development in Iraq: With Special reference to the Industrial Public Sector, PhD. Thesis, The Council of National Academic Awards, and London.
9. Dean B.E., (2001). Risk: From the Perspective of Competitive Advantage. In : http://www.dfca.org/sys/rsk.html. pp. 1-4.
10. Denning, S. (2001). The Springboard: How Storytelling Ignites Action In Knowledge-Era organizations, Butterworth – Heinmann. Oxford.
11. Fernandes, K.J. and Raja, V.H., (2000). Application of The Publish – Subscribe Paradigm As A Knowledge Transfer Tool: International Centre, Warwick Manufacturing Group, University of Warwick.
12. Gharehbiglo, H. et.el, (2012). The Survey of Affecting Factors on Knowledge Management (Case Study: Municipality of the City of Rasht in Iran). Procedia – Social and Behavioral Sciences, 62(0), 1155-1163.
13. Gregory, R.L. (1981). Mind In Science: A History of Explanation in Psychology and Physics, Penguin Book, London.
14. Harrington, S.E. and Niehaus, G.R.(1999). Risk Management and Insurance, McGraw-Hill. Boston.
15. Hossain, N., Sarkani, S., & Mazzuchi, T. A. (2012). The Integration and Impact of Effective Knowledge Management Systems in the Advancement of the Decision Making Process in Complex Organizations to Realize Economic Growth. Procedia Computer Science, 8(0), pp. 100-105.
16. Wilson, T.D. (2002). The Nonsense of Knowledge Management, Information Research, Vol.8
17. Liatutaud, B. (2001). E. Business Intelligence: Turning Information with Knowledge, into Profit. McGraw – Hill.
18. Marlhorta, Y (2002). Why Knowledge Systems Fail? Enablers and constraints of KM in Human Enterprises. In: Hol Sapple, G.W. (Ed.), Handbook on Knowledge management 1: Knowledge Matters, Springer – Velag, Heidlberg, Germany.
19. Mc Brair, Ian (2003). Risk, Gap and Strength: Key Concepts in knowledge Management. Knowledge Based Systems: volume 16, Issue1. In: www.akri.org.

20. Mckellar, Hugh (2000). KM World Magazine, in: www.Kmworld.com, March.
21. Mertins, Kai, Heisig Peter and Vorbeck. (2001). Knowledge Management: Best Practices in Europe. Springes, Berlin.
22. Nesbit, E. (1905) The Rainbow and The Rose, Longmans, Greens and Co. London.
23. O' Sullivan, K.M. (2001). Implications for Executives: Business Risk and Knowledge Management. The President of: The Knowledge Company Incorporation.
24. Paton, RA & McCalman, J,. (2000) Change Management A Guide To Effective Implementation. 2nd ed., Sage Publication, London.
25. Pfeffer, J., & Sutton, R.I. (2000) the knowing – doing Gap: How Smart Companies Turn Knowledge into Action. In: Greenberg , J.,& Boron, R.A. (2003). Behavior In Organization: Understanding and Managing The Human Side of Work, Prentice Hall, Japan.
26. Pollack, J. (2012). Transferring knowledge about knowledge management: Implementation of a complex organisational change programme. International Journal of Project Management, 30(8), 877-886. doi: http://dx.doi.org/10.1016/j.ijproman.2012.04.001
27. Power, Richanda. (2000). A Question of Knowledge, Prentice Hall, Harlow.
28. Reich, B.H., et al., (2014). How knowledge management impacts performance in projects: An empirical study, International Journal of Project Management, 31, 2014, pp 590-602.
29. Slovic, P. (2000). The Perception of Risk, Earthscan Publications, London.
30. Szczepański, R., & Światowiec-Szczepańska, J. (2012). Risk management system in business relationships—Polish case studies. Industrial Marketing Management, 41(5), 790-799.
31. Teece, D.J. (2000). Managing Intellectual Capital: Organizational, Strategic, and Policy Dimension, Oxford University Press, Oxford.
32. Widmer, L., (2001). Knowledge Management: Assessing the Thinking Assets. In http://www.findarticles.com.
33. William Jr., W.J. & Downing J.D. (2001). Information Market: What Business Can Learn From Financial Innovation? Harvard Business School Press, Boston.

Table 1 Attitude towards Knowledge Management=423

75%	**Extremely significant**
65%	Benefit product innovation, revenue growth and profit
57%	Employee development
71%	Leads to better decisions
65%	Faster response, better customer handling

Table 2 Pitfalls of Knowledge Management Program n=423

Lack of time to share knowledge	**62%**
Failure to use knowledge effectively + Difficulties in capturing knowledge	57%
No KM Policies	65% App.
No reward for knowledge working	69% App.
No knowledge map as to what is available	82%
No measurement of intellectual capital	84%
Employ technology but fail to take full advantage of it.	84%

Table 3 Constraints of Knowledge Management

- Business and Technology Strategy
- Organizational Control
- Information Sharing Culture
- Knowledge Representation
- Organization Structure
- Managerial Command and Control
- Economic Returns

Table 4 Storytelling Technique

- Easy, energizing, entertaining and natural
- Understand complexity
- Enhance to change perceptions
- Memorable and non-adversarial
- Non- hierarchical
- By-pass normal defense mechanism
- Engage our feelings