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Research Article

Knowledge Management Practices and Its Impact on Performance of IT Companies in Nepal

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Abstract: Knowledge management (KM) is emerging as a key management responsibility and consequently organizations are investing significant resources in information technology (IT) to support acquisition, storage, sharing, and retrieval of knowledge. KM plays a critical role in information systems (IS) development and maintenance in organizations. The main objective of this study is to assess the impact knowledge management practices on organizational performance of IT companies in Nepal. This study employs a descriptive survey as its research design. Primary data were collected through questionnaires. Descriptive and inferential statistics were used for analysis purpose. It was found that all the independent variables are positively correlated to perceived organizational performance which shows they all have impact on organizational performance and independent variables have impacted on perceived performance of selected organizations.

Keywords: Knowledge Management, Information, Technology, Performance, Information Technology.

INTRODUCTION

Knowledge Management defines a systematic, explicit and deliberated building processes required to manage knowledge, the purpose of which is to maximize an enterprise's knowledge-related effectiveness and create values (Bixler, &Stankosky, 2005). Successful KM has maturity, dynamic and self-growth attributes. Maturity attribute means KM should be strong enough to handle the turbulence in performance yet flexible to adapt to changes. Also, KM should align with the organizational policy, strategies, culture and structure, and provide an environment with well disciplined, value-added and relevant knowledge to generate and introduce innovation and challenging ideas. Dynamic attribute means the information and knowledge flow should spread through the organization without barriers; everyone can approach and contribute to the knowledge assets. Self-growth attribute means, on one hand, KM should sense potentially valuable knowledge, capturing and storing it to increase organizational knowledge assets, and on the other hand it should create new knowledge based on what an organization already has had. KM can profit organizations, for instance, leveraging the intellectual capital, utilizing knowledge assets, sustaining cutting-edge performance. Such as GE, Microsoft and Intel, their net worth incensement which can be attributed to KM up to 82%, 97% and 85% respectively (Frappaolo, 2002).

Knowledge is an important issue for business organizations. There have been a number of different perspectives from which researchers and practitioners have approached the management of knowledge. While the acquisition, transmission, and use of knowledge has always been an important part of human affairs (hence the well-established domain of epistemology), Penrose (1959), Bell (1973) and Drucker (1993a) provide us with a good basis for relating knowledge to twenty-first century business organizations. Drucker symbolically declares knowledge, as we move into the ''knowledge society'' (Drucker, 1993b), as the key resource for individual firms and the key driver of competitive advantage for developed nations, competing in knowledge-based industries, living with knowledge communities and societies.

Tan & Wong (2015) examined the effect of knowledge management on manufacturing performance which was defined as production and operational performance measured as quality, time, cost, flexibility and customer satisfaction. Result showed that knowledge management processes and factors have significant and direct effects on manufacturing performance. On research of relationship between

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knowledge transfer and product development inside organization Kumar and Ganesh (2011) discovered significant influence of knowledge transfer processes to the efficiency of product development.

Abu Bakar *et al.,* (2016) study examined relationship between knowledge management practices and growth performance in construction industry. Growth performance measurement is undertaken through company turnover and employment growth. The results show that knowledge creation, storage, transfer and application have a significant relationship with growth performance. On the four processes knowledge transfer has strongest impact on growth performance.

Chibuzor, Agwamba& Jovita, Onwudiwe&Ugwuegbu, Charles (2019) investigated the effect of knowledge management and organizational innovation. The findings revealed that knowledge application, acquisition, and sharing all have a significant effect on technical and administrative innovation. It was thus concluded that base on the dynamism of today's business environment which is characterized by rapid and continuous changes, investment in knowledge management and innovation by firms is critical in creating sustained competitive advantage.

Knowledge management (KM) and organizational performance are essential of the success in business. The different results in literatures that declare KM affects organizational performance positively. In Darroch (2005) research, the results support some KM process positively affects performance. She claims that knowledge acquisition doesn't positively affect performance directly, and knowledge dissemination doesn't positively affect performance, either.

Davenport (1999) relates KM activities with some intermediate activities that affect financial results. Progress in KM activities affects intermediate variables such as project performance measurements, indicators of the capacity of employees to carry out tasks related to knowledge and finally the generation of ideas and innovations.

Gold, Malhotra, and Segars (2001) examine that the issue of effective knowledge management from the perspective of organizational capabilities. This perspective suggests that a knowledge infrastructure consisting of technology, structure, and culture along with a knowledge process architecture of acquisition, conversion, application, and protection are essential organizational capabilities or "preconditions" for effective knowledge management. The results provide a basis for understanding the competitive predisposition of a firm as it enters a program of knowledge management.

Knowledge management capabilities consist of three interrelated processes: knowledge acquisition, knowledge conversion, and knowledge application (Gold, Malhotra, &Segars, 2001). With effective and efficient KM process, most companies claims it will be helpful to organizational performance. Accordingly, KM is taken for granted an important antecedent of organization performance or innovation (Darroch, 2005).

Currently, Nepal's IT market is booming and the number of IT companies is also increasing rapidly. There are approximately 500 IT services companies in Nepal with few having more than 300 employees. Most of these companies focus on the development of web-enabled applications, software development, and deployment of management information systems (MIS), data processing, call centers, medical transcription, animation, and data processing. The rise in the ITES and BPO can be attributed to numerous factors, including an increase in qualified manpower, better technologies in the market, and an improving internet infrastructure.

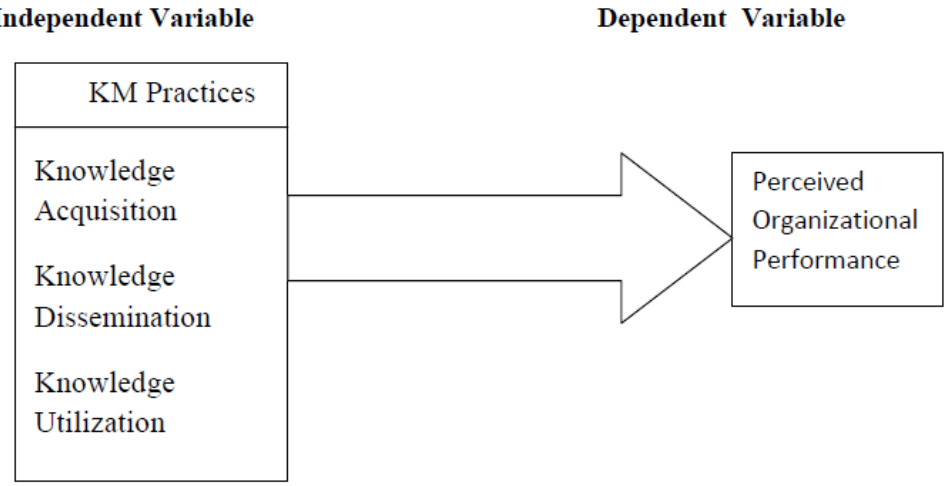
With rapid increase in use of Information Technology (IT) for personal and professional purposes, IT companies around the world are growing faster than ever before and Nepal is no exception. Software companies in Nepal have grown vigorously in the past decade. There are very less research conducted on IT sector in Nepal compared to other fields. On the other hand to study about the impact of knowledge management practices on performance of IT companies in Nepal**.**

Objectives of the Study

The main objective of this study is to assess the association and the impact knowledge management practices on organizational performance of IT companies in Nepal. This study has also focused about the status of knowledge management practices in IT companies in Nepal.

Conceptual Framework:

Based on the theoretical framework Organizational performance is the dependent variable and KM practice is the independent variable. The independent variables are knowledge acquisition, knowledge dissemination, and knowledge utilization.



1 Theoretical Framework

RESEARCH METHODOLOGY

This study employs a descriptive survey as its research design. The population for this study is all the IT companies in Nepal and employees of IT companies are the respondents for the study. There are approximately 500 IT services companies in Nepal (Nepal Investment Board, ICT profile 2019). 400 employees from 10 IT companies were chosen as respondents. Out of 400 questionnaires 316 were obtained and analyzed for results. Convenience sampling was used for the study.

Primary data were collected from selected 10 IT companies. All the responding companies are operating since more than 5 years in IT industry. The study utilized a questionnaire to collect data. Likert 5 point scale questionnaires were used representing 5 denotes strongly agree and 1 denotes strongly disagree. Knowledge acquisition, knowledge dissemination, knowledge utilization and perceived organizational performance were the variables used in the study. Respondents were selected carefully so that they have understanding of the subject matter to avoid random results. Descriptive, correlation and regression methods of analysis are used in the study. The internal consistency of items under the variables knowledge acquisition, knowledge dissemination, knowledge utilization and performance are 0.895, 0.628, 0.788 and 0.812 respectively. All the values are in acceptable range. Internal consistency of all the 37 items of all variables is 0.940 which is also highly acceptable.

DISCUSSION AND ANALYSIS

Descriptive Analysis

Demographic profile of the respondents

Demographic profile of the respondents' in this study includes gender, age and their position in the organization. Demographic information of respondents is depicted in table 1.

Table 1 Demographic profile of respondents

Variables	Number	Percent
Gender		
Male	250	79.1
Female	66	20.9
Age Group		
20-25	56	17.7
26-30	106	35.5
31-40	104	32.9
Above 40	50	15.8
Position in organization		
Managers	24	7.6
Assistants	292	92.4

Table 1 shows that among 316 respondents, there are 250 males (79.1%) and 66 females(20.9%).According to the table highest number of respondents were from age group (26-30) and lowest from age group above 40.Respondents' position in the organization has been categorized into two group managers and assistants. All positions except managers are classified into assistants. Table 1 shows that out of 316 respondents 24(7.6 %) were managers and 292 (92.4%) were assistants.

Descriptive analysis of research variables

Descriptive analysis of research variables includes basic explanation of central tendency,

particularly mean and standard deviation of constructs of the variables. There are 4 variables and they contain 37 questions all together.

Knowledge acquisition

Knowledge acquisition statements demonstrate the process of acquiring knowledge by the organization from different sources. Knowledge can be acquired from customers, suppliers, competitors and employees. It can be further enhanced by seminars, reports, publications, inter-organizational collaboration, combining existing knowledge to generate new knowledge, benchmarking and identifying best practice. The process of knowledge acquisition is shown by 12 constructs. This section presents the status knowledge acquisition in Nepalese IT companies.

Table 2. Knowledge Acquisition Statement

Constructs	N	Mean	Std. Deviation
Our organization obtains a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks).	316	4.33	.558
Our organization obtains a good extent of new knowledge from business partners (e.g. suppliers, clients).	316	3.54	.787
Our organization has processes for inter organizational collaboration.	316	3.35	.868
In our organization employees exchange knowledge with their co-workers.	316	3.96	.726
In our organization employees share their knowledge through formal procedures (e.g. project reports, organizational procedures and instructions, reports and company publications).	316	4.18	.756
The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses).	316	4.35	.713
Our organization uses feedback from previous projects to improve upcoming projects.	316	4.17	.468
Our organization has processes for generating new knowledge from existing knowledge.	316	3.57	.522
Our organization has processes for acquiring knowledge about new products/services within our industry.	316	4.03	.765
Our organization has processes for acquiring knowledge about competitors within our industry.	316	4.08	.794
Our organization has processes for benchmarking performance.	316	3.87	.626
Our Organization has teams devoted for identifying best practice.	316	3.72	.860
Average Mean		3.93	

Table 2 shows the position of knowledge acquisition in Nepalese IT companies. According to the table mean value of knowledge acquisition constructs ranges from 3.35 to 4.45. Composite mean of the constructs is 3.93 which means toward agree on the Likert scale. So the status knowledge acquisition in Nepalese IT companies can be considered good.

Knowledge Dissemination

Knowledge Dissemination means communicating knowledge throughout the organization. This variable integrates the activities and culture of sharing knowledge throughout the organization. It is explained by 7 constructs as depicted in table 3.

Table 3 Knowledge Dissemination statements

Constructs	N	Mean	Std. Deviation
There is a willingness to share lessons learned in my group	316	4.13	.526
In my group, lessons learned from projects, both successful and unsuccessful, are considered valuable	316	3.23	.911
Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in my organization	316	4.01	.798
Successful instances of sharing lessons learned are consistently publicized throughout my organization.	316	3.58	1.005
In my department, lessons learned are shared routinely with fellow teammates and members of the organization.	316	4.00	.628
In our organization, there is a general inclination to cooperation and exchange of experience among employees.	316	4.23	.577
The general management/leadership of our organization promotes cooperation and exchange of experience among employees.	316	4.27	.537
Average Mean		3.92	

Table 3 shows that the mean of constructs ranges from 3.23 to 4.27.Composite mean of the constructs is 3.92 which indicates strong knowledge dissemination status of IT companies in Nepal.

Knowledge Utilization

Knowledge Utilization is using accumulated knowledge to tackle problems, develop new products and deal with unfamiliar situations. It is explained by 8 constructs as depicted by Table 4.

Table 4. Knowledge Utilization Statements

Constructs	N	Mean	Std. Deviation
In our organization there are processes for applying knowledge learned from mistakes and experiences.	316	4.38	.771
In our organization there are Processes for using knowledge in development of new services.	316	3.96	.844
In our organization there are processes for using knowledge to solve new problems.	316	4.26	.543
In our organization there are processes for making knowledge accessible to those who need it.	316	4.47	.594
Our organization uses knowledge to increase efficiency.	316	3.66	.755
Our organization is able to locate and apply knowledge to changing competitive conditions.	316	3.69	.516
Our organization uses knowledge to adjust strategic direction.	316	3.62	.512
In our organization, processes for searching for lessons learned are regularly improved and updated.	316	4.25	.461
Average Mean		4.04	

Table 4 shows that the mean of of constructs ranges from 3.62 to 4.38.Composite mean of the constructs are 4.04 which shows strong status of knowledge utilization in Nepalese IT companies.

Perceived organizational performance

Perceived Organizational Performance is improvement .Performance as a result of knowledge management practices adopted by organizations. It is explained by 10 constructs as depicted in Table 5.

Table 5 Perceived Organizational Performance Statements

Constructs	N	Mean	Std. Deviation
Organization is growing faster.	316	4.30	.538
Organization is more profitable.	316	4.35	.757
Organization is providing higher quality services.	316	4.53	.537
Organization is efficient in using resources.	316	4.10	.792
Employee relationships are enhanced.	316	3.57	.534
Organization is delivering orders quickly.	316	3.97	.328
Organization is delivering higher customer satisfaction.	316	4.36	.707
Redundancy of information and knowledge are reduced.	316	3.53	.561
Reduced response time to new market demands.	316	4.13	.915
Able to innovate new products/services.	316	4.15	.742
Average Mean		4.10	

Table 5 shows that the mean of constructs ranges from 3.57 to 4.53.Composite mean of the constructs is 4.10 which shows strong organizational performance due to knowledge management practices adopted by Nepalese IT companies. Above table indicated that most of the respondents were agreed that application of knowledge management practices has increased the perceived performance in sample organizations.

Correlation Analysis

Correlation analysis between perceived organizational performance and other variables has been calculated to find out mutual relationship among them. Inter-correlation among knowledge acquisition, knowledge dissemination, knowledge dissemination and perceived organizational performance have also been calculated. Results are illustrated by Table 5.

Table 6. Correlation Analysis

		Knowledge Acquisition Statements	Knowledge Dissemination Statements	Knowledge Utilization Statements	Perceived Organizational Performance Statements
Knowledge Acquisition Statements	Pearson Correlation	1	.565**	.833**	.899**
	Sig. (2-tailed)		.000	.000	.000
	N	316	316	316	316
Knowledge Dissemination Statements	Pearson Correlation	.565**	1	.420**	.516**
	Sig. (2-tailed)	.000		.000	.000
	N	316	316	316	316
Knowledge Utilization Statements	Pearson Correlation	.833**	.420**	1	.905**
	Sig. (2-tailed)	.000	.000		.000
	N	316	316	316	316
Perceived Organizational Performance Statements	Pearson Correlation	.899**	.516**	.905**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	316	316	316	316

**. Correlation is significant at the 0.01 level (2-tailed).

From table 6 it is observed that perceived organizational performance is positively correlated to knowledge acquisition, knowledge dissemination and knowledge utilization. Among all the independent variables knowledge utilization has the highest correlation to organizational performance (0.905) whereas knowledge dissemination has lowest correlation to organizational performance (0.516).It shows that organizational performance highly affected by the level of knowledge utilization. Highest significant relationship between independent variables is seen between knowledge acquisition and knowledge utilization (0.833) whereas least correlated independent variables are knowledge dissemination and knowledge utilization (0.420).

Regression Analysis

Regression analysis is a set of statistical methods used for the estimation of relationship between a dependent variable and one or more independent variables. In this study, this dependent variable is perceived organizational performance and independent variables are knowledge acquisition, knowledge dissemination and knowledge utilization. Regression analysis is illustrated by table 7.

Table 7. Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.399	.131		3.051	.003
	Knowledge Acquisition Statements	.363	.044	.439	8.180	.000
	Knowledge Dissemination Statements	.049	.032	.050	1.536	.127
	Knowledge Utilization Statements	.515	.049	.518	10.602	.000

a. Dependent Variable: Perceived Organizational Performance Statements

Table 7 shows that beta coefficient is positive for all three variables knowledge acquisition, knowledge dissemination and knowledge utilization. Knowledge acquisition and knowledge utilization has significant relationship to perceived organizational performance with their p values (0.000≤ 0.05). Knowledge dissemination shows insignificant relationship to perceived organizational performance with its p value (0.127 ≥ 0.05). Beta coefficient of knowledge acquisition is 0.399 which shows that 39.9 % change in organizational performance is caused by knowledge acquisition and rest by external factors. Beta

coefficient 0.49 of knowledge dissemination applies that 4.9% change in organizational performance is caused by knowledge dissemination and rest by external factors. Similarly 0.515 beta coefficient of knowledge utilization shows that 51.5% change in performance is caused by knowledge utilization and rest by external factors. This study concludes that organizational performance has significant relationship with knowledge acquisition and knowledge utilization whereas insignificant relationship with knowledge dissemination.

FINDINGS AND DISCUSSION

From The Above Analysis, Following Findings Have Been Drawn.

1. Most of the respondents of selected IT companies were highly agreed that these companies have adopted Knowledge management practices. The status knowledge acquisition(mean 3.93),knowledge dissemination (mean 3.92) and ,knowledge utilization (mean 4.04) in Nepalese IT companies can be considered good. Similarly, the most of the respondents were agreed that application of knowledge management practices has increased the perceived performance(mean 4.10) in sample organizations.

2. All the independent variables are positively correlated to perceived organizational performance which shows they all have impact on organizational performance. Their correlation values are 0.889, 0.516 and 0.905 for KA, KD and KU respectively. Level of significance is 1%.

3. Out of three variables first significant variable is knowledge acquisition with its p value (0.000≤ 0.05). Its beta coefficient is 0.363 which implies 36.3% change in performance is due to KA.

4. Second significant variable is knowledge utilization with its p value (0.000≤ 0.05).It has highest impact on perceived organizational performance with its beta coefficient 0.515 which implies 51.5% change in performance is caused by KU.

5. Knowledge dissemination is the insignificant variable with its p value (0.127 ≥ 0.05).Its beta coefficient is 0.049which shows negligible impact (4.9%) on perceived organizational performance.

6. Multiple regression analysis is conducted to find out relationship between dependent and independent variables. The value of coefficient of determination (R^2)is 0.889 (appendix iii) which implies that 88.9 percent change in dependent variable (perceived organizational performance) is explained by independent variables (knowledge acquisition, knowledge dissemination and knowledge utilization) and the rest are due to external factors. Hence this model is best describes the relationship.

7. Results are consistent with Shakeel Ahmed, Mohammad Fiaz and Mohammad Shoaib(2015) who conducted a study on "Impact of Knowledge Management Practices on Organizational Performance: an Empirical study of Banking Sector in Pakistan". Both of our studies concluded positive impact of KM practices on organizational performance. Similarly, findings are comparable to Gholami (2013) who investigated the influence of knowledge management practices on organizational performance in small and medium scale enterprises and found knowledge management practices directly influence organizational performance SMEs. There is one major difference,knowledge dissemination has insignificant relationship to perceived organizational performance in my study whereas knowledge sharing has strong relationship with OP in their study. Chibuzor (2019) investigated the effect of knowledge management and organizational innovation. It was concluded that base on the dynamism of today's business environment which is characterized by rapid and continuous changes, investment in knowledge management and innovation by firms is critical in creating sustained competitive advantage. Both of our researches shows similar results. All other mentioned studies show positive impact of KM practices on organizational performance. According to Chibuzor, Agwamba & Jovita, Onwudiwe &Ugwuegbu, Charles (2019) knowledge application, acquisition, and sharing all have a significant effect on technical and administrative innovation and results are same here.

CONCLUSION

This study concluded that there is high level of knowledge management practices undertaken in IT companies in Nepal. Knowledge is mainly acquired through seminars, conferences, products and services from the industry and benchmarking. Knowledge sharing is done mainly through sharing new knowledge through discussions and knowledge utilization is very effective. There is good support and motivation from management to improve KM practices. Visible difference in performance can be seen as result of better knowledge management. Some aspects of KM practices are found weaker due to lack of KM culture in Nepalese organizations. Developing a reliable KM culture can further improve performance. The study as well concluded that knowledge management practices in general influences organization performance in various ways including, knowledgeable employees, better decision making in the organization, improved service offering to client, reduced operational costs, improved organizational competitiveness.The study also observed that there is positive relationship between knowledge

utilization and organizational performance. Hence utilizing acquired knowledge is inevitable to increase performance.

Recommendations for Future Researchers

1. The study is based on IT companies in Nepal. Thus, the future studies may be included other sectors like banking, service sector, manufacturing sectors etc.
2. The sample size is small and limited to IT companies in Kathmandu only. Thus, future studies can be included larger sample size from other places for more generalizable results.
3. This study did not include any mediating variable. Future studies may include mediating variable like organizational learning, demographic variables as mediating variable.

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