

Measuring the Effect of Knowledge Management on Financial & Market Performance: Evidence from Nepal

Lekhanath Khanal^{1*}, Prof. Dr. Santosh Raj Poudel²

¹PhD Scholar, Mewar University, Rajasthan, India

²Tribhuvan University, Kathmandu, Nepal

*Corresponding Author

Lekhanath Khanal

Email: lekhanathkhanal@hotmail.com

Abstract: Knowledge Management (KM) is the process that deals with obtaining, processing, storing, disseminating and applying of information and knowledge within an organization to support and enhance its business performance. Financial institutions are realizing knowledge as a crucial resource in organization and should be managed judiciously. Despite the claims for positive relation between KM process and business performance in banking sector, few researchers have actually proved it. Therefore, the main objective of this study was to measure the effect of knowledge management practices on financial and market performance of banking sector in Nepal. In this study, a sample of 385 respondents was selected randomly from four different types of financial institutions of Kathmandu, Nepal. Statistical analysis was done to draw the conclusion. The results clearly showed that components of KM process (KM obtaining, KM organizing & KM applying) have positive relation with the organizational performance measured in terms of Financial and Market Results.

Keywords: Banking, Financial Institution, knowledge management, Nepal, Performance

INTRODUCTION

In this paper, we discuss the basic definitions of knowledge and knowledge management followed by knowledge management in banking sector, research framework, hypotheses, measuring the effect of KM in financial and market performance. Finally, we conclude with discussion and implication for future research.

Knowledge & Knowledge Management

Knowledge is defined by the Oxford English Dictionary as (i) expertise, and skills acquired by a person through experience or education; (ii) the theoretical or practical understanding of a subject, (iii) what is known in a particular field and (iv) awareness or familiarity gained by experience of a fact or situation. Philosophical debates in general start with Plato's formulation of knowledge as "justified true belief", however, there is no single agreed definition of knowledge and presently, there are numerous competing theories based upon it.

Since man's inception, knowledge has been a part of this world. Ancient Hindu and Greek texts were the first evidence of codifying knowledge. Fredrick Taylor made an attempt to formalize workers' experience and tacit skills into objective rules and formulae in 1911. Polanyi [1] differentiated between tacit and explicit knowledge. Tacit knowledge is personal, inner, context specific, and therefore hard to communicate. It basically lies inside the mind of a

person. Explicit knowledge is the knowledge that can be expressed in symbols, words and numbers.

Peter Drucker [2] states, "We are entering the knowledge society in which the basic economic resource is no longer capital or natural resources or labor but is and will be knowledge and where knowledge workers will play a central role". He further suggests "The organization has to raise the productivity of knowledge and knowledge workers to meet the challenge". Drucker introduced the term "knowledge society" in 1992 and argued that in the future, knowledge would be the primary resource for individuals and for the economy as well. Capital land and labor have been secondary resources since, with specialized knowledge; one can easily obtain these resources.

The most dominant concepts of organizational knowledge within the current literature are the notions of 'tacit' and 'explicit' knowledge [3]. The foundation of these concepts can be traced back to the work of Michael Polanyi and Gilbert Ryle. From the organizational perspective, knowledge is viewed as an intangible asset held within the minds and actions of the organization's employees [4]. Knowledge may also take the form of a tangible asset that might be manipulated through technology. These views are in line with Polanyi's notion of explicit and tacit knowledge.

Knowledge Management is the concept that arose approximately before two and half decades. It means organizing information and knowledge holistically. Davenport *et al* [5] clearly stated that knowledge management is the process of capturing, distributing and effectively using knowledge. Knowledge management is the method of information creation, endorsement, presentation, spread and appraisal [6].

Therefore, Knowledge management is the process of creating, collecting, organizing, disseminating and utilizing knowledge. It is based on the assumption that organizations have a high volume of data, which consist of reports, information like financial information, confidential information, tangible information etc. Organizations apply different mechanisms to organize irregular data and convert them into practical information which totally form knowledge management processes [7].

KM in Banking Sector

In recent times, the world has become as a global village and businesses are experiencing dynamic and competitive environment. Banks and other financial institutions play vital role for economic development of a country. In banking sector, the era of financial capital is now less significant and transformed into the era of knowledge workers and knowledge professionals. Financial organizations have their unique system, culture, processes, structure, values, skills and knowledge which affect the competitive advantage, increase the productivity and market value.

If we go through the history, the notion of applying knowledge management inside the World Bank started in 1996 being the first bank that implemented Knowledge Management. Till the first quarter of the 2000, it was implemented in Europe (United Kingdom, Germany, Portugal and Spain), United States of America, Canada and Japan. However, some of the banks in developing countries (e.g. India, Malaysia, United Arab Emirates, Egypt, Libya, Tunisia, Mauritius, and Lebanon) adopted Knowledge Management systems in the 3rd and 4th quarter of the last decade. However, very few scholarly researches were carried out on KM in banks in developing countries.

Financial organizations are ranked first among the industries implementing knowledge management which regards the knowledge of their employees and technological advancement as the key to generate competitive advantage and maintaining their threatened domination of the market for financial services. In Nepalese context, financial sector, especially banks and finance companies, is very competitive. Knowledge is

the major resource to gain competitive advantage in this sector. Obtaining comprehensive information on how knowledge is managed and utilized is very important in this sector. Although, there is yet very little information on knowledge management in developing countries, it is quite essential to examine perceptions on nature, practice, benefits, challenges, responsibilities and technological aspects that are entailed in managing the knowledge in financial sectors. Issues that encourage and restrict knowledge obtaining, organizing and application should also be discussed together with the effect of KM practices on enhancing financial and market performance which was yet to be explored in Nepalese context.

Although knowledge management has been widely discussed by many academicians and practitioners, there is paucity of literature and information on knowledge management in Nepalese context. So, empirical research was felt necessary to build a comprehensive model of the context of knowledge management process and how it affects the financial performance in the developing countries. This research aims to examine knowledge management processes used by financial institutions in developing countries and by doing so it will contribute by establishing and proving the relationship of knowledge management and business performance to solve difficult problems within the given context. Since little research is available on people's perceptions that may affect the practice of KM through their attitudes and there is a dearth of empirical studies of KM practices conducted in the financial institutions in Nepal, the researchers felt strong necessity to address and resolve key issues of Knowledge Management and business performance in Nepalese context. So the major objective of the research work was to measure the effect of knowledge management process in improving the financial and market performance of Nepalese financial institutions.

Theoretical & Conceptual Framework

The major theories that guide our study consist of Choi's extended model (2002), Lee and Choi model (2003), Park's model (2006) and Niu's Model (2010). Choi's extended model identified the constructs of knowledge management strategy and knowledge management performance and indicated that knowledge management strategy was positively related to knowledge management performance. The Lee and Choi [8] identified the knowledge management enablers and indicated that knowledge management enablers were related to the knowledge management capability and knowledge management performance. Similarly, Park's model identified the construct of knowledge management process capability, and indicated that knowledge management enablers and knowledge

management process capability were positively related to knowledge management performance. To measure knowledge management performance, Choi [9] combined financial indicators with non-financial indicators and made comparisons to key competitors in five areas like profitability, market share, innovation, growth rate and success.

Moreover, this study follows the conceptual Niu's model [10] for knowledge management process classified into 3 activities: knowledge obtaining, knowledge organizing and knowledge applying; and their effect on organizational performance in terms of financial indicators and market results.

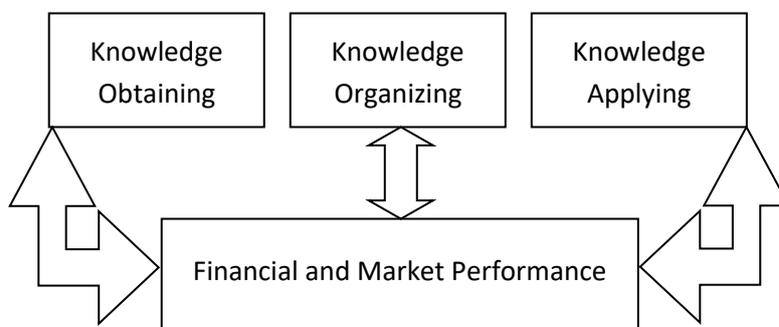


Fig-1: Conceptual framework of the study

Knowledge Obtaining

Knowledge obtaining is composed of two activities, viz., knowledge acquisition and knowledge creation. Two ways of knowledge obtaining are to seek and acquire new knowledge, or to create new knowledge out of existing old knowledge through cooperation between business alliances and individuals [11]. Knowledge acquisition refers to an organization's attempt to obtain information and/or knowledge from external sources [12-17] to fulfill organizational vision and mission. According to Gottschalk [18] and Ho [19], knowledge obtaining means the members' ability to understand and acquire knowledge from internal and external sources in the organization. The key notion of knowledge creation is an organization's attempt to create information or knowledge from internal sources [10, 20].

Knowledge Organizing

Knowledge organizing is composed of knowledge refining, knowledge storing, and knowledge sharing [10]. Knowledge refining is an organization's value-adding process to newly obtained information or knowledge by filtering, categorizing, codifying, integrating, and indexing [21]. The key notion of knowledge storing is an organization's attempt to store and save information or knowledge after refining it for future use [10] to get quick access to the acquired knowledge by proper media. It is an organization's attempt to store and save information or knowledge after refining it manually or by using technology with suitable protection for knowledge access.

Knowledge sharing refers to the mechanism of the diffusion of knowledge within an organization [22]. It is a social interaction or shared understanding for exchanging knowledge by applying both personnel or

virtual networks within the organizations, and formal or informal face-to-face meetings [23]. The key notion of knowledge sharing is the sharing or exchanging of new knowledge in both formal and informal face-to-face meetings, through virtual networks, and between external and internal organizations [5, 23].

Knowledge Applying

Knowledge applying is to make knowledge active and more appropriate for the organization in creating value by new products and services. Knowledge applying is the employee's knowledge usage for solving organizational problems or challenges that leads to fewer mistakes or efficiency improvement [24, 25]. The key notion of knowledge applying is an organization's value-creating activity by using information or knowledge [26-28]. From past researches, it can be concluded that knowledge applying is an organization's value-creating activity by the use of new knowledge.

Measuring Performance

Methods for measuring organizational performance in knowledge management can be categorized into four groups: financial measures, intellectual capital, tangible and intangible benefits, and the balanced scorecard. Kaplan and Norton [29] presented the Balanced Scorecard (BSC) method which can evaluate the organization in both financial and non financial dimensions. This approach balances the financial objective and intangible assets like organizational learning and growth, outside organizational dimensions like stakeholders and customers; and the inside organization dimension like internal processes. Of course, more than 50% benefit of an organization is derived from intangible assets. BSC approach appraises four dimensions: financial,

customer, internal process and learning. Firstly, how the organizations response to stakeholders is accessed in the financial dimension. Secondly, the customers' evaluation is valued in customer dimension. Thirdly, the best performance is evaluated in internal dimension. Finally, the continuous development of the organization is valued in learning and growth dimension. The direct consistency of learning and operational processes is the main advantages of the BSC approach. In short, this approach is accepted as an effective measure of organizational performance.

The balanced scorecard is more useful than intellectual capital or a tangible and intangible approach because it shows cause and effect links between knowledge components and organizational strategies [29]. So this study adopts a partial balanced scorecard method measuring performance in terms of Financial and Market Results which shows how the organization is performing in response to stakeholders (in financial dimension) and competitors (in market dimension). Some of the financial measures commonly used are net operating income, economic value-added, cash flow, revenue increase, costs, profit margins, etc.

Hypothesis Formulation

According to literatures and past experience, we believe that strong relations between the elements of knowledge management process (knowledge obtaining, knowledge organizing and knowledge applying) and financial & market performance of financial institutions can be established. Besides, our intention was to investigate and prove the existence of a positive relation of knowledge management on organisational performance in terms of financial and market results. Therefore the findings from literature and our assumptions were systemized and structured in the form of following hypotheses and examined by this empirical research.

Hypothesis 1

H0: There is no significant effect of knowledge obtaining on financial and market results of Nepalese financial institutions.

H1: There a significant effect of knowledge obtaining on financial and market results of Nepalese financial institutions.

Hypothesis 2

H0: There is no significant effect of knowledge organizing on financial and market results of Nepalese financial institutions.

H1: There a significant effect of knowledge organizing on financial and market results of Nepalese financial institutions.

Hypothesis 3

H0: There is no significant effect of knowledge applying on financial and market results of Nepalese financial institutions.

H1: There a significant effect of knowledge applying on financial and market results of Nepalese financial institutions.

MATERIAL & METHODS

The study is based on the quantitative research design. The data was collected from the banking and financial institutions of Kathmandu, Nepal by using the structured questionnaire survey. In total, 385 respondents were selected from banking and financial institutions of Kathmandu valley by using the proportionate stratified random sampling technique. The questionnaire was developed in five-point Likert Scale as (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree and (5) Strongly agree. The research instrument was pre-tested to ensure the validity and reliability of data. The collected data was analyzed through the statistical models: frequency distribution, correlation and regression analysis. SPSS-20 was used in this study to analyze the collected data from the banking sector of Nepal. The data is presented in the tabular form.

In general, Cronbach's Alpha (α) Coefficient is used to test the internal consistency reliability of the question, the Likert scale of which is more than three. Cronbach's alpha (α) values normally lie between 0 and 1 and α -coefficient is the best predictor to measure the convergent validity as well [30-32]. In Table 2, the Cronbach's alpha (α) results are shown. All values are above the minimum acceptable criteria of 0.7 and in-line with the previous studies [33, 34].

Table 1: Cronbach's α Coefficient

S.N.	Dimensions	No of items	Cronbach's α	Variance
1	Knowledge Obtaining	11	0.893	0.130
2	Knowledge Organizing	12	0.894	0.006
3	Knowledge Applying	05	0.834	0.005
4	Financial and Market Results	08	0.899	0.004

Source: Field Survey, 2016

RESULTS
Demographic Profile

A sample of 385 respondents were selected for the study from the four different types of bank of Nepal;

Government Bank, Private Commercial Bank, Development Bank and Finance and Cooperatives as shown in the following table-2.

Table 2: Respondents' Profile

Type of Institution	Male	Female	Total
Government Bank	62	15	77
	16.1%	3.9%	20.0%
Private Commercial Bank	85	69	154
	22.1%	17.9%	40.0%
Development Bank	64	13	77
	16.6%	3.4%	20.0%
Finance & Cooperatives	37	40	77
	9.6%	10.4%	20.0%
Total	248	137	385
	64.4%	35.6%	100.0%

Source: Field Survey, 2016

The above table-2 describes the respondents' profile of Nepalese banking and financial institutions participated in this survey. Respondents were categorized based on four sectors including Government Banks (20%), Private Commercial Banks (40%), Development Banks (20%), and Finance and Cooperatives (20%). 64.4% male and 35.6% of female of various position/job title from Chief Executive Officer to field staff were selected using proportionate stratified sampling method. Among them 21 respondents were high school graduates, 103 respondents hold bachelor's degree, 255 respondents hold master's degree and remaining 6 respondents got MPhil/PhD. Respondents with experience of less than 6 months were discarded and minimum 6 months to maximum 46 years were taken for analysis being mean years of experience 10.324 with standard deviation 7.87 years.

Regarding number of staffs working under the respondents, 39.0% had below 10 employees; 31.1% had employees between 10 and 20; 15.4% had employees between 20 and 30; 5.9% had employees between 30 and 40; 3.5% had employees between 40 and 60 and remaining 5.1% had employees above 60. From the date of establishment, it was found that 40.5% of organizations remained in the business for 5 to 10 years, 35.9% for 10 to 30 years and 23.6% of them had more than 30 years of experience.

Effect of KM on Financial and Market Results

From the analysis, R² value was found to be .443 which means demographic variables explain only 44.3% of the variation in the dependent variable. The adjusted R² value is .431 which meant that the different demographic variables have contributed only 43.1% of total value of knowledge applying in Financial and Market Results. The remaining 56.9% were contributed by other factors which are not included in the study. While gathering the knowledge applying and obtaining, it is found that R² value is .447 which showed that demographic variables only explain 44.7% of the variation in the dependent variable. The adjusted R² value is .468 which meant that the different demographic variables contributed only 46.7% of total value of knowledge management on financial and market results. The remaining 53.3% were contributed by other factors which is not included in this study. Again when knowledge applying and knowledge obtaining was gathered within the knowledge organizing, it is found that the R² value is .478 which meant that demographic variables only explain 47.8% of the variation in the dependent variable. The adjusted R² value is .474 which means that the different demographic variables contributed only 47.4% of total value of knowledge management in Financial and Market Results, The remaining 52.6% were contributed by other factors which are not included in this study.

Table 3: Effect of KM on Financial and Market Results

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
Knowledge Applying	.658 ^a	.433	.431	4.02287		
Knowledge Applying + Obtaining	.686 ^b	.471	.468	3.89093		
Knowledge Applying + Obtaining+ Organizing	.691 ^c	.478	.474	3.87058		
ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
Knowledge Applying + Obtaining+ Organizing	Regression	5221.797	3	1740.599	116.184	.000 ^d
	Residual	5707.907	381	14.981		
	Total	10929.704	384			
a. Dependent Variable: Financial and Market Results total						
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.843	1.207		7.329	.000
	Knowledge Applying total	.612	.091	.400	6.730	.000
	Knowledge Obtaining Total	.175	.050	.209	3.481	.001
	Knowledge Organizing total	.108	.048	.146	2.242	.026
a. Dependent Variable: Financial and Market Results						

Source: Field Survey, 2016

The regression analysis on knowledge applying, knowledge obtaining and knowledge organizing of respondents were found significant at $p \leq 0.05$ (.000), at $F = 116.184$ to total value of attitude of respondents towards Knowledge Management of Financial and Market results. However, it was found out that only three variables were significant which have p -value ≤ 0.05 , namely knowledge applying, and knowledge obtaining of respondents. The other one Knowledge organizing was not significant to total value

of knowledge management of financial and market result of organization since the p -value is .026. We may conclude by saying that two of demographic variables, namely, knowledge applying and knowledge obtaining have impact on total value of knowledge management of financial and market results.

Correlation between variables: The following table shows Pearson Correlations between the study variables.

Table 4: Pearson's Correlations

	Knowledge Obtaining	Knowledge Organizing	Knowledge Applying
Financial and Market Performance	0.602**	0.608**	0.658**

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

Source: Field Survey, 2016

From the above table, it is noteworthy to mention that all the factors of knowledge management are positively correlated ($a > 0.01$) with financial and market performance. There was significant relationship of knowledge obtaining, knowledge organizing & knowledge applying individually with financial & market results, and also with the total of these three variables, i.e., knowledge management total. Hence, all the null hypotheses were rejected, i.e., alternative hypotheses (H1, H2, H3) were accepted. The results state that there is positive relationship between knowledge management practices with financial and

market results in the four different types of Nepalese banks.

DISCUSSION

This study attempted to examine the relationships between knowledge management dimensions (knowledge obtaining, knowledge organizing and knowledge applying) and organizational performance measured in terms of financial and market results. The findings show significant and positive relationship between KM process and business

Performance (in terms of financial and market results) in banking and financial sector of Nepal.

Attempts have been made to establish the relationship between KM and financial and market performance. Seleim and Khalil [35] investigated the relationship between knowledge management and organizational performance in the software firms of Egypt. This study showed that organizational performance was influenced by all dimensions of knowledge management. Boumarafi and Jabnoun [36] investigated the relationship between knowledge management and organizational performance in the United Arab Emirates in 89 business units comprising manufacturing, banking, investment, insurance and service sectors. The study revealed that knowledge management was significantly correlated with organizational performance.

The effect of knowledge management elements on organizational performance was also investigated by Emadzade *et al* [37]. The study was conducted in Jordan and used 245 managers and owners from 86 small enterprises. The study found that knowledge acquiring, knowledge applying, knowledge protecting, and organizational structure had a positive relationship with organizational performance. However, knowledge conversion, technology and organizational culture, were found having no effect on the performance. Agbim *et al* [38] examined the effect of knowledge management capabilities on organizational performance among 328 employees in the service sector of Nigeria. They found that different knowledge management resources were significantly and positively related to organizational performance.

Similarly Zaied *et al* [34] examined the role of knowledge management to enhance organizational performance in Egyptian financial organizations. The study showed significant positive relation between knowledge management elements and performance improvement measures. The study carried out by Rasula *et al* [33] conducted empirical research in Croatia and Slovenia to observe the impact of knowledge management on organizational performance and revealed that KM practices had a positive impact on organizational effectiveness.

The findings are also in line with the study of Vidovic [39] which examined the link between knowledge management and organizational performance, using the data from the research conducted in Croatia. The research confirmed that there is a link between knowledge management and performance. The results are also consistent with that of Liao and Wu [40] who conducted a study using a sample of Taiwanese knowledge-intensive firms

engaged in manufacturing and financial services. Empirical evidence from the study also supports the perspective that Knowledge Management Strategies affect organizational performance. In contrary to this, Tanriverdi [41] found only a weak correlation between a firm's use of knowledge and its financial performance.

Furthermore, Zack, Singh and McKeen [42] investigated the organisational impact of KM in terms of performance. 12 KM practices were identified and explored in terms of their effect on organisational performance within the context of business organizations in Australia and North America. The study revealed that Knowledge Management practices were directly related to organisational performance which, in turn, was directly related to financial performance. On the other hand, there was no direct relationship found between Knowledge Management practices and financial performance.

The study conducted by Chaudhary [43] on the practice of knowledge management strategy by banking industry of Nepal also views that those banks with knowledge management capability will also use resources more efficiently. Gholami *et al* [44] investigated the impact of knowledge management practices on the performance of 282 Small and Medium-sized Enterprises (SMEs) in Iran. The findings indicated that knowledge management practice directly influences the organizational performance of SMEs. Similar finding was reported by Rasoulinezhad [45] who explored the positive relationship between knowledge management and organizational performance in 90 commercial banks of Iran.

CONCLUSION

In Nepalese context, knowledge management is still being considered as a new phenomenon. Unfortunately, the interpretation of this term is often confused with the introduction of information technology as a solution to capture and disseminate knowledge. This study provides empirical evidence of the relationship between KM and financial and market performance in Nepalese financial sector and helps organizations understand different dimensions of knowledge management. The current study provides valuable information to the planners, policy makers and practitioner of banking and financial sector for accelerating performance level by adopting knowledge management practices. It also provides evidence of the importance of effective knowledge management; hence, managers and practitioners should consider programs to accelerate the three components knowledge management practices, i.e., knowledge obtaining, knowledge organizing and knowledge applying since a firm that does it effectively would be more competitive

and successful. In conclusion, this study shows that knowledge management as a practice and could be the most influencing strategy in banking and financial sector of Nepal in near future and implies that KM is positively related to financial performance of an organization which is in line with findings of the majority of the researches in this field.

However, this study is a cross-sectional research study in which data were collected at a particular time-frame, so variables and analysis is restricted to that particular time. This study is only limited to financial sector of Nepal. Further studies may focus on other sectors, e.g. tourism, education, manufacturing and so on in different geographical, cultural and economic settings. Therefore, given the importance of knowledge-based societies, we expect that a stream of research will emerge which will provide further confirmation of the results obtained in this study and identify other antecedents and consequences of effective KM in every sector of Nepalese organizations. Finally, the relationship between degrees of KM implementation and corresponding increment in financial and market results of an organization could be discovered by future researchers.

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