

Empirical evidences for Knowledge Management practices in Information Technology Companies- A study with reference to Chennai

**Dr S. Indupriya Assistant Professor,
Department of Commerce,
Vels University, Chennai-117**

Abstract:

Knowledge Management can be seen from various perspectives: Human Resource Management helps us to encourage people to share their knowledge. From Artificial Intelligence we can learn how knowledge can be presented in a formal way as a basis for knowledge processing. Information Technology in general has provided several approaches to support and improve a successful knowledge management in an organisation. This paper clarifies that the knowledge management among the information technology company employees depends upon trust and openness among the individual employees and inclination to share their knowledge. The data was collected by using convenient sampling method from 50 respondents of reputed information technology companies in Chennai. The researcher has done the factor analysis by using Kaiser, Meyer, Olkin and Bartlett test.

Keywords: Knowledge Management, Information Techonology, Organisation

Introduction

Knowledge management has emerged as a new discipline in an organization, and it plays an important supporting function of resources into capabilities (Darroch, 2005), Knowledge management is a business-focused approach to the collection of processes that govern the creation, dissemination, and utilization of knowledge to fulfil organizational objectives thereby adding value to and increasing the productivity of the organization (Suzanne Zyngier, 2003). Knowledge management will deliver outstanding collaboration and partnership working. Knowledge management will ensure the region maximizes the value of its information and knowledge assets (Shani, 2012). Knowledge of management is about the tactics and practices that are used within a company to manage the processes of production and operations. This is also called strategic knowledge, which is used to plan, monitor, and revise business goals, to make strategic plans to recruit and train local employees Yuwen Liu (2006).

For the past three decades, software has become an integral component in day to day life. Switching on a motor, using electric heater driving a vehicle, etc. will depend upon software. However, despite the visibility on the Internet and the penetration of desktop computers in the consumer market, software engineering remains a discipline that has yet to reach maturity. In the 20th century, increased consideration was for software development, centered upon its potential to develop the quality of software delivered (Aurum.A 2007).

Knowledge management is an effort to increase useful knowledge within the organization. Ways to do this include encouraging communication, offering opportunities to learn, and promoting the sharing of appropriate knowledge, facts (McInerney, C, 2002).

Knowledge Management involves blending a company's internal and external information and turning it into actionable knowledge via a technology platform (Susan DiMattia and Norman Oder, 1997).

All knowledge management beliefs and methodologies that have been developed to focus on the belief that knowledge is an important asset which needs to be handled cautiously while the core of knowledge management is to get the right knowledge to the right people at the right time. Therefore, knowledge management is a process that facilitates organizations to capture, select, organize, distribute, and transfer significant information, knowledge, and expertise so as to gain business advantage (Nikolaos, 2011).

Brief Literature Review:

Knowledge management is created with the help of tacit and explicit knowledge among the people. Knowledge management is an inseparable part of the organizational culture of work and information systems (Peter Merrill, 2014).

Application of knowledge management, knowledge storing and accessing knowledge management in the smart phone is explained. Store and re-use of knowledge management by big-data, cyber security, customer engagement, mobility and social analytics. (Judith Lamont, 2015).

Using Big-data Knowledge management Professionals finding solutions for the organizations and with Knowledge Management have an opportunity to assemble a big data solution using cloud services and open source software. (Stephen E Arnold, 2015).

Knowledge management refers to a general managerial method for gaining, shaping and connecting both explicit and tacit knowledge of human resources and capability of organizations to be adaptable and reply more rapidly to change in the market environment and the capability for being innovative and new in order to improve decision making and efficiency (Alavi and Leidner, 1999).

Knowledge management efforts typically focus on organizational objectives like performance, advantage, innovation, the sharing of lessons learned, integration and improvement of the organization (Banes 2011).

Management of knowledge workers and workforce planning related to workers and also referred to as interaction work, is the growing category of employment. Management techniques related to knowledge workers are the subdivisions of job responsibilities and the work environments, increased the use of part time employees (Susan Lund; James Manyika and Sree Ramaswamy, 2015).

Knowledge Management practices are misunderstood and the challenges faced by organizations in Nairobi are how to create and implement KM Practices. But most of the organizations use Information Technology, it's a need for a synergy with other sectors of Knowledge Management such as organizational culture, organizational strategy and organizational leadership (Mosoti and Masheka 2010) Knowledge management process is the origin of Knowledge management. Knowledge managers help the organization increase the efficiency of their knowledge processes. The main key of the knowledge management processes is to transfer the knowledge among employees (Lee and Choi, 2003).

Knowledge Management is multidisciplinary and an impressive concept. Knowledge Management enables the individual knowledge and transformed into organizational knowledge and it must be shared by many employees. Knowledge Management is also useful to improve many features of organizational performance (Gupta, Iyer, & Aronson, 2000).

The Socialization, Externalization, Combination, and Internalization with knowledge creation and transfer it among individuals, groups, and organization levels. Socialization is tacit to tacit knowledge transfer, externalization is tacit to explicit knowledge transfer, the combination is explicit to explicit knowledge transfer, and internalization is explicit to tacit knowledge transfer (Nonaka and Takeuchi, 1995)

Knowledge creation, sharing, exploitation, and retrieval are key elements of Knowledge management. Activities dealing with creating, securing, combining, retrieving, and distributing knowledge in the organization, both internally and externally, it determines the process of Knowledge management.

Gaps in the Literature:

After reviewing national and international reviews on Knowledge Management, the researcher noticed two unaddressed issues pertaining to the elements of knowledge management related to the specific industry and its effectiveness. Based on these two lacunae the researcher intended to analyze the factors responsible for knowledge management and its respective effectiveness.

Objectives of the study:

1. To study the elements of knowledge management practices.
2. To measure the effectiveness of knowledge management practices in information technology companies.

Hypothesis:

- 1.
2. There is no significant difference among the factors of knowledge management practices.
3. There is no significant effect of knowledge management practices on the employee performance of information technology companies.

Methodology:

The study is based on both primary and secondary data. The primary data is collected through a structured questionnaire. Secondary data is obtained from various sources like books, journals, magazines from library websites and other resources.

Sampling selection:

After constructing a well defined questionnaire the researcher conducted a pilot study to check the reliability and validity of the research instrument. The convenient sampling method is applied to collect 50 responses from reputed information technology companies. The application of cronbach alpha coefficient is applied to check the reliability for all the variables of knowledge management practices. It is found that the reliability coefficient is found to be 0.818 which implied the questionnaire framed by the researcher is reliable at 81.8% level. This shows that the research instrument can further used for the main study data collection. The researcher used convenience sampling method to collect 300 responses distributed over top 5 information technology companies in Chennai city.

Data Analyses:

After obtaining the responses from 300 employees of top 5 information technology companies, the data are systematically coded in terms of numerical values to analyze them in depth. The researcher used both confirmatory factor analysis and exploratory factor analyses as well as linear multiple regression analyses to analyze the primary data regarding knowledge management practices.

Analysis and Discussion:

In this section the researcher used factor analysis by principal component method to derive the predominant factors. So 35 variables of knowledge management practices are considered for the factor analysis and obtained the following Kaiser, Meyer, Olkin and Bartlett test.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.854
Bartlett's Test of Approx. Chi-Square	841.725
Sphericity	df
	45
	Sig.
	.000

From the above table it is found that all these variables can be reduced into factors and sample size is adequate through the existence of approximate Chi Square value 841.725, which is statically significant at the 5 % level. Therefore, it concluded that all the 35 values of knowledge management are properly responded by the employees. The sample size is also adequate to venture this research. The number of

factors emerged out of 35 variables are clearly presented in the following total variance table.

Total Variance Explained

Total	% of Variance	Cumulative %
2.512	25.118	25.118
2.351	23.507	48.625
1.703	17.027	65.652

Extraction Method: Principal Component Analysis.

From the above table it is found that 35 variables are reduced into 3 predominant factors with cumulative variance 65.652%. These 3 factors individually have their variances 25.118%, 23.507% and 17.027%, it implies all these 3 factors are independent and able to explain the underlying variables. These factors are named as follows

1. Trust and openness.
2. Knowledge sharing.
3. Knowledge capture.

It implies that the employees in information technology companies have their trust on their own knowledge as well as their superiors have their trust on the knowledge of their subordinates. At the same time they expect the openness of the employees and their readiness to show their knowledge to all their employees.

The knowledge sharing phenomenon is essential for their employees to improve the productivity and knowledge capitulating through various sources and training and knowledge development is very essential for information technology companies. This leads to the empirical proof of finding the influence of trust and openness, knowledge sharing of organizational productivity. Therefore the researcher used linear multiple regression analysis between knowledge management factors and organizational productivity and the results are presented below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426(a)	.181	.171	1.14140

a Predictors: (Constant), REGR factor score 1 for analysis 2, REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1

From the above table it is found that R square = 0.181, adjusted R square = 0.171, this shows that they create 18.1% variance over organizational productivity. The regression fit between independent and dependent variables are presented below.

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.423	3	22.808	17.507	.000(a)
	Residual	308.764	237	1.303		
	Total	377.187	240			

a Predictors: (Constant), REGR factor score 1 for analysis 2, REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1

b Dependent Variable: Organizational productivity

From the above table it is found that $F=17.507$, $P=0.000$, it shows that there is a deep relation between knowledge management factors and organizational productivity. The individual influence of knowledge management factors is presented in the following coefficient table.

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	3.938	.074		53.554	.000
	REGR factor score 1 for analysis 1	.190	.087	.152	2.190	.030
	REGR factor score 2 for analysis 1	.070	.075	.056	.929	.354
	REGR factor score 1 for analysis 2	.396	.088	.315	4.480	.000

a Dependent Variable: Organizational productivity

From the above table it is found that trust and openness ($Beta=0.152$, $t=2.190$, $P=0.030$) and knowledge capitulation ($Beta=0.315$, $t=4.480$, $P=0.000$) is statistically significant at the 5 % level. Therefore, it can be concluded that knowledge management and organizational productivity are well related in information technology companies.

Findings and Conclusion:

The innovative research concludes that knowledge management is an essential factor for improving the productivity of Information Technology companies. The knowledge management among the information technology company employees depends upon trust and openness among the individual employees and inclination to share their knowledge. Continuous training and knowledge updation are very important for the development and growth of information technology industry.

References for reviews:

- Abell, A. and Oxbrow, N. (1999) *Skills for Knowledge Management*, TFPL Ltd, London.
- Alavi, M. and Leidner, D.E. (1999), Knowledge Management Systems: Issues, Challenges, and Benefits, *Communications of the Association for Information Systems*, 1 (7), 1-37.
- Aurum, A., et al., Investigating Knowledge Management practices in ..., *Inform. Softw. Technol.* (2007), doi:10.1016/j.infsof.2007.05.005

Banes, A. (2011). Knowledge Management in Business. *Lucrari Stiintifice, Seria I, Vol. XIII (2)*, pp. 75-78.

Capozzi, Marla M. (2007). "Knowledge Management Architectures Beyond Technology". *First Monday* 12 (6).

Darroch, J. (2005). "Knowledge Management, Innovation and Firm Performance." *Journal of Knowledge Management*. Vol.9 No.3. pp.101-115.

Gupta, B., L. S. Iyer and J. E. Aronson (2000), "Knowledge Management: practices and challenges", *Industrial Management & Data Systems*, 100(1), pp17-21

Judith Lamont, Knowledge Management Past and Present, *Knowledge Management World Magazine*, Syria Country Monitor is the property of IHS Global Inc, January 2015, Page No.6-7

Lee, H. and Choi, B. (2003), Knowledge Management Enablers, Processes, and Organizational Performance: An Integration and Empirical Examination, *Journal of Management Information Systems* , 20(1), 179-228.

McInerney, C. Knowledge management and the dynamic nature of knowledge, *Journal of the American Society for Information Science and Technology*, Volume 53 Issue 12, October, 2002, Pages 1009-1018

Mosoti, Z. & Masheka, B. (2010). Knowledge Management: The Case for Kenya. *The Journal of Language, Technology & Entrepreneurship in Africa*. Vol. 2. No.1. 2010, ISSN 1998- 1279 107

Narayanappa.G.L, Knowledge Management: The Role of Administrative Doyens – A Study, *Udyog Pragati*, Vol.35(1), Jan-Mar 2011, p.17-23.

Nikolaos Theriou, Dimitrios Maditinos and Georgios Theriou (2011), Knowledge Management Enabler Factors and Firm Performance: An Empirical Research of the Greek Medium and Large Firms, [European Research Studies Journal](#), 2011, vol. XIV, issue 2, pages 97-134

Nonaka and H. Takeuchi, *The Knowledge-Creating Company*, New York: Oxford University Press, 1995.

Peter Merrill, Collective Knowledge- A Gift from team, *The Journal for quality participation*, October 2014, Page No. 14-22

Shani.N , P.Divyapriya (2012), A Role of Knowledge Management and career planning in organization, <http://ijair.ictjournals.com/august2012/t12830cover.pdf>, Vol.1, Issue3, Aug, 2012

Stephen E Arnold, Knowledge Management is a Bowl, Water or Goldfish?, *Knowledge Management World Magazine*, Syria Country Monitor is the property of IHS Global Inc-February 2015, Page 12 & 16

Susan DiMattia and Norman Oder, Knowledge management: Hope, hype or harbinger?, *Library journal* 122, No.15, 15th Sep 1997, 33-35.

Susan Lund; James Manyika and Sree Ramaswamy, Preparing for a new era of knowledge work, :ESSCO host, June 2015.

Suzanne Zyngier.(2003), The role of technology in Knowledge Management strategies in Australia: Recent trends, [Journal of Information & Knowledge Management](#), Volume 02, Issue 02, June 2003

Wiiig , K. M. 2000 . Knowledge management: An emerging discipline rooted in a long history.In *Knowledge management* , ed. D. Chauvel and C. Despres . Paris : Theseus .

Yuwen Liu (2006), Knowledge transfer practices in multinational corporations in China's information technology industry, *Human resource development international*, vol.9, Issue 4,2006.