

Integrating Technology-Driven Knowledge Management with Organizational Strategy: A Study of a Public Sector Bank in India

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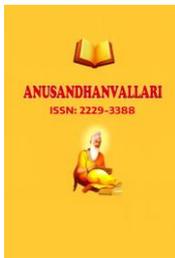
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Abstract: In the age of knowledge-driven economy, knowledge management (KM) through the application of sophisticated technologies has become a very significant strategic asset in organisations more so in the banking industry. Despite playing a key role in the financial inclusion and economic development of the country, the public sector banks of India are characterized with obstacles related to the legacy systems, the inability of the procedures to be dynamic, and the competitiveness through the appearance of the private and fintech institutions. The present paper represents the discussion of the application of technology based knowledge management systems, and positive organizational strategy within one of the chosen state owned banks in India. The article investigates how digital tools such as intranet portals, data analytics tools, artificial intelligence-based decision support system, and knowledge repositories can help align strategies, drive operational effectiveness and organizational performance. According to the descriptive and analytical research design, primary data has been collected with the help of structured questionnaires among the bank employees both at the managerial and operational level and further enhanced with secondary data of the policy documents and annual report. The statistical models employed in the establishment of the relationship between the practices of technology enabled KM and the results of strategic processes entailed descriptive analysis, correlation, and regression. The obtained results have reflected that technology-based knowledge management is highly positively correlated with the strategic performance in terms of quality in decision-making, service delivery, the capacity to innovate and building the competence of employees. The paper restates the necessity that the public sector banks need to take into consideration the use of KM initiatives as part of their strategy to remain competitive and more sustainable in the long term. The research can inform the policy makers and bank managers on how to develop strong digital KM infrastructures, as well as foster knowledge-based and organizational culture.

Keywords - Technology-Driven Knowledge Management; Organizational Strategy; Public Sector Banks; Digital Transformation; Strategic Alignment; Indian Banking Sector; Knowledge Sharing

Introduction

The Indian banking industry has undergone a radical change in the past two decades because of the rapidly changing technology, regulation as well as competition. The public sector banks (PSBs), which are the supporting pillars of Indian financial system, play a crucial role towards mobilization of savings, provision of credit to the priority sectors and promoting inclusive economic growth. The agile digital space, and the growing client demands and rivalry of PSBs by privately and fintech-driven organizations have, however, led the latter to restructure their traditional operations and global strategy. In this context, knowledge has turned out to be an important resource of organizations and the ability to develop, store, communicate and utilize knowledge in a successful manner has become the high profile of sustained competitive advantage. Knowledge management (KM), particularly the present introduction of modern technologies means that it is increasingly a strategic requirement rather than an administrative or support role.



The activities of knowledge management in the banking industry are wide spread in that they encompass customer information management, risk and compliance information knowledge, operational best practices and employee expertise. The hierarchical structure and the branches in different geographical locations; not only is it perceived hard to seize the tacit and explicit knowledge, KM initiatives are to be aligned to the organizational strategies in the case of the public sector banks where level of workforce is often one of the defining elements. Previously, the decision-making and other processes of most PSBs were mostly experience-based and manual consolidation making them significant silos of knowledge and very little inter-functional learning occurred. Absence of formal KM systems has tended to restrain innovativeness, delay in decision making and responsiveness to market dynamics. The introduction of the digital technologies, however, has given the banks unprecedented opportunities to introduce KM systems into their strategic architecture.

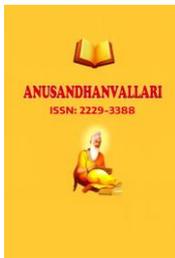
Knowledge management is an IT-based activity, and it employs digital technologies, such as enterprise knowledge portals, enterprise intranets, data warehouses, artificial intelligence, machine learning, and analytics platforms to enable knowledge to be more accessible and usable. Such technologies have the potential to enable banks to accumulate on massive data into actionable information, make real-time judgments and learn within an organization. In the Indian scenario, the public sector banking industry some of the initiatives that have given the context on more structured KM practices, would be core banking solutions, digital dashboards, customer relationship management systems (centralized), and e-learning platforms. Under appropriate alignment, such systems can be used to support the eminent organizational objectives like the improvement of service quality, reduction of risks, the efficiency of operations, and innovativeness in the design of products and processes.

The organizational strategy presents overall orientation on how the resources, capabilities and competencies will be mobilized to achieve long-term goals. A combination of KM based on technology and organizational strategy is supposed to ensure that knowledge initiatives are not pursued in empty air but rather are strictly related to any strategic priority (digital transformation, financial inclusion, customer centricity and regulatory compliance). KM strategic alignment is highly relevant to the banks in the public sector as they have dual mandate of being commercially viable as well as being socially economically responsible. Good integration will facilitate the banks to leverage on institutional knowledge in developing inclusive products, managing its non-performing assets, strengthen its governance processes and enhancing productivity among its employees. Moreover, the strategically aligned KM system provides an idea sharing and lifelong learning culture which is essential in adapting to change of policy and technological disruption.

Despite the importance of the importance of knowledge management, there has been scant empirical studies done on strategic implementation of technology-based KM into the Indian bank system in the public sector. To a large degree, the literature which is currently at hand has addressed the provisions of either private banks or has examined KM as a technological or human resource matter in-se isolation. It requires the context-dependent studies of the relation between KM system, which is advanced by digital technologies, and the organizational strategy that predetermines the performance initiative in PSBs. It is the relationship that the policymakers, bank executives and regulators should fully grasp as they modernise the public sector banking sector without abolishing its role in ensuring development. On this basis, the present study is interested in investigating the knowledge management of technology applied in the organization strategy of a selected public sector bank in India with the objective of establishing the effectiveness of strategic performance, and organization performance.

Literature Review

Knowledge management (KM) has also been widely viewed as a strategic management practice that could ensure that the organizations can use intellectual capital in a manner that will remain competitive. The first theoretical work by Mastensson (2000) provided the critical evaluation of knowledge management and it was indicated that KM is supposed to be discussed as the complicated method to control people, processes, and organizational



culture. The research paper observed that ineffective execution of KM initiatives relating to organizational objectives normally lead to ineffective outcomes. Such a background perception is very relevant particularly in intricate and bureaucratic organisations such as those within the banking system of the public sector where KM implementation is normally met with structural and cultural challenges.

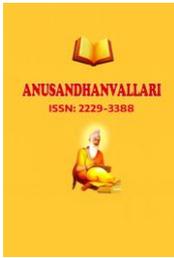
In this study, Sudharani, Rao and Kumar (2014) used the case study of the ICICI Bank in examining the effects of knowledge management in stimulating the decennial growth in the banking sector in India. They found out that a structured utilization of KM systems, empowered by technological infrastructure foundation (centralized databases, intranet systems and training ports) was a key factor in enhancing the efficiency in private banking industry operations, innovations and further development in this sector. The importance of integrating KM initiatives and long-term strategic planning was noted in the paper as an attempt to enhance the performance of an organization. However, the same narrow scope of the study that touches on a private sector bank limits the extension of the findings to a public sector bank that does not operate within the same institutional and regulatory framework.

Moving on about the banking sector in India, Prasad et al. (2018) also talked about the role of knowledge management in the banking industry of both government and the privates with references to State Bank of India (SBI), and ICICI Bank. The researchers demonstrated that KM practices could lead to the positive influence in the quality of the services, efficacy of decision making process and staff performance. It further noted that the private sector banks had more mature and enhanced technologically KM System compared to the public sector banks. The authors attributed this gap through slower pace of transition to technologies, lack of strategic flexibility and resistance to change of institutions of the public sector. This relative note unveils the strategic compulsion of developing stronger technology-oriented KM systems by the government banks to remain competitive.

Ahead of the international perspective, Apriliadi and Adman (2019) took up the impact that the knowledge management had on performance of the small and medium businesses in Bandung. Although the study has been done on the level of SME, the results can be generalized to the banking organization as it has established empirically that the process of knowledge acquisition, sharing, and application of KM positively influence organizational performance in a meaningful way. The paper has identified the intervention role of technology in facilitating the flow of knowledge and the responsiveness of the organization. This helps advance the argument that technology is an undertaking that should be used in KM to propel performance in any given industry, which is the banking unit.

Shawawke, Alqaied, and Jaradat (2019) studied the impact of knowledge management components on the employee performance of commercial banks in Jordan. During their study, they established a great positive correlation between KM practices and the productivity of their employees, their job satisfaction, and impressiveness in service delivery. The authors were clear that e-KM tools such as electronic repositories of knowledge and decision support system played a significant role in enhancing the competence of the employees and reducing operational mistakes. Though it was conducted in a different geographical area, the study presents relevant information on how far the KM systems that are based on technology can facilitate the performance of human capital in banking institutions.

In particular, Lartey et al. (2019) investigated the issues of knowledge management in India taking into account the role of the people sector. The study could expose several challenges within the entire public sector organization, including the lack of adequate technological infrastructures, weak will of the top management, bad culture of knowledge sharing and application of knowledge integration between the knowledge management and organizational strategy. The authors could assume that without embedding KM initiatives into the strategic decision-making processes it would be difficult to realize the potential of the organizational culture of the public



sector. This work can be particularly applied to the situation in the public sector banks as this study exposes the systemic barriers between the successful KM implementation.

Khoualdi and Binibrahim (2019) have conducted a study on the field of knowledge management in the banking sector of Jeddah, Saudi Arabia and its impact on the competitive advantage. In their findings, the authors concluded that banks who effectively adopted KM systems in line with the strategic objective achieved an improved innovative capacity and customer satisfaction and achievement in the market. The literature review has been used to note that the knowledge resource management to strategic results has to be improved in terms of using technologies such as data analytics and knowledge-sharing software. This cement the point of view that KM must be strategic oriented in order to be able to deliver tangible organizational benefits.

In the course of the literature analysis, there will be a general consensus that knowledge management, particularly with the help of the digital technologies, plays an enormous positive role in the organizational performance, staff effectiveness and competitive advantage of the banking industry. There also however, exist gaps that can be seen in the literature, especially involving the banks of the public sector in India. Although there are few conducted studies on the subject of private banks or international setting, there is scanty empirical researches on how technology based KM systems are being incorporated strategically by public sector banks in India. In addition, the existing literature has a tendency of observing KM on selective lenses like the technological perspective, the human resource perspective or on performance based perspective without adequately revealing how KM fits in the organizations strategy. The above gap is a sufficient reason to justify the existence of the current study that is expected to examine the strategic implementation of technology based knowledge management among the employees of a bank which is operating in the publicly sector in India and assess the performance and effectiveness of this strategy on strategic performance.

Objectives of the Study

1. To examine the existing knowledge management practices in the selected public sector bank.
2. To assess the extent of technology adoption in knowledge management systems.
3. To analyze the alignment between technology-driven knowledge management and organizational strategy.

Hypothesis

H₀ (Null Hypothesis): There is no significant alignment between technology-driven knowledge management and organizational strategy in the selected public sector bank.

H₁ (Alternative Hypothesis): There is a significant alignment between technology-driven knowledge management and organizational strategy in the selected public sector bank.

Research methodology

The type of research design that will be employed in the current study is the descriptive and analytical research design in the study that aims to establish the consistency between technology-based knowledge management and organizational strategy in a selected Indian government-owned bank within the public sector. Primary and secondary data were employed in order to have a comprehensive coverage of analysis. The primary data collection options were structured questionnaire which was distributed among the employees at the managerial, supervisory and operational levels to facilitate sufficient representation at the departmental and hierarchy levels. The questionnaire was modelled in a Likert five point scale in order to identify elements of technology-based knowledge management, strategy of an organization and perceived organizational performance. The sub-primary data gathering was done according to annual reports, in-house policy guidelines, RBI guidelines and published research work on the subject of knowledge management and banking etc. The data obtained were coded and

analyzed with the assistance of the statistical techniques such as descriptive statistics to characterize the characteristics of the respondents and the inferential techniques such as correlation and regression analysis to support the formulated hypothesis and examine whether the relationships between variables existed or not. In order to establish the reliability of the instrument the pilot test and expert review established the Cronbach alpha, and the instrument validity. The findings were drawn to meaningful conclusions based on the conclusion that the findings made regarding the strategy of integrating technology based knowledge management where it is utilized in application to the setting of public sector banking.

Table: Descriptive Statistics of Technology-Driven Knowledge Management and Organizational Strategy Alignment

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Knowledge Acquisition through Technology	150	2.00	5.00	3.84	0.67
Knowledge Storage and Retrieval Systems	150	2.00	5.00	3.78	0.71
Knowledge Sharing via Digital Platforms	150	1.00	5.00	3.69	0.75
Technology Support for Decision Making	150	2.00	5.00	3.92	0.64
Strategic Use of Knowledge Resources	150	2.00	5.00	3.88	0.66
Alignment of KM Initiatives with Organizational Strategy	150	2.00	5.00	3.81	0.69
Overall Technology-Driven KM and Strategy Alignment	150	2.17	4.92	3.82	0.62

The table reflecting the descriptive statistics suggest rather an optimistic picture of the employees in the field of the correspondence between technology-driven knowledge management and the organization strategy in the selected public sector bank. The mean of the all the distinct dimensions above the midway point of Likert scale which is five points is subject to the interpretation that the respondents to a significant extent are of the view that the technological tools are effectively maintaining the knowledge-based activities, and also strategic objectives. The greatest mean was recorded in technology support in decision-making variable (Mean = 3.92, SD = 0.64) which is linked with the trend of greater the reliance on digital systems, analytics, and a centralized information platform in the case of strategic and operational decisions. Similarly, the strategic use of the knowledge resources (Mean = 3.88, SD = 0.66) implies that there is the incremental use of the knowledge that is produced through the course of organizational planning and policy making with the application of technological systems.

The mean values of the knowledge acquisition technology and knowledge storage and retrieval systems are also relatively high (3.84 and 3.78 respectively), which is a manifestation of the usefulness of online tools, such as intranet portals, databases, and learning management systems, to capture and/or retain knowledge in an organization. Knowledge sharing which is online, though characterized with it is has a relatively lower mean score (Mean = 3.69, SD = 0.75) which means that there is still need to facilitate the process of making knowledge flow between the departments and levels. The overall approach of technology based knowledge management initiatives to the strategy of the organization has a large mean score of 3.81 with a small standard deviation (0.62) indicating that the staff concurs.

All these findings on the balance confirm the alternative H (H₁) hypothesis that there is strong fit between technology based knowledge management and organizational strategy in the selected public sector bank. Based

on the findings, it is possible to propose that although the bank has taken successful steps toward the integration of technology-enabled KM systems into the connection to strategic purpose, knowledge-sharing practices and organizational culture can be further reinforced with the help of increasing the strength of the knowledge systems and their influence on the strategic purpose.

Table: Simple Linear Regression Analysis between Technology-Driven Knowledge Management and Organizational Strategy

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.642	0.412	0.408	0.481

ANOVA

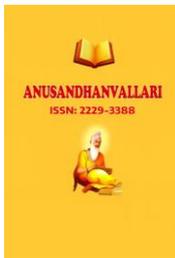
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	24.316	1	24.316	105.247	0.000
Residual	34.732	148	0.235		
Total	59.048	149			

Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	1.214	0.271	—	4.479	0.000
Technology-Driven Knowledge Management	0.684	0.067	0.642	10.259	0.000

The results of the simple line regression analysis are showing that the relationship between the technology-driven knowledge management and the organization strategy in the choice public sector bank is good and statistically significant. The model summary reveals that the coefficient (R) of correlation between the independent and dependent variables is significant (positive) which is 0.642. The value of R-square, 0.412 suggests that technology driven practices of the knowledge management could be as explanatory about 41.2 per cent of the variation in the organizational strategy meaning the expositional ability of the model. The quality and the strength of the regression model are also proven by the number 0.408 of the adjusted R squared.

The ANOVA results depict that the regression model is significant in the sense that the value of F is 105.247 and the value of F at the significance level indicates a value that is less than the significance level of 0.05 ($p < 0.05$). This indicates that the whole model is always useful in forecasting organizational strategy through technology driven knowledge management. As the coefficients table illustrates, technology-based knowledge management results in additional and effective impact on the corporate strategy and the un-standardized coefficient (B) of



knowledge management (0.684) and the standardized (B) of 0.642. The strength of this relationship is also the fact that the t-value (10.259) of the relationship and the level of significance (0.000) of the correlation are quite high.

To conclude, the outcomes of the regression can be considered as positive empirical evidence to affirm the alternative hypothesis (H1) according to which the consistency between the technology-oriented organizational strategy and knowledge management is high in the selected public sector bank. Its results indicate that the strategic clarity, strategic alignment, or strategic implementation are affected positively by the improvement of technology-based KM systems, which confirms the idea of the strategic value of the knowledge management in public banking institutions.

Overall Conclusion

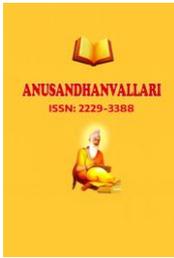
According to the current research, the task of knowledge management enabled by robotics plays a significant and operational purpose in aligning the operations and objectives of the organization to the selected banking industry in London. Based on the empirical evidence it is obvious that the introduction of the digital knowledge management systems has had positive influence in terms of strategic alignment, efficiency levels in the decision making process, and overall operations of the organization. Descriptive analysis and inferential analysis indicate that, employees consider technology based knowledge acquisition, storage, distribution and application, to be among the strategic processes in the bank.

The result of the simple linear regression analysis provides a decent statistical evidence to provide the alternative hypothesis with powerful information to allow the analysis to affirm that there is a significant correspondence between technology-driven knowledge management and organizational strategy. Technology based practices in KM elucidate a sizable portion of diversity of the organizational strategy, and this explains why they are categorized as strategic resource rather than a instrument of support mechanism. Even the positive and significant regression coefficients argue out the point that efficient use of technological tools contributes to the levels of strategic clarity, consistency and implementation within the bank.

Among these promising outcomes, the study also reveals the ways to continue to better the given findings, particularly, by making the culture of knowledge sharing more prominent, as well as enhancing the interest of the employees towards digital KM applications. KM initiatives can also be strengthened strategically by addressing the gaps in infrastructures and training activities as well as through the support of the initiatives by the top management. Overall, the study draws attention to the fact that in order to become competitive, versatile and adaptable in the constantly growing more digital marketplace, the technology-intensive knowledge management within the boundaries of the public sector banks needs to be incorporated into the organizational strategy. Its findings are very practical to guide the bank administration, the policymakers and the regulators to develop solutions that can leverage the piece of knowledge towards sustainable organizational performances and a long term growth.

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