Knowledge Management – An Empirical Study with Special Reference to Business Schools of Pune Region

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Abstract

Purpose: The purpose of this paper was to investigate knowledge management initiatives and study the factors those have an impact on knowledge management initiatives in business school. Design/Methodology/Approach: To explore business school opinions about knowledge management total of 38 declarative statements were presented to teaching and non-teaching staff members. These were measured on 5 point likert scale. Exploratory factor analysis was used to reduce 38 statements to manageable size. Multiple linear regression analysis was used to show that identified factors positively impact the knowledge management in business schools. Findings: The factors that contribute to the knowledge management in business schools are top management initiatives, organizational culture, ICT adoption and Employee participation. Practical Implications: Business schools are facilitating Industry problem solving. Implementing knowledge management initiatives, business school can trigger and encourage creativity among the staff members for continuous development across business schools. Industry and academic partnership for business development is evident. Originality/Value: The quantum of research into knowledge management implemented in the business school is deficient. The significant contribution of this paper is that it provides a basis for conceptualizing a model of knowledge management in business school.

Keywords: Business School, Factor Analysis, Knowledge Management, Model

1. Introduction

Management professionals are facing unprecedented growth, technological challenges and advancements in the global markets. Quality business education systems are required not only for basic teaching and learning but also to impart knowledge and wisdom to cope with rapid changes in the business environment. Information technology based tools for day to day operations, curriculum revision to upgrade knowledge contents, performance appraisals of their teaching and non teaching staff and administrations has lead to paradigm shift in business schools. In order to ensure increase in productivity, income and employment, Education is at the core foundation1. New business management courses with new modes of delivery have to be devised to develop management capabilities. Knowledge management enables learning from its dynamic situations and to incorporate knowledge into the business processes. Labor, land, financial capital are surely required resources for business with strong focus on information and knowledge. Age of the knowledge economy needs the employees with the superior skill sets and education. Public institutions were upgraded and the curriculum was revised to upgrade the educational contents and integrate new up-and-coming technologies. The major challenge of the knowledge-based economy is to cultivate novelty and originality. Pune city is known as “The Oxford of east” having students across the world. Pune city is a major education hub with 9 deemed universities and almost 400 affiliated

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colleges to Pune University. Thousands of students come to Pune city for higher education as Pune offers excellent job opportunities in various industrial sectors. Researcher investigates the changing environment of the business schools, knowledge transfer, creation and evolving issues in knowledge management in Pune city. The literature on knowledge identification and sharing in the business school framework is examined.

In this paper researcher aims to study the knowledge management initiatives that are implemented in business schools and factors that impact the execution of knowledge management initiatives. The paper is organized as follows: In section 1 author identifies four factors that are important for knowledge management in business schools; section 2 explores the knowledge management initiatives; in section 3 the researcher attempts to understand how the management, organizational culture, ICT adoption, and Employee participation which are independent variables, explain the variability of the dependent variable i.e., knowledge management in business school; in section 4 researcher concludes by suggesting the various pathways to knowledge management implementation in the business school.

In his research in² found that 83% of their respondents were well verse to use information and communication tools. In his study in³ proposed a conceptual model which consisted of factors that impacted higher education learning. The factors identified were: Usage of ICT tools, safety measures, hardware and software requirement, general student code of conduct, information and communication system, maintenance and confidentiality.

Author in⁴ uses case study method to examine how organizational culture influences knowledge management initiatives. Researcher points out that Organization Culture emphasizes individual, hence Organization culture influences Knowledge Management initiatives as well. Individualistic culture inhibits knowledge sharing and ownership, while a co-operative culture enables the creation of virtual communities. However the researcher has not discovered how Information technology impacts Knowledge Management Initiatives.

Author in⁵ studied different types of knowledge management initiatives. The researcher had suggested effective ways to translate the institution’s ongoing experience into knowledge. Researcher pointed that the Tacit knowledge of the employee should be turned it into a corporate asset using Knowledge management initiatives. He also stated that Knowledge Management initiatives should depend on business objectives of the organization since this can get competitive edge over the rivals.

Author in⁶ recognized the significant factors and top practices of knowledge management by analyzing the experiences of many enterprises. The author stressed on knowledge access and exchange through information and communication technology employment. Researcher revealed that organizational culture also has a strong impact on knowledge management initiatives.

The researcher has not mentioned about the Employee involvement for successful implementation of Knowledge management initiatives. The researcher mentioned that successful knowledge management is constituted by ten percent Information and communication technology systems and ninety percent organization culture and people.

Author in⁷ researched that knowledge dissemination is integral for the success of knowledge management initiatives. He found that knowledge sharing depends on customs emphasizing trust, open communication, support from superiors and innovation. The author has stressed on the impact of organization culture and other personnel practices on successful implementation of knowledge management initiatives. However he has on stressed on the importance of information technology.

Author in⁸ in his research paper found that the biotechnology industry which clearly knew the difference between data, information and knowledge was able to innovate and introduce new products in markets. Author also conducted qualitative study to find out that most of the Engineering companies strive to put into practice knowledge culture, however they are not practicing knowledge based marketing. Knowledge components are not integrated or coordinated due to which the knowledge management initiatives do not bring overall organizational effectiveness. Thus the author has tried to relate knowledge management to the organization effectiveness.

Griffith University School of Management and BML consulting³ developed that the organization does not demonstrate a relationship between reaching organizational goals and the significance of knowledge management. The report highlights that knowledge management having processes and tools associated, brings some advantage to the business. However there are some technological and cultural issues yet to be conquered.

Author in⁹ emphasized that the management initiatives should be transparent and flexible to allow creativity among employees. System should have necessary discipline and formal procedures to guarantee the tangible
outcomes. Bureaucracy and official procedures tend to restrain the naturalness, experimentation and liberty of expression essential to provide innovative responses to environmental changes. Author in\textsuperscript{11} mentioned employees need freedom to interpret information and motivated to look for knowledge, be innovative and creative which can materialize in a controlled systemic framework.

According to\textsuperscript{12} information communication technology facilitates faster and cheaper data sources also information exchange for organizations due to which knowledge can be captured, generated, shared and stored. Information and communication technology and tools have been the major contributor towards knowledge management initiatives\textsuperscript{13–15}. There are many challenges for ICT implementation such as huge infrastructure requirements, obsolesce of technology and high cost for maintenance.

In\textsuperscript{16} highlighted that trust and collaboration enhance the readiness to share knowledge and expertise, however individual power and competition is not desirable towards knowledge sharing. Author in\textsuperscript{17} mentioned that knowledge creation depends on organizational cultures, group effort and learning. According to\textsuperscript{18} when there are collaborations in organizations, reliance and trust are essential for knowledge sharing, learning and innovation.

Author in\textsuperscript{19} highlighted that employee participated as a part of communities because they wanted to belong to and uphold a professional community they valued to stay up-to-date with current knowledge. Associations among employees are often dynamic and spontaneous made to solve a particular problem or collaborations are made to get benefit of each other’s knowledge. Employee participations lead to professional meetings.

Author in\textsuperscript{20} argued that knowledge sharing in business schools is very poor. He mentioned that, teachers in business schools have small time to come together to discuss ideas to improve their teaching, having cultures that discourage sharing. Business schools got to be transparent to collect, store and access knowledge. Author in\textsuperscript{21} added that teachers have additional administrative tasks to perform apart from teaching.

2. Operational Definition

Knowledge management is right knowledge to the right person at the right time in a right form at right cost.

3. Conceptual Model

It is proposed to study the following conceptual model in this paper (Figure 1). It is probed how four variables i.e., Management initiatives, Organization culture, Employee participation and Information and communication technology infrastructure have impact on Knowledge Management initiatives in business schools of Pune city.

4. Research Objectives

Business schools need to focus on interactions knowledge identification, knowledge creation and sharing knowledge among all the teaching and non-teaching staff to be successful in this competitive environment.

Thus the Objective of the Study is:

- To explore the knowledge management initiatives in the business schools of Pune city.
- To study the factors those have an impact on knowledge management initiatives of business schools in Pune city.

4.1 Hypothesis of the Study

H\textsubscript{1}: There is a significant impact of Management initiatives on the Knowledge management initiatives in business schools.

H\textsubscript{2}: There is a significant impact of Organization Culture on the Knowledge management initiatives in business schools.

H\textsubscript{3}: There is a significant impact of Employee participation on the Knowledge management initiatives in business schools.
H4: There is a significant impact of Information and communication technology on the Knowledge management initiatives in business schools.

5. Research Methodology

5.1 Research Design
In this study descriptive research design was followed to explore the knowledge management factors and their impacts on knowledge management initiatives in business schools of Pune city.

5.2 Data Collection
In the present research both primary and secondary data has been used. The secondary data like knowledge management research report – India has been used to find out if top corporate companies had knowledge management programs. The secondary data had also been used to find various Knowledge management initiatives and their benefits. Primary data is collected through Survey method. The instrument used for the present study to determine the impacts on knowledge management initiatives is a structured questionnaire.

5.3 Research Instrument
Researcher developed a questionnaire which was determined through literature review. There are 38 dimensions developed to measure knowledge management initiatives. All these variables are measured using Interval scale i.e., 5 point likert scale.

5.4 Sample Design
Population of the study comprises of teaching and non-teaching staff members from the business schools in Pune city. The staff members of business school are the beneficiaries of various knowledge management programs.

5.5 Sample Size
A sample of 332 respondents from different business schools of Pune were selected on the basis of non-probabilistic Convenience sampling as it well suits the descriptive research to study respondents specifically from management colleges. After scrutiny of filled questionnaire 312 were found to be fit for the analysis.

6. Data Analysis and Results
K-S test, Cronbach alpha test, exploratory factor analysis and multiple linear Regression Analysis Techniques were used to analyze the primary data collected.

6.1 K-S Test to Check the Normal Distribution of Measured Variables
The Significance value for Knowledge Management initiatives, Management, Organization culture, Employee participation and Information and communication technology is > 0.05 thus all the values are normally distributed.

6.2 Exploratory Factor Analysis
Factors contributing to the knowledge management initiatives in business school were explored using multi-

| Table 1. K-S test for normality |
|--------------------------------|
| K-S test for Normality          | Significance Level |
| Knowledge management mean       | 0.682              |
| ManagementInitiatives mean      | 0.714              |
| organization culture mean       | 0.652              |
| Employee participation mean     | 0.658              |
| IT and communication mean       | 0.732              |

| Table 2. KMO and bartlett’s test |
|----------------------------------|
| Kmo and Bartlett’s Test          |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.658 |
| Bartlett’s Test of Sphericity     | Approx. Chi-Square 7748 |
| Sig.                              | 0 |

Kaiser-Meyer-Olkin measure of sampling adequacy was calculated to 0.658> 0.5.
Table 3. Factor loading results

| Management Initiatives factor loading results | Collaborates with Industries for knowledge transfer. | 0.628 |
|---------------------------------------------|--------------------------------------------------|-------|
| Higher management motivates their employees to upgrade their knowledge internally and externally. | Cognitive abilities, Problem solving abilities and creative tactics are encouraged. | 0.586 |
| Top management supports their subordinates to manage knowledge. | | |
| Business school organizes training program for staff development. | ICT implementations | |
| Business school reallocates its resource and undertakes new activities when facing any problems. | ICT can facilitate knowledge transfer and knowledge sharing across individuals and schools | 0.532 |
| If school’s management is bureaucratic, it is difficult to manage knowledge. | Provide staff with more up-to-date information. | 0.646 |
| **Organizational Culture (OC) factor loading results** | Intranets, e-mail, video conferencing used for collaboration. | 0.793 |
| Employees believe that business school is a learning organization. | ICT systems can be replaced/upgraded according to changing technologies and market dynamics. | 0.648 |
| People are ready to share their knowledge with colleagues. | ICT systems available to store, search and share organization information. | 0.624 |
| Our business school learns from best practice from other schools. | Usage of ICT saves a great amount of time. | 0.432 |
| Our business school shares its information and knowledge with industries and other schools. | Geographical barriers and time constraints can be overcome by ICT employment. | 0.582 |
| People are reluctant to share knowledge because it is considered as a personal asset. | All information and records are kept in the electronic databases | 0.843 |
| Individuals discuss their problems openly to do things in a different way. | All information and records are easily accessible to all staff | 0.702 |
| There is cooperation and collaboration among teams willing to seek new solutions. | Technical orientation given during induction and regular trainings. | 0.678 |
| Knowledge is a source of personal empowerment rather than as an organizational resource to be shared. | Employees participation | |
| Project teams are acknowledged by the organization for their achievements. | People have social discussions when they want to generate new knowledge. | 0.494 |
| Project teams give feedback to management when they are unable to find solutions. | Most knowledge is created through group activities/discussion, teamwork, project | 0.562 |
| Organization has adopted knowledge management initiatives to share knowledge about customers. | People apply trial and error when dealing with new ideas. | 0.536 |
| Organization has adopted knowledge management initiatives to share knowledge among employees. | People exchange ideas and views through informal discussion. | 0.504 |
| Organization has trainings on latest trends in the industry. | Friends are ready to share and contribute to new ideas. | 0.671 |
| | Mentoring is a way of sharing knowledge among staff in this school. | 0.708 |
| | People exchange ideas and views through formal discussions. | 0.512 |
| | Employees participate in cross functional teams to think creatively. | 0.763 |
Factor analysis was the multivariate method used for data reduction purposes. Researcher used Principal component method to calculate initial factor loadings. Factors with eigen values above 1.0 were chosen to be in the model. The next step in the process is to calculate factor loadings, presenting the significance of each variable within the factor category. The most common orthogonal method was called varimax rotation; was used. 4 components extracted from 38 points.

6.3 Cronbach Alpha Reliability Measure
The reliability test was conducted on the questionnaire designed to elucidate good reliable responses from the respondents.

Cronbach’s Alpha reliability for management, organization culture, ICT adoption and employee participation greater than 0.6 was established. The results indicate that the questionnaire developed is reliable.

7. Multiple Regression Analysis
Multiple Linear Regression technique was used to predict the value of dependant variable knowledge management based on the value of four independent variables i.e., management, organizational culture, ICT implementation and employee participation.

How well a regression model fits the data is shown by Table 5 which provides the R, Rsquare, adjusted Rsquare, and the standard error of the estimate.

The “R” multiple correlation coefficient is gauge of the eminence of the prediction of the dependent variable; in this case, Knowledge management initiative in business schools. R value of 0.795 indicates the prediction level to be good.

The “R Square” called the coefficient of determination, which is the proportion of variance in the dependent variable that can be explained by the independent vari-

| Table 4. Cronbach alpha test for reliability |
| Variables | Cronbach’s Alpha | No. of Items |
| Management | 0.677 | 5 |
| organization culture | 0.653 | 15 |
| Employee participation | 0.626 | 10 |
| IT and communication | 0.644 | 8 |

| Table 5. Model summary |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-----|----------|-------------------|--------------------------|
| 1     | .795a | .632     | .608              | .496                     |

| Table 6. ANOVAb table |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
|-------|----------------|----|-------------|---|------|
| Regression | Regression | 19 | .853 | 35.46 | 0.18 |
| Regression | Regression | 132 | .246 | | |
| Total | 6.989 | 151 | | | |

| Table 7. Estimated model coefficients |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|---------------------------|---|------|
| 1     | B | Std. Error | Beta | |
| (Constant) | 2.470 | .926 | .2591 | .016 |
| Management | .679 | .427 | .770 | 1.489 | .012 |
| Organization culture | .312 | .548 | .270 | 0.569 | .026 |
| ICT adoption | .287q | .162 | .125 | 1.773 | .032 |
| Employee participation | .129 | .142 | .107 | .908 | .044 |
ables. The independent variables management initiatives, organizational culture, ICT adoption and employee participation explain 63.2% of the variability of the knowledge management initiatives in business schools.

7.1 Statistical Significance

The $F$-ratio in the ANOVA table

The Table 6 shows that the regression i.e., the predictability of this model is 0.853 while the residual i.e., the error is 0.246. The F value is significant at 0.028 i.e., $p < .05$ (i.e., the regression model proposed by the researcher is a good).

- The $t$ value of management for fostering knowledge management is significant at 5% hence there is a significant impact of management initiatives for fostering knowledge management in the business schools.
- The $t$ value of organization culture for fostering knowledge management is significant at 5% hence there is significant impact of organization culture to initiate knowledge management in the business schools.
- The $t$ value of ICT adoption conducive to knowledge management is significant at 5% hence there is significant impact of Information and communication technology adoption conducive to knowledge management in the business schools.
- The $t$ value of Employee participation progressive towards knowledge management is significant at 5% hence there is significant impact of Employee participation towards knowledge management in business schools.

7.2 Durbin Watson test

The independence of observations i.e., independence of residuals is established by Durbin Watson statistics which is 2.224.

8. Findings and Discussion

- As per the Table 5, the “R Square” the coefficient of determination, is the proportion of variance in the dependent variable that can be explained by the independent variables. In this study independent variables explains 63.2% of the variability of our dependent variable, knowledge management in business schools.
- The F value in the Table 6 is significant at 0.018 the regression model proposed by the researcher is a good fit of the data.
- Management, Organizational culture, ICT adoption and employee participation were found to be positively impacting the knowledge management in business schools.
- Table 7 shows Coefficient values with the information on each independent or the predictor variable. The coefficient for Management, Organizational culture, ICT adoption and employee participation is significant at 0.05; hence we reject the null hypothesis and accept the alternate hypothesis.
- Table 4 shows high scores on the knowledge management factors examined through exploratory factor analysis.
- Management initiatives for fostering knowledge management in the business school include motivation, support subordinates, training program to upgrade employees, dynamic reallocation of resources as per the needs and no bureaucracy.
- Organization culture was the major factor for fostering knowledge management in the business schools. Business school should be learning organization where sharing of knowledge between all the stakeholders is essential. Openness, Feedback mechanism acknowledgement for achievements, Co-operation and collaboration among stakeholders is essential.
- ICT implementation enables knowledge transfer and sharing among stakeholders.
- Employees participate in cross functional teams to exchange ideas which help them think creatively.
- The results arrived at by the researcher can also be due to the small sample size. Also the response given by the respondents were not given accurately and spontaneously.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|---|----------|-------------------|---------------------------|---------------|
| Le 1  | .795a | .632 | .608 | .496 | 2.224 |

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9. Practical /Managerial Implications

- Business schools should direct, distribute, and generate relevant knowledge assets that will help meet strategic requirements.
- It has been found from the study that out of three predictor/ independent variables which impact knowledge management initiatives in the management education institutes should focus on Organization culture.
- Organization should emphasize on collaboration to make vital communities of interest, wherein individuals feel a sense of belonging.
- Management has to create an environment of learning and Knowledge sharing in which employees volunteer their expertise.
- Extreme supervisory control should be avoided so that the stakeholders have more self control and are having autonomy in making decisions.

10. Conclusions

- Business schools are required to utilize Information and communication technology assets and networks more successfully to garner higher advantages from their investments. Thus business schools can quickly achieve its target objectives.
- Knowledge management initiatives are intended towards managing the interactions among college stake holders better. This leads to assimilation of all personnel involved, all the administrative and academic processes and the technological developments. Knowledge Management engages individual in sharing knowledge. Thus the Organization culture and Employee participation can have great positive impact on the Knowledge management initiatives.
- To put together and extend a strong knowledge environment in business schools, the schools have to develop the overall organizational culture of socialization, externalization, combination and internalization of tacit and explicit knowledge.

11. Future Research

The finding from this research is limited due to small scale study. A large scale study which can include more stakeholders from the management education institutes can provide more representative findings. Another factor which can be studied is about how organizational cultures evolve and what role information technology takes in this evolution. Also in further study researcher would like to study more factors which are known to be enablers of Knowledge Management like: Leadership, Knowledge champions, such as Chief Knowledge Officers, Access and Learning Culture.

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