Migration Letters

Volume: 21, No: S6 (2024), pp. 1253-1261

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

Contemporary Challenges On Knowledge Management Systems And Its Effect On Organizational Performance In It Companies Of India

Madhavi Chattarki[1] , Sukanya Kundu[2]

Abstract

The main purpose of this study is to identify and examine the relation between the performance and the culture of organisation of the knowledge management which is working as the moderator. There are seven proposed hypotheses on the basis of the group discussions and the arranged interviews for the designing of the knowledge management system. Data was collected from different IT companies of India. For further testing of hypothesis, the analysis of SEM (i.e., structural equation modelling) and the PLS (i.e., partial least square) techniques were used. The results obtained were quite positive for the hypotheses and along with that some of them were very significant in the end. Beyond this, the paper presents the experimental proofs for the improvement of the performances of organisations for the role of the planning and designing of management of knowledge, the evaluation and implementation of the management of knowledge, the culture and technology of the management of knowledge and structure and leadership of management of knowledge.

Introduction

The organisations have an opportunity in their hands to differentiate themselves from their rivals. The opportunity has been given by the knowledge and its management system. This management [1]of knowledge has its various implications depending on various sectors and industries. It is important to give proper treatment to the knowledge management to achieve the advantage and the performance of any installation (Spyros, 2017). It is obvious that for many IT companies to maintain the advantages of competition are becoming an interminable struggle with the rapid change in technology along with time. Beyond this, the most important factor for the production, capital, next to labour and land has been changing to knowledge (Gope, 2018). The impact of not only industrial but also the digital revolution has brought a huge change in the organisations of the IT companies in India. Therefore, the paper below will be covering the impacts of organisational performance in IT industries in India and the challenges faced by the management of knowledge system. The paper is divided into sections including the literature on knowledge management with its planning and design along with the structure and the technology used in the knowledge management system. Further, there is methodology section covering all the findings and the research made on the particular. In the end, the paper includes all the conclusions made on the basis of the research and data found.

Literature Review

[1]Alliance University, Chikkahagade Cross, Chandrapura – Anekal Main Road, Anekal, Bangalore – 562106, Karnataka, India.
[2]Alliance University, Chikkahagade Cross, Chandrapura – Anekal Main Road, Anekal, Bangalore – 562106, Karnataka, India.

Management of Knowledge

Knowledge management is the systematic, straightforward, and purposeful construction, redevelopment, and implementation of knowledge to maximise the effectiveness of an organisation that relies on knowledge and value creation from knowledge assets (Iskandar et al. 2017). Knowledge management approaches developed due to workplace complexity, competition, technology, and customer demands (Joshi and Chawla, 2019). It mostly involves identifying and using collective knowledge to help the company compete in a hypercompetitive environment by meeting changing consumer needs with intangible assets. KM is a systematic, explicit, and governed way to develop socioeconomic systems of business that requires knowledge of all business expenses, outcomes, and procedures to improve decision-making and firm success to achieve competitiveness.

Planning and designing knowledge management

Knowledge management is the gathering, identification, and sharing of knowledge and information to help individuals better (Bagheri, 2017). Several key points from previous studies include the conduct of experiments, collaboration, and integration (Bamel and Bamel, 2018); acquisition, sharing, and distribution of knowledge (Battisti and Deakins, 2017); creation, formulation, transfer, and application (Campus, 2017); procurement, creation, storage, and application (Chaudhary, 2019); and procurement, development, stocks, and operation.

H1: The KMPD has positive effect on performance of organisation (OP).

TKM Technology actively promotes information sharing and dissemination. Mardani et al. (2019) believe that while information technology tools help managers deliver the right understanding at the right time, they don't provide proper guidance on how to obtain it correctly, how to collect it, or how to attract people to use it. Technology aids knowledge management and organisational performance. However, TKM's organisational benefits must be determined.

H2: Organisational performance is positively impacted by TKM.

Impact on IT Organisational Performance

IT workers are loyal to their teams and units and share knowledge since they are innovative and problem-solvers (Abubakar et al., 2019). The KMS, which supports this skill, interacts with technological, operational, and social components of an organisation to improve people, system, and knowledge generation and organisational performance.

Culture—defined as beliefs, values, and behaviors—influences KM and related results (Torbi, 2017). A positive organisational culture is expected to boost performance. Everyone knows that culture affects organisational performance, both positively and negatively. Culture in Knowledge Management may affect organisational performance, however this is unclear.

H3: Organisational performance is positively impacted by CKM.

Leadership is essential to every organization's success. With low KM awareness and growth in businesses, leadership becomes even more important. Top management support is crucial for a successful knowledge management programme because it ensures strategy focus (Verma et al. 2017). Knowledge-oriented top management improves organisational performance. An organization's structure can encourage or hinder knowledge development, exchange, and application. Most firms worldwide are building a learning culture because learning organisations are crucial. Learning in knowledge management is equally crucial to LKM's impact on organisational performance.

H4: Organisational performance is positively impacted by LKM.

In Jamaican manager research, Verma et al. (2017) found that only organisation structure affected performance. Xing et al. (2020) found that power centralization hurts knowledge management. Overall, it may be suitable for performance. Xue et al. (2019) feel that organisations tied to financial results are more successful for long-term use and can create and implement solutions. Knowledge management affects hiring, detainment, problem-solving, response speed, customer happiness, and issue avoidance. Anecdotes and success stories are 'soft' ways to show performance besides numbers. Zaim et al. (2019) list five parameters for assessing KM adoption. The following are: 1) tech metrics 2) Process metrics 3) Knowledge metrics 4. Employee and 5. Business metrics. OP statements include non-financial measures, while FP statements include financial measures in this study.

Objectives:

1. To develop a research model that can help in identifying the factors which are important for the management of knowledge.

2. To find out the extent to which mentioned factors contribute to improvements in organisational performance of IT companies.

Hypotheses:

H1: The KMPD has positive effect on performance of organisation (OP).

H2: Organisational performance is positively impacted by LKM.

H3: Organisational performance is positively impacted by CKM.

H4: Organisational performance is positively impacted by TKM.

Research Methodology

For the achievement of very first mentioned goal, a literature review was performed using keywords such as "impact assessment of management of knowledge," "the performance of organisation and the management of knowledge," and the "management of knowledge in India." The procedure gave result with a number of data, the data collection which were blended into broad themes such as the factors of management of knowledge and the effects on the performance of the management of knowledge. The survey methodology is used in this study to collect the important evidences for the purpose of second mentioned objective. A web-based questionnaire with 21 statements was created. The respondents were chosen using convenience sampling. The researchers' personal networks were used to reach the majority of the respondents. As a result of their efforts, 87 respondents from India's IT sector completed this survey.

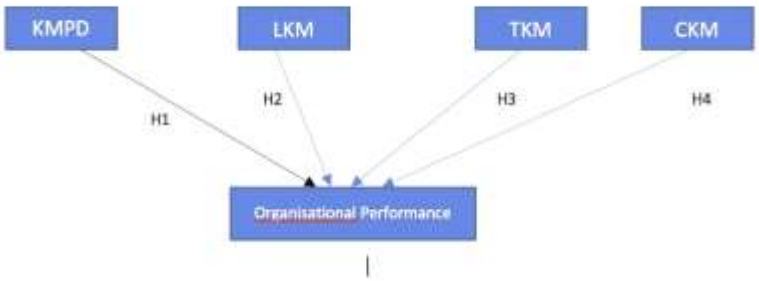
KMPD (The Knowledge Management Planning and Design) – 5 Items	TKM (The Technology in Knowledge Management) – 5 Items
CKM (The Culture in Knowledge Management) – 3 Items	LKM (The Leadership in Knowledge Management) – 4 Items
Organization Performance – 4 Items	

The ranking was done on the basis of scale of 1 – 5 where, 5 stands for strong agreement and 1 for strong disagreement. The research model and the predicted hypotheses are analysed by the use of partial least squares (PLS). The use of variance based PLS is motivated by the fact of SEM technique having its quality to estimate the properties of measurement and the structural model synchronously. This was accomplished with SmartPLS 3.0. The PLS algorithm is used in the first step to determine the model of

measurement. This step has its main purpose to have the access for the validity and the accuracy of the constructs which are theoretical. The investigation of the relationships in the hypotheses of research model is the result of evaluation of the structural model.

Findings of the study

Research Model



Measurement Model

The fulfilment of three criteria is important for the validity of the meeting scales. These are – the items being loaded should be more than the value of 0.65 but not less, the values of CR (i.e., composite reliabilities should always exceed more than 0.8 on the point and the value of AVE (i.e., average variance extracted) should be more than the value of 0.5 (Hakansson, 2020). Therefore, from the table 1 below it is clear that all the three criteria of convergent validity are fulfilled. As all the items loaded are exceeding the value of 0.65 as required, the values of composite reliability are more than 0.8 and the values of average variance extracted are all between the 0.540 to 0.815. Other than this for the validity of discriminant, the square roots of AVE (average variance extracted) are applied. But every construct formed should be higher than that of the coefficient of correlation with the other constructs (Ronkko, 2022).

Table 1 – Validity of discriminant and convergent

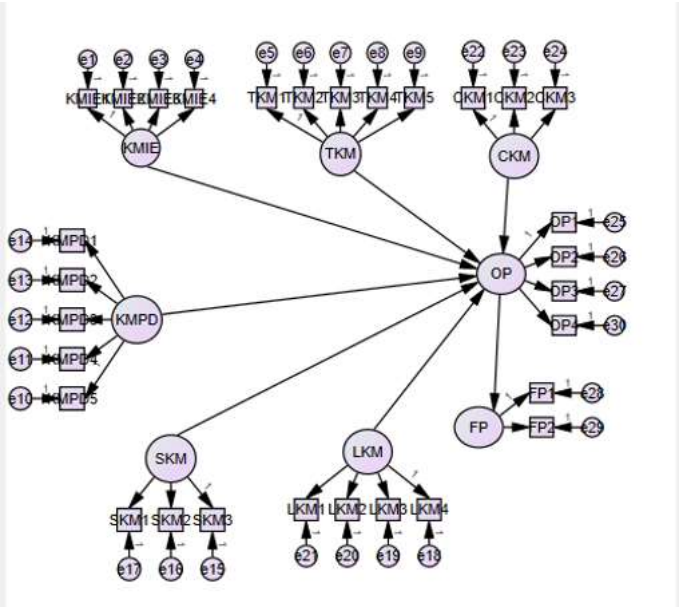
	Cronbach Alpha	Range of Loadings	Composite Reliability	AVE	CKM	LKM	Org Perf	KMPD	TKM
CKM	0.822	715-0.810	0.876	0.585	**0.761***				
LKM	0.846	740-0.835	0.890	0.620	0.735	**0.782***			
Org Perf	0.899	710-0.845	0.920	0.615	0.669	0.756	**0.784***		
KMPD	0.794	805-0.875	0.885	0.716	0.708	0.735	0.753	**0.842***	
TKM	0.755	718-0.799	0.850	0.578	0.597	0.693	0.696	0.685	**0.760***

*Diagonal value in the table are square roots of the AVE, rest are the estimate the latent constructs of the inter-correlation **Structural Model**

After the thorough analysis of measurement model, the next step to be followed is to testify the relations between the constructs formed in the research model by forming the

hypotheses. According to the study of Duo (2019), for the analysis of structural model the process of bootstrapping is used. This technique uses 87 sub samples for the research. The below figure depicts the outcome for the structural model along with the standard errors, values that are significant, t – values and the coefficients of path.

Figure 1– Structural model



As per the data in the below table 2, it is obvious that structural model's results are supporting the hypotheses viz., H1, H3, and H2. Since, the direction of the H4 is also in positive direction but still is not supported by the model due to their insignificant impact on the performance of organisation. This situation rejects the existence of the hypothesis H4. Whereas the hypothesis H1 is in the positive direction and having great significant impact from the KMPD. The same situation is with the hypotheses H2, which is in positive direction with significant impact on the performance of organisation.

Table 2 – Structural model

Path (Hypothesis)	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDV)	P Values	Supported/Not Supported
KMPD->Org Perf (H1)	0.915	0.913	0.080	2.270	0.025**	Supported
LKM -> Org Perf (H2)	0,270	0.275	0.095	2.736	0.009*	Supported
CKM -> Org Perf (H3)	0.040	0.035	0.101	0.478	0.633	Not-Supported
TKM -> Org Perf (H4)	0.173	0.713	0.086	2.063	0.043**	Supported

*Significant – 1.0%, ** significant – 5.0%, *** significant – 10.0%

When considering the accepted link between the performance of organisation and the technology in knowledge management, it is evident that the impact of technology in knowledge management is positive and significant rather than the organisational performance. The values which are already destined and used to determine the large, medium and small f^2 and/or q^2 are 0.2, 0.15 and 0.35 respectively. From the below drawn table 3, it can be considered that the values of f square and q square are small for the significant relationships but for the insignificant relationships the values are medium as per the reference.

Table 3 – Values of f2 and q2 in the relationships

	Path	R2	F2	Q2	q2
Included Constructs		0.702		0.390	
CKM (Excluded)	CKM to org perf		0.005	0.392	0.003
KMPD (Excluded)	KMPD to org perf		0.035	0.383	0.006
LKM (Excluded)	LKM to org perf		0.070	0.388	0.015
TKM (Excluded)	TKM to org perf		0.044	0.387	0/011

Thus, it can be settled that all the significant relationships on having the effect of omitting the predator from the constructs leads to the medium values for the r square in the performance of organisations. The next analysis carried out was the IPMA which was performed depending on the results of PLS–SEM considering the performances of each construct. In here, performance of organisation was considered as the target variable aiming the objective for the identification of the constructs. These were the constructs with high importance in regard of explanation to the performance of organisation. But had the lowest performance when compared. Furthermore, when comparison is drawn between those the most appropriate and consistent group is LKM. LKM following with the KMPD and CKM being the least important group of all.

Discussion

The vast majority of the earlier studies that were conducted on the subject of the link between the management of knowledge and the performance of organisations were carried out in the public sector or with a primary emphasis on developed countries. There is a paucity of information regarding the effects that KM has on economies that are either still in the process of developing or are just emerging. It is possible that the absence of large-scale empirical studies linking knowledge management to the performance of organisation on the organisations of Indian IT is the most significant gap in the existing body of research. In this research paper, there were seven different hypotheses drawn out for the organisational performance of the companies in India. The hypotheses out of all seven only fourth and fifth were supporting the performances of organisation. The hypotheses were the positive effects of the CKM on the performance of the organisations. In the study of knowledge management and its effects on the performance of organisation by Shea et al., (2021), the results show that the culture of cooperation, the creative culture, persistent culture and the effective nature of the culture all affects the performance of organisation in the positive way. Hence, the practices of KM are related to the performance of organisations in a positive and significant way.

Conclusion

In conclusion it can be said that hypotheses were significant and supporting the performance of organisations in the IT industries of India. Although, hypothesis H4 being in the positive direction were not significant towards the organisational performances. It may be due to the reasonable situation of the management of knowledge' structure and its design in the IT industries. As there it is well developed, and the candidates might have found it to be less important for the constructs than the other ones for the impacts on the performance of the organisations. Although, it can be concluded that the performance of organisations is influenced by many other factors than just the management of knowledge. The influence of management of knowledge on the performance of the organisations is nearly three – fourth of the overall impacts. The overall results show that the constructs of the management of knowledge acts well as the anterior to the performance of the organisations. One of the findings conclude that the management of knowledge influences the performance of finance not in a direct way but going via performance of the organisations. Therefore, the area of testing the role of performance of organisations as a mediator can be important topic to explore further in future for studies.

Furthermore, the analysis of the importance performance map analysis discovered the various effects of the management of knowledge on the performance of organisations in the information technology industries of India. Other than this, the existing planning and designs of the management of knowledge and the implementation and evaluation are very crucial in the performance of the organisations. At last, it was concluded on the basis of collected data and results that leadership in knowledge management is the most relevant important group of all the other groups in terms of the performance of the organisations, making the CKM and the SKM the least important groups of all. This was because of the construct which gets most affected by the influence of the leadership in any performance very significantly. It was established that the infrastructure of information technology has had a significant and statistic effect on the performance of the organisations. Therefore, the overall study authenticates the importance of leadership in the enhancement of the performance of the organisation in the sector of information technology industries of India.

References

Abuaddous, H. Y., Al Sokkar, A. A. and Abualodous, B. I. (2018). The impact of knowledge management on organizational performance. Int. J. Adv. Comput. Sci. Appl. 9, 204–208.

Abualoush, S., Bataineh, K. and Alrowwad, A.A. (2018). The role of knowledge management process and intellectual capital as intermediary variables between knowledge management infrastructure and organization performance. Interdisciplinary Journal of Information, Knowledge, and Management, 13, p.279.

Abubakar, A. M., Elrehail, H., Alatailat, M. A. and Elçi, A. (2019). Knowledge management, decision-making style and organizational performance. Journal of Innovation & Knowledge, 4(2), pp.104-114.

Al-Henzab, J., Tarhini, A. and Obeidat, B. Y. (2018). The associations among market orientation, technology orientation, entrepreneurial orientation and organizational performance. Benchmarking 25, 3117–3142. doi: 10.1108/bij-02-2017-0024.

Ali, A. A., Paris, L. and Gunasekaran, A. (2019). Key factors influencing knowledge sharing practices and its relationship with organizational performance within the oil and gas industry. J. Knowl. Manag. 23, 1806–1837. doi: 10.1108/jkm-06-2018-0394.

Antunes, H. D. J. G. and Pinheiro, P. G. (2020). Linking knowledge management, organizational learning and memory. J. Innov. Knowl. 5, 140–149. doi: 10.1016/j.jik.2019.04.002.

Ashok, M., Al Badi Al Dhaheri, M. S. M., Madan, R. and Dzandu, M. D. (2021). How to counter organisational inertia to enable knowledge management practices adoption in public sector organisations. Journal of Knowledge Management, 25(9), 2245-2273.

Azeem, M., Ahmed, M., Haider, S. and Sajjad, M. (2021). Expanding competitive advantage through organizational culture, knowledge sharing and organizational innovation. Technology in Society, 66, 101635.

Bamel, U. K. and Bamel, N. (2018). Organizational resources, KM process capability and strategic flexibility: a dynamic resource-capability perspective. J. Knowl. Manag. 22, 1555–1572. doi: 10.1108/jkm-10-2017-0460.

Butt, M. A., Nawaz, F., Hussain, S., Sousa, M. J., Wang, M. and Sumbal, M. S. (2019). Individual knowledge management engagement, knowledge-worker productivity, and innovation performance in knowledge-based organizations: the implications for knowledge processes and knowledge-based systems. Comput. Math. Organ. Theory 25, 336–356. doi: 10.1007/s10588-018-9270-z.

Chaudhary, S. (2019). Implications of strategic flexibility in small firms: the moderating role of absorptive capacity. South Asian J. Bus. Stud. 8, 370–386. doi: 10.1108/sajbs-10-2018-0104.

Chaudhary, S. and Batra, S. (2018). Absorptive capacity and small family firm performance: exploring the mediation processes. J. Knowl. Manag. 22, 1201–1216. doi: 10.1108/jkm-01-2017-0047.

Cillo, V., Gregori, G. L., Daniele, L. M., Caputo, F. and Bitbol-Saba, N. (2022). Rethinking companies' culture through knowledge management lens during Industry 5.0 transition. Journal of Knowledge Management, 26(10), 2485-2498.

Dou, X., Hasa, I., Saurel, D., Vaalma, C., Wu, L., Buchholz, D., Bresser, D., Komaba, S. and Passerini, S. (2019). Hard carbons for sodium-ion batteries: Structure, analysis, sustainability, and electrochemistry. Materials Today, 23, pp.87-104.

Ferreira, J., Cardim, S. and Coelho, A. (2020). Dynamic capabilities and mediating effects of innovation on the competitive advantage and firm's performance: the moderating role of organizational learning capability. J. Knowl. Econ. 10, 1–25.

Ferreira, J., Coelho, A. and Moutinho, L. (2020). Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: the moderating role of entrepreneurial orientation. Technovation 92:102061. doi: 10.1016/j.technovation.2018.11.004.

Ferreira, J., Mueller, J. and Papa, A. (2018). Strategic knowledge management: theory, practice and future challenges. Journal of knowledge management.

García-Sánchez, E., García-Morales, V. J. and Martín-Rojas, R. (2018). Influence of technological assets on organizational performance through absorptive capacity, organizational innovation and internal labour flexibility. Sustainability 10:770. doi: 10.3390/su10030770.

Gope, S., Elia, G. and Passiante, G. (2018). The effect of HRM practices on knowledge management capacity: a comparative study in Indian IT industry. Journal of Knowledge Management.

Ha, S. T. and Lo, M. C. (2018). An empirical examination of knowledge management and organisational performance among Malaysian manufacturing SMEs. Int. J. Bus. Innov. Res. 17, 23–37. doi: 10.1504/ijbir.2018.10015131.

Hair Jr, J.F., Howard, M.C. and Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. Journal of Business Research, 109, pp.101-110.

Håkansson, C., Wagman, P. and Hagell, P. (2020). Construct validity of a revised version of the Occupational Balance Questionnaire. Scandinavian Journal of Occupational Therapy, 27(6), pp.441-449.

Joshi, H. and Chawla, D. (2019). Knowledge Management and Its Impact on Organizational Performance in the Private Sector in India. In KMIS (pp. 427-434).

Kale, E., Aknar, A. and Başar, Ö. (2019). Absorptive capacity and firm performance: the mediating role of strategic agility. Int. J. Hosp. Manag. 78, 276–283. doi: 10.1016/j.ijhm.2018.09.010.

Kumar, M., Mamgain, P., Pasumarti, S. S. and Singh, P. K. (2022). Organizational IT support and knowledge sharing behaviour affecting service innovation performance: empirical evidence from the hospitality industry. VINE Journal of Information and Knowledge Management Systems.

Liu, F., Dutta, D. K. and Park, K. (2020). From external knowledge to competitive advantage: absorptive capacity, firm performance, and the mediating role of labour productivity. Technol. Anal. Strateg. Manag. 1–13. doi: 10.1080/09537325.2020.1787373.

Mardani, A., Nikoosokhan, S., Moradi, M. and Doustar, M. (2018). The relationship between knowledge management and innovation performance. J. High Technol. Manag. Res. 29, 12–26.

Najmi, K., Kadir, A. R. and Kadir, M. I. A. (2018). Mediation effect of dynamic capability in the relationship between knowledge management and strategic leadership on organizational performance accountability. Int. J. Law Manag. 60, 517–529. doi: 10.1108/ijlma-01-2017-0004.

Rafique, M., Hameed, S. and Agha, M. H. (2018). Impact of knowledge sharing, learning adaptability and organizational commitment on absorptive capacity in pharmaceutical firms based in Pakistan. J. Knowl. Manag. 22, 44–56. doi: 10.1108/jkm-04-2017-0132.

Rönkkö, M. and Cho, E. (2022). An updated guideline for assessing discriminant validity. Organizational Research Methods, 25(1), pp.6-14.

Roundy, P. T., Harrison, D. A., Khavul, S., Pérez-Nordtvedt, L. and McGee, J. E. (2018). Entrepreneurial alertness as a pathway to strategic decisions and organizational performance. Strateg. Organ. 16, 192–226. doi: 10.1177/1476127017693970.

Santoro, G., Vrontis, D., Thrassou, A. and Dezi, L. (2018). The internet of things: building a knowledge management system for open innovation and knowledge management capacity. Technol. Forecast. Soc. Change 136, 347–354. doi: 10.1016/j.techfore.2017.02.034.

Shea, T., Usman, S. A., Arivalagan, S. and Parayitam, S. (2021). "Knowledge Management practices" as moderator in the relationship between organisational culture and performance in information technology companies in India. VINE Journal of Information and Knowledge Management Systems.

Shujahat, M., Sousa, M. J., Hussain, S., Nawaz, F., Wang, M. and Umer, M. (2019). Translating the impact of knowledge management processes into knowledge-based innovation: the neglected and mediating role of knowledge-worker productivity. J. Bus. Res. 94, 442–450. doi: 10.1016/j.jbusres.2017.11.001.

Xing, X., Liu, T., Shen, L. and Wang, J. (2020). Linking environmental regulation and financial performance: the mediating role of green dynamic capability and sustainable innovation. Sustainability 12:1007. doi: 10.3390/su12031007.