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What You See Isn't What You Get: Knowledge Management's Role in Innovation

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ABSTRACT

Firm innovation more and more relies on how well companies control their knowledge resources because information is a key asset in the present day. Companies are thus driven to always grow and use knowledge to keep a competitive advantage by innovation. This study investigates the separate impacts on company innovation of several knowledge management characteristics and offers an integrated approach including both linear and non-linear dynamics—an area that has been underexplored. Using a logical and statistical approach, 437 banking industry employees completed an online survey to provide data. Using Structural Equation Modelling (SEM), one might evaluate quadratic correlations between variables. The study shows that whereas knowledge application follows a U-shaped path, knowledge production shows an inverted U-shaped association with innovative results. On the other hand, information sharing, application, and protection keep straight relationships with innovation; knowledge sharing turns out to be the most important engine. Given that their impacts are not always linear, our results imply that an undue emphasis on particular knowledge management techniques might be harmful. Especially in knowledge-intensive industries, the research offers insightful direction for managers by stressing the importance of deliberate monitoring and strategic change of knowledge management techniques to optimize innovation performance.

1. INTRODUCTION

Largely motivated by the persistent academic agreement that efficient knowledge handling is a vital source of competitive advantage in knowledge-intensive environments, the study of Knowledge Management (KM) has attracted considerable attention in modern management research [1]. After Nonaka's (1994) groundbreaking contributions and its pragmatic use by large companies like Apple, Tata, and Google, who used KM methods to improve company innovation and competitive power [2], interest in KM grew especially. Over time, KM has developed significantly—deepening its theoretical foundations, spreading across several management subfields, and finally asserting itself as a separate subject within management studies.

KM's importance derives not just from its strategic relevance but also from its fundamental contribution to organizational transformation and creativity. Academic debate indicates that without good KM, innovation inside companies either plateaus or is significantly postponed[3]. In the culinary industry, especially in Haute Cuisine, for example, symbolic knowledge that motivates creative ideas among chefs drives the innovation process; synthetic knowledge that connects culinary ideas with scientific input; and analytical knowledge that supports the scientific advancement of new culinary practices[4]. Such cases show that the probability of

successful innovation is greatly improved by good knowledge management [5] . Thus, correctly identifying and controlling the appropriate knowledge assets to propel innovation is a vital issue for companies [6].

Over the last few decades, research at the junction of KM and innovation has grown significantly. While some have concentrated on particular aspects like product innovation performance[7], business model innovation[8] , and the functions of creativity and innovation [9], many others have investigated their interaction [10] . Other questions have looked at innovative management techniques. These studies taken together show that the link between KM and creativity is not only complex but also very dependent on circumstance. Various organizational factors impact different KM dimensions—such as knowledge production, sharing, application, and protection—thereby producing different and often unexpected results in innovation performance.

For example, in [11] the author underscore that innovation culture significantly influences knowledge sharing practices, which depend on factors like structured and authorized spaces, individual willingness to innovate, and the interaction between leadership and social environments. [12] show that whereas knowledge protection promotes incremental innovation, it has no significant impact on radical innovation. [13] show in the banking sector that while information about and of consumers have different effects, customer-derived knowledge improves operational efficiency and innovative capacity. Similarly, [14] study how the transformation of tacit knowledge through socialization, externalization, combination, and internalization processes differentially influences a bank's economic value production. These results highlight the difficulties of KM dynamics and the difficulties involved in generalizing their impact on innovation results.

Notwithstanding the increasing corpus of study, a vital unanswered question remains: how can the many aspects of KM interactively affect creativity while preserving their interrelationships? A more dynamic, non-linear interpretation of these relationships is advocated by scholars including [15], for instance, discovered a U-shaped association between information acquisition and new product innovation, alongside an inverted U-shaped relationship between knowledge distribution and creativity. Moreover, [16] underlined that, while less visible in more organized sectors including finance, emotional and spiritual knowledge nonetheless have a subtle impact on decision-making mechanisms. According to [17] the marginal usefulness of knowledge for innovation declines with ongoing creation and distribution of identical knowledge. In the same vein, [18] underlined that constant use of information in comparable settings diminishes its novelty over time. These revelations highlight the need of a more complex knowledge dynamics knowledge to properly control KM activities and prevent the traps of declining innovation returns. Companies run the risk of underusing KM's full capacity to support innovation without this dynamic viewpoint.

Though studies on KM are still growing, the non-linear interactions between KM components still under-researched. An integrated framework that clarifies how these dimensions—both individually and collectively—affect innovation is obviously needed. The current work fills up this vacuum by providing fresh perspectives on the non-linear behaviors of KM and their effects on innovation.

This study varies from earlier ones in numerous significant respects. First, it questions the conventional wisdom that KM and innovation are connected by simple, linear mechanisms. Rather, it suggests a new interpretation of KM's function inside companies by saying that its impacts on innovation are naturally non-linear. The results show that although KM aspects can still foster innovation, their direct effect is fading, hence stressing the necessity of a more complex knowledge of KM's organizational influence. Second, unlike previous research that frequently looked at separate KM aspects in isolation, this study takes a comprehensive approach. It shows up which aspects need strategic focus and which might need caution by means of the whole KM construct's collective behavior. Seeing KM as an integrated system instead of a collection of separate components uncovers dynamics that standalone study may miss, hence providing a better, more correct knowledge of KM's function in promoting company innovation.

2. LITERATURE REVIEW

Innovation is the application of new ideas or the reconfiguration of current ones to meet developing demands [19] . It is a vital tool for companies to stand apart in competitive environments. Renowned for their creativity, companies like Apple, Sony, and Google stay competitive by always chasing forward-looking ideas, participating in ongoing innovation activities, and changing their value propositions[20]. Diverse theoretical frameworks—including open versus closed innovation paradigms, supply- and demand-driven innovation, and distinctions between product and service innovation—as well as across several analytical levels, from individual users to companies have examined the idea of innovation [21].

A common thread in this body of work is the close link between innovation and knowledge. [22]groundbreaking knowledge management (KM) study claimed that company-level innovation is basically based on the growth and renewal of knowledge bases by means of the synthesis of current information and fresh ideas. This perspective fits with evolutionary economic theory, which holds that when new knowledge is stacked on top of past understandings, innovation arises cumulatively[23]. These points of view taken together emphasize

that innovation mostly stays within the company's control depending on the strategic integration of current and emerging knowledge, therefore placing KM as a key engine of creative results.

Innovation usually show gradually when the integration of new information is intimately linked to a company's existing knowledge structures. Evolving by methodical knowledge management activities, this type of innovation marked by small-scale improvements in technology, functionality, design, or performance. Innovation is seen of as a constant, incremental process improving organizational resilience and agility rather than one that happens naturally. On the other hand, companies are more likely to create radical breakthroughs when they combine information that greatly diverges from their current knowledge bases, hence producing revolutionary ideas that might change their markets [24].

In industries like banking, both incremental and radical types of innovation are essential, appearing across product, process, service, and technology areas. Such developments not only improve the competitive position of particular banks but also provide more general value for society at large and stakeholders [25]. Given the strong competition in the banking sector, this paper focuses on knowledge of product, process, service, and technology innovations since banks have to progress across these areas concurrently to remain competitive—more so than companies in less dynamic industries.

2.1. Knowledge management

A basic idea ingrained in society, knowledge is intimately related to a person's perception of reality, formed by personal experience and educational background [26]. It mostly resides in people's cognitive frames. Viewed through the prism of knowledge management (KM), information is usually classified into two separate types: tacit and explicit. Explicit knowledge consists of information that is formalized and easily conveyed via formal channels including publications and documentation. On the other hand, tacit knowledge is ingrained in personal behaviour, experience, and social settings, hence naturally more challenging to express and convey. Nonaka's groundbreaking theory holds that the connection between tacit and explicit knowledge—via processes of socialisation, externalisation, combination, and internalisation—enables the transformation of individual knowledge into organisational assets.

Knowledge in companies is both in the organisational structure and among individual workers, thereby acting as a key resource for maintaining competitive advantage and promoting innovation (Sang, 2024). Combining tacit and explicit information helps to create synergy, encourages proactive learning settings, and inspires innovative problem-solving skills. Especially in an information-driven economy, the capacity to develop and use a particular organisational knowledge base becomes vital as differences in knowledge resources increasingly shape a company's market position [27].

Defined by academics, KM is the systematic process by which companies acquire, share, use, and retain knowledge to create new capacities enabling ongoing innovation. Notwithstanding much study, agreement on the exact meaning and fundamental KM tasks still elusive. While some academics argue for seeing these actions as separate processes, others suggest that knowledge formation naturally includes both the production and the capture of new knowledge[28]. While this variety enhances theoretical knowledge, it also shatters the conceptual clarity of KM in the literature.

Building on the basic ideas of [29], and more recent contributions, this paper finds four main dimensions of KM: knowledge creation, knowledge sharing, knowledge application, and knowledge protection, viewed through a process-oriented framework. These aspects are the foundation of KM activities, whereby knowledge production starts the cycle and knowledge protection guarantees its ongoingness. The dynamic and cyclical character of KM suggests that the conclusion of one cycle (protection) naturally starts the beginning of another (creation), therefore enabling cumulative innovation growth. Still, KM's effect on company innovation depends on the intensity and character of interactions among its several components.

The scholarly debate on KM and innovation has made clear their intricate, changing interaction. Mostly, empirical research shows these correlations as linear, direct, or mediated. For example, [30]found that KM processes (knowledge production, sharing, and use) and KM infrastructure (including technology, organisational culture, and structure) both favourably affect company innovation results. , meanwhile, showed that improved green innovation skills under green KM methods greatly strengthen companies' sustainable competitive advantages, however, call into question the consistency of these outcomes as they point out that whereas information sharing and application greatly influence green innovation, knowledge generation by itself does not show a substantial influence. These subtle findings imply that not all KM activities equally propel innovation, hence stressing the importance of strategic prioritization in managerial practices.

Much of the current research, however, still presumes a simple, good link between KM and creativity in spite of these revelations. [31] have challenged this presumption, finding that while research activities have grown in several areas, research output has fallen with time, suggesting declining benefits to knowledge management initiatives. Empirical data from [32] supports this complexity even more by showing that knowledge acquisition

and distribution could have non-linear effects on product creativity: namely, a U-shaped correlation for knowledge acquisition and an inverted U-shaped relationship for distribution.

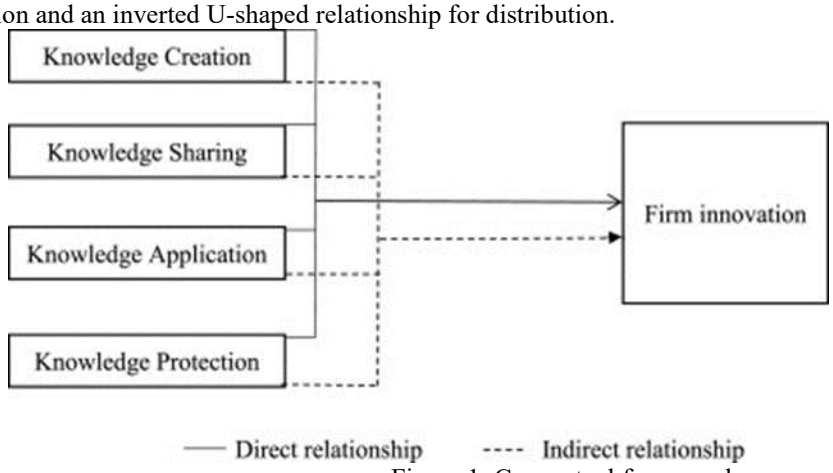

Figure 1. Conceptual framework

Electric vehicle (EV) innovation is a good example of this. EV development was greatly hampered by early information limitations, especially on battery technology. Still, by means of focused knowledge investments by companies like Tesla and Toyota, the sector had a time of fast innovation highlighting the growing returns of KM. But when information saturation took hold, the marginal benefits from more knowledge acquisition started to fall, proving falling returns in spite of ongoing investment.

Ahuja also contended that although early-stage information sharing could result in dramatic breakthroughs, its advantages wane as corporate knowledge homogenisation rises. Chesbrough also claimed that too much dependence on current knowledge reduces originality and so hampers creativity. further underlined the non-linear, iterative character of knowledge application in opportunity-driven sectors as automobile manufacturing, where market complexity drives changing patterns of innovation.

All together, these revelations confirm the dynamic, context-sensitive, non-linear interaction between KM and innovation. Although individual KM activities could have different impacts over time, the behavior of these dimensions within an integrated KM framework remains underexplored, particularly with regard to their cumulative influence on firm-level innovation. The present work fills up this vacuum by suggesting a conceptual framework that reflects the subtle interaction between KM procedures and innovation performance.

2.2. Dimensions of knowledge management

2.2.1. Knowledge creation (KC)

Knowledge creation is the process by which companies gather and produce the knowledge required for application in many settings. Usually, it includes two fundamental tasks: knowledge development and knowledge capture. While knowledge development involves the creation of unique knowledge inside the company, knowledge capture usually relates to the absorption of information from outside contexts. This paper combines both aspects—external acquisition and internal development—under the notion of knowledge generation[33].

In fast changing contexts, generating new knowledge is very important. Companies depending just on current knowledge may find it difficult to meet changing consumer expectations, especially in technology-driven industries, where maintaining innovation depends on more than just copying or straightforward replacement of knowledge resources. External information absorption helps companies to better understand present and future market signals, hence guiding their growth paths and reducing route dependencies. At the same time, internal knowledge growth revitalizes companies' capacities and fortifies their resource foundations, so empowering them to react properly to outside developments [34].

Often, innovation is a reaction to unmet demands and ongoing obstacles. By including both new and old ideas, knowledge creation helps companies to identify industry issues and come with innovative ideas. Therefore, one should expect a link between knowledge generation and innovation.

2.2.2. Knowledge Sharing (KS)

Conceptually, knowledge sharing is the distribution and interchange of ideas, experiences, and skills among organizational members, thereby guaranteeing that the suitable knowledge gets to the right person at the right time to enable creative performance. Operating vertically within corporate hierarchies and horizontally

among peers, this approach allows critical analysis and reconfiguration of current work patterns to promote innovation.

By so improving company innovation, efficient information sharing lowers redundancy, cuts expenses, and promotes the co-creation of new ideas. Still, the question of how well KS fosters innovation is hotly contested, mostly because of differences in the quality of knowledge transmitted and employees' desire to engage [35].

Still, difficulties remain. Research, for example, shows that sectors including banking, insurance, and real estate are more likely to engage in "pseudo-knowledge sharing," whereby the transfer of information fails to produce meaningful innovation. Using motivating techniques and providing monetary rewards to promote real information exchange can help to offset this problem. further underline that, compared to external incentive, internal drive among workers results in more involvement in knowledge-sharing initiatives supporting innovation.

Some academics, however, warn that KS's beneficial impact on creativity might be time-bound. According to [36], knowledge saturation can happen when continuous information flows inside a company, hence reducing innovation returns time.

2.2.3. Knowledge application (KA)

The fundamental stage of knowledge management is knowledge application (KA), which converts stored information into significant organizational results. Knowledge, in its static state, has no inherent value unless it is actively mobilized inside an enterprise. KA exemplifies this activation process, in which people—most often workers but also technology agents like chatbots or automated systems—draw on several knowledge sources to generate original ideas. This dynamic integration allows companies to not only use information but also strategically match it with their more general goals and operational requirements[37].

By encouraging distinctive knowledge-driven projects, KA distinguishes companies from their rivals by means of a vital tool for creative problem-solving. Its influence depends on environmental volatility, contextual subtleties, and the degree of knowledge application. Therefore, even with comparable knowledge resources, companies could have quite diverse results depending on how well they use them, which might help them maintain competitive advantage[38].

Importantly, its intentional use reveals the actual worth of information. Left unused, resources and knowledge stay dormant and need management action to inspire creativity. This link emphasizes the natural uncertainty of the road to innovation as the use of new information brings hazards and unanticipated outcomes. Furthermore, whereas first uses of current information might provide significant advantages, ongoing use in known environments usually leads to declining returns with time, hence lowering the creative capacity of once useful knowledge resources[39].

2.2.4. Knowledge protection (KP)

Knowledge preservation (KP) is the organizational work to methodically control, protect, and regulate important knowledge resources. KP stresses the internal protection of both explicit and tacit knowledge for future use rather than depending just on formal intellectual property systems like patents, trademarks, or copyrights. This method recognizes the pragmatic constraints of legally preserving all operational knowledge by methods only. Rather, KP techniques usually include cultural embedding, thorough documentation, and the absorption of important ideas inside the company's routines and standards. These initiatives help to preserve a company's distinctive skills and guarantee that vital information survives throughout several generations of workers.

KP is essential in promoting creativity. KP helps to create both incremental changes and revolutionary ideas by anchoring new problem-solving projects in a company's knowledge base. Often, continuous innovation is the result of inventive recombination and extension of current resources rather than from totally new knowledge. Thus, companies that spend money maintaining and growing their knowledge reservoirs are more equipped to react properly to new issues. Though KP builds internal capabilities, it also creates difficulties especially for companies trying to change or work with others. Overemphasis on protection and inflexible knowledge systems might stifle the vibrancy required for knowledge transfer and external collaborations. Over time, too much dependence on defensive tactics like patenting can close a company's openness, restrict its ability to innovate, and slow the more general creative process.

3. STUDY SAMPLE AND CONTEXT POPULATION

The financial sector increasingly depends on efficient knowledge management (KM) to preserve competitive value creation and protect its ability for innovation as a primary industry in the changing service economy. Traditional banking models have been fundamentally upended by the fast development of product designs, increasing market rivalry, and the rising customer sophistication, hence forcing institutions to reconsider

and reinvent their knowledge processes. Banks have therefore become main centres for the creation of technical solutions, services, and new products. Financial organizations have given strong KM systems more importance in order to improve resilience and adaptation as they are more exposed to hazards such operational failures, market volatility, and credit defaults. The current work focuses on the banking industry in this setting.

This empirical study focuses on the Sri Lankan banking sector, a well-established, knowledge-intensive business. Usually, organizations are categorized as knowledge-intensive if they provide research and development efforts significant resources or give top priority to hiring highly qualified people. Many banks in Sri Lanka have created internal R&D divisions and worked with universities and outside research organizations. Moreover, targeted hiring initiatives have been started to draw excellent graduates straight from universities. There are now 24 licensed banks in the business; for the sake of this study, the emphasis was on the 10 banks with the most service capacity. The sample eliminated institutions operating only in regional areas or limited to the major city.

Aiming at workers from the chosen banks, the study used an online survey (see Annexure 01). Determining sample size followed two criteria: the Morgan table, which called for 382 responses, and the PLS-SEM sampling matrix, which suggested a minimum of 70 participants. Survey dissemination was done through official staff WhatsApp groups expecting a 50% response rate. Working with regional bank management guaranteed the distribution of survey links to appropriate branches. Starting in the first week of September 2022, data gathering began; a first reminder was issued one week later and a second two days later. Every reminder featured a remark telling recipients to ignore the mail if they had previously finished the survey, thereby reducing duplicate replies. A non-response bias study was done to guarantee the data's authenticity; it showed no notable disparities between early and late responders.

4. RESULTS

Focusing on the influence of many knowledge management (KM) traits on innovation inside the Sri Lankan banking industry, this part presents the findings of the study. The correlations between the selected KM parameters and innovation results were evaluated using Structural Equation Modelling (SEM). Survey participation by 437 banking staff members produced a thorough data set for examination. The outcomes are organized around the main KM traits studied: knowledge sharing, knowledge application, knowledge generation, and knowledge protection. The results provide useful information for managers trying to maximize innovation performance by showing both linear and non-linear dynamics in these interactions.

Table 1 summarizes the demographic profile of the respondents. With 52% male and 48% female participation, the sample had a fair representation of genders. Age distribution showed that 45% of workers were between 25 and 35 years old, followed by 30% who were 36 to 45 years old. Of the responders, 60% were in middle management, while 25% were in operational duties and 15% in senior management. Seventy percent of those polled had at least a bachelor's degree; twenty percent had finished postgraduate study, suggesting a well educated population.

Table 1: Demographic Characteristics of Respondents

Characteristic	Frequency (%)
Gender	
Male	52
Female	48
Age	
25-35 years	45
36-45 years	30
46 years and above	25
Position	
Operational	25
Middle Management	60
Senior Management	15
Education Level	
Bachelor's Degree	70
Postgraduate Degree	20
Other	10

To evaluate the general model fit, the first SEM study was run. The goodness-of-fit measures showed that the model fit the data acceptably. Though the other fit indices indicated good fit—Comparative Fit Index (CFI = 0.93), Tucker-Lewis Index (TLI = 0.91), and Root Mean Square Error of Approximation (RMSEA = 0.05)—the Chi-square statistic (\u03c7\u00b2 = 312.45, df = 150, $p < 0.001$) was significant. These findings validate the suitability of the model in reflecting the links between KM features and innovation achievements.

Knowledge sharing was shown by the study to have a major positive correlation with innovation results (\u03b2 = 0.45, $p < 0.001$). This result suggests that more information exchange inside banking companies correlates with better innovative performance. Knowledge sharing became the most important KM feature, hence

supporting the assumption that cooperative settings promote innovation and the creation of fresh ideas. The findings imply that companies should give projects encouraging open communication and teamwork among staff members top priority.

Knowledge application and innovation were shown to be U-shaped (\u03b2 = 0.30, p < 0.01). This suggests that while intermediate degrees may not produce notable advantages, both low and high degrees of knowledge application are favorably linked with innovative results. The U-shaped connection implies that companies might see declining returns in innovation performance if knowledge application is either too strict or too lax. Managers should thus aim for a fair approach, making that knowledge application is neither too limited nor too free.

Figure 2. Importance-performance map

On the other hand, knowledge creation showed a reverse U-shaped correlation with results of innovation (\u03b2 = 0.35, p < 0.01). This result suggests that, although too much emphasis on information development might cause decreasing returns, moderate degrees of knowledge production are ideal for promoting innovation. The findings underline the need of not just generating knowledge but also properly controlling its implementation in pragmatic settings. Organizations should promote a culture of experimentation and iterative learning, hence enabling the improvement of concepts and solutions.

Knowledge protection showed a favorable linear correlation with innovation results (\u03b2 = 0.25, p < 0.05). This implies that although safeguarding intellectual property and proprietary knowledge is very vital, it should not be at the cost of cooperation and knowledge dissemination. The results show that a balanced strategy to information protection—where companies secure their inventions while nevertheless participating in knowledge sharing—can improve innovation performance. Managers are urged to create policies safeguarding important knowledge assets without hindering teamwork.

A non-response bias study was done to guarantee the data's dependability. The findings showed no notable changes in demographic profile or answers to important survey questions between early and late responders. This implies that the sample reflects the larger population of banking workers in Sri Lanka, hence strengthening the validity of the results.

The findings of this study provide banking managers and legislators some significant consequences. First, the important part information sharing plays emphasizes the requirement for companies to promote a culture of teamwork. Managers have to put in place tools and training courses enabling staff members to share expertise. This could involve the use of technology to enable virtual cooperation, cross-departmental initiatives, and frequent team meetings.

Second, the non-linear correlations shown in the research underline the need of a sophisticated approach to KM processes. Instead of using a one-size-fits-all approach, managers should customize their KM projects to match the particular requirements and settings of their companies. Regular evaluations of KM practices may guarantee that knowledge management plans stay efficient and assist to highlight opportunities for development.

Finally, the results underline the need of striking a balance between knowledge creation and application. While being aware of the possible drawbacks of too knowledge creation, companies should promote innovation by means of experimentation and incremental procedures. Banks may improve their innovative performance and keep a competitive advantage in the fast changing financial scene by creating an atmosphere that respects both creativity and pragmatic application.

All things considered, this paper offers insightful analysis of the intricate interactions between knowledge management features and innovation results in the Sri Lankan banking industry. The results show that although knowledge application and production show non-linear dynamics that need close control, knowledge sharing is the most important engine of innovation. Banking companies may maximize their innovation performance and maintain their competitive edge in a knowledge-intensive sector by using a deliberate and balanced approach to KM processes. Future studies should investigate these dynamics in various industries and settings to confirm and extend these results even more.

5. DISCUSSION

Particularly in light of Sri Lanka's fast changing financial scene, the results of this study highlight the complex interaction between knowledge management (KM) practices and innovation inside the banking industry. The findings show that KM dynamics are not just linear but rather U-shaped and inverted U-shaped related to innovation achievements. This intricacy emphasizes the need of a sophisticated knowledge of KM methods as the consequences for management practice are significant.

The U-shaped correlation found between knowledge application and innovation implies that early rises in knowledge application can result in declining returns, then a comeback in creative results as application procedures age. Organizational learning theory helps to explain this phenomenon: first efforts to apply information could be met with resistance or inefficiency, especially in settings under fast change and uncertainty. The benefits of knowledge application on innovation are increasingly obvious as companies improve their procedures and foster a culture that welcomes experimenting and learning from mistakes.

This result underlines the need of patience and tenacity in putting KM techniques into effect. Managers should understand that building a culture of knowledge application could call for time and consistent work before producing notable creative outcomes. The consequences for training and development are obvious: companies should support capacity-building projects that not only increase employees' technical abilities but also encourage a mentality oriented toward ongoing innovation and improvement.

On the other hand, the inverted U-shaped curve between information generation and innovation indicates that past a particular point, more knowledge generation might result in lower returns in creative results. This result speaks to the idea of knowledge overload, in which the abundance of information produced might impair creativity and overwhelm decision-making mechanisms. In a knowledge-intensive industry like banking, where the speed of change is fast, it is crucial to find a balance between knowledge generation and its efficient use.

Adopting a more strategic approach to knowledge production—focusing not only on quantity but also on the relevance and applicability of the information produced—may help organizations. This can mean giving high-impact research projects top priority or supporting partnerships closely matching the strategic goals of the company. Furthermore, managers should motivate cross-functional teams to properly combine and use knowledge, so guaranteeing that innovation is not only a byproduct of large knowledge generation but rather a consequence of focused and relevant application.

Of the several KM techniques studied, knowledge sharing stood up as the most important catalyst for innovation. This result supports current studies stressing the need of cooperative settings in promoting creativity and innovation. Promoting a culture of information sharing in the banking industry, where teams sometimes work in silos, may improve problem-solving skills and the creation of new ideas.

Banks have to have structures and procedures in place encouraging open communication and teamwork if they are to use the power of information sharing. This could involve incentive systems honoring information sharing practices, ongoing inter-departmental meetings, and the creation of knowledge databases. Organizations could also think about using technology to improve knowledge sharing by using tools for information exchange and real-time cooperation among staff members.

The non-linear connections found in this research point to a possible negative effect of a one-size-fits-all strategy to KM. Rather, companies should use a more customized approach that takes into account the particular qualities of their operating environment and the particular obstacles they encounter. For example, Sri Lankan banks would have to consider the local market dynamics, legal environment, and cultural elements affecting KM processes.

Moreover, the results show that innovation may suffer from an over focus on certain KM strategies. This highlights the need of ongoing monitoring and assessment of KM procedures to guarantee their fit with the innovation goals of the company. To maximize innovation performance, managers should routinely evaluate how well their KM plans work and change them as required. Eventually, this iterative process will help companies to be flexible and responsive to changing market situations, hence improving their competitive edge.

Finally, this work adds to the increasing body of knowledge on the interaction between KM and innovation, especially in the banking field. By stressing the non-linear dynamics of KM processes, it provides insightful analysis for managers trying to improve innovation performance. The results highlight the importance of a strategic and flexible approach to KM that acknowledges the complexity of knowledge application, generation,

and sharing. Sustaining competitive advantage and fostering innovation will depend on banks deliberately concentrating on maximizing KM practices as they negotiate the difficulties of a fast changing financial scene. Future studies should investigate these dynamics more, maybe including different industries or geographic areas to confirm and broaden these results.

6. CONCLUSION

Particularly in the framework of Sri Lanka, the results of this study illuminate the complex interaction between knowledge management (KM) practices and innovation inside the banking industry. Understanding how various aspects of KM affect innovation results helps companies negotiate an ever more competitive and knowledge-driven environment. Using a strong dataset gathered from 437 people spread across 10 major banks, this study uncovers numerous important findings that not only add to academic debate but also offer practical ideas for professionals trying to improve their creative capacity.

Using both linear and non-linear analytical frameworks, this study aimed to investigate the different effects of certain KM traits on innovation. The findings show that whilst certain information management techniques have clear correlations with creativity, others show more complicated dynamics. Especially with regard to innovation results, knowledge application has a U-shaped path that implies both underutilization and overutilization of knowledge application might impede creative performance. On the other hand, knowledge creation has an inverted U-shaped correlation suggesting that too much knowledge production can cause decreasing returns while a moderate amount of knowledge production is perfect for promoting innovation.

Moreover, the research emphasizes the need of knowledge exchange, application, and protection as linear drivers of innovation. Among them, information sharing stood out as the most powerful motivator, stressing the vital importance of cooperative settings in nurturing creative ideas and answers. This result supports current studies supporting open communication and teamwork as vital elements of efficient knowledge management.

For managers in knowledge-intensive sectors, especially in banking, the consequences of these results are significant. The findings imply that KM might not be efficient with a one-size-fits-all strategy. Rather, managers should take a more complex view that takes into account the particular dynamics of their KM activities. In particular, companies should emphasize the following tactics:

Given the U-shaped relationship seen, banks should work to balance their knowledge application initiatives. This can include teaching staff members to make good use of current knowledge without overloading them with high expectations or too much information. Regular evaluations of their KM processes might help organizations make sure they are neither overworking or underusing their staff members.

The inverted U-shaped connection suggests that although knowledge generation is essential, there is a limit beyond which it might be harmful. To find ideal production levels that promote innovation without causing resource strain or decreasing returns, banks should assess their knowledge generating processes and R&D efforts.

Promoting an information Sharing Culture: The research underlines information sharing as the most important engine of innovation. Banks should use policies and procedures that promote staff cooperation to foster a culture of information sharing. This could involve incentives for information exchange, cross-departmental projects, and frequent brainstorming meetings. To support these ideals all across the company, leaders should also set example of open communication and teamwork.

While the report underlines the need of sharing knowledge, it is also very vital for companies to safeguard private information. Banks have to create procedures that protect proprietary knowledge while encourage an open culture for idea sharing. This dual emphasis can support innovation while reducing hazards related to information leaking.

The non-linear character of the interactions between KM practices and creative results implies that banks should constantly review their KM initiatives. Regular assessments may help companies change their KM practices properly by helping them spot changes in employee demands, market situations, and technology developments. This proactive strategy can assist to keep a competitive advantage in an always changing environment.

By means of actual data on the intricate and occasionally non-linear links between various KM practices and innovation results, this work adds to the current body of knowledge on KM and innovation. This work provides a methodological improvement in comprehending these dynamics by using Structural Equation Modelling (SEM) to evaluate quadratic correlations. The results question conventional linear models of KM and imply that a more complex method is required to accurately reflect the complexity of knowledge use in propelling creativity.

Furthermore, this work clarifies how KM techniques are affected by context-specific elements like industry features and regional economic situations. Emphasizing the Sri Lankan banking industry offers a special viewpoint that adds value to the worldwide conversation on KM and innovation. Future studies might extend the

relevance of these insights by investigating comparable processes in other sectors or geographical settings, hence building on these results.

Although this work makes significant contributions, it has several drawbacks. The study is founded on a particular industry and geographic setting, which can restrict the generalizability of the results. Future research might look at how KM practices interact with innovation in other industries—such as technology or healthcare—to see whether comparable trends appear.

Furthermore, self-reported data could lead to biases as individuals may see their businesses' KM strategies and innovation results differently. Future studies may use qualitative approaches like interviews or case studies to further understand the lived experiences of workers in relation to KM and innovation.

Finally, longitudinal studies might offer a more dynamic perspective on how KM practices change over time and their long-term impact on creativity. For companies trying to maintain innovation in a fast changing context, knowing these temporal dynamics would be priceless.

Ultimately, this paper emphasizes how important information management is in promoting innovation in the banking industry. The study offers a framework for managers to maximize their KM strategies by clarifying the intricate interactions between different KM practices and innovation results. The knowledge acquired from this study will help to guide efficient KM processes that propel ongoing innovation and competitive advantage as companies negotiate the difficulties of a knowledge-intensive economy. The results highlight the need of a balanced, strategic approach to knowledge management that acknowledges the particular dynamics at work in promoting a creative corporate culture.

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