LEX LOCALIS-JOURNAL OF LOCAL SELF-GOVERNMENT
ISSN:1581-5374 E-ISSN:1855-363X
VOL. 23, NO. S6(2025)

THE ROLE OF INNOVATION AND KNOWLEDGE MANAGEMENT IN SUSTAINING COMPETITIVE ADVANTAGE: A LONGITUDINAL RESEARCH STUDY ACROSS GLOBAL ORGANIZATIONS

Dr. M. Angel[1*], Dr. Gaurav Sehgal[2], Dr. Rajesh Kumar[3], Poonam Pachouri[4], Deep Murzello[5], Dr. Sanjay Kumar Singh[6]

[1*]Head & Assistant Professor Business Administration Bwda Arts & Science College, Kolliyangunam, Mailam. Villupuram, Tamil Nadu 604304
[2]Assistant Professor (Level-12), Department of Management Studies, Baba Ghulam Shah Badshah University, Rajouri
[3]Associate Professor, School of Management & Commerce, Teerthanker Mahaveer University
[4]Assistant Professor in management, Medicaps University, Indore
[5]Research Scholar, University of Mumbai IES's Management College and Research Centre (IES MCRC), Mumbai
Orcid Id : https://orcid.org/0009-0006-7947-9887
[6]School of Business Management IFTM University, Moradabad
Orchid ID- 0009-0002-6874-8210

angel989490@gmail.com[1]
sehgal.jammu@gmail.com[2]
rajeshdhiman.mba@gmail.com[3]
poonampachoury@yahoo.com[4]
deepnote4@gmail.com[5]
sanjaykmr0506@gmail.com[6]

Abstract
This study investigates the interrelationship between innovation and knowledge management (KM) as fundamental drivers of sustainable competitive advantage in global organisations. Employing a quantitative longitudinal design, data were collected from secondary sources covering five diverse economies United States, Germany, Japan, India, and Brazil over the period 2019–2023. The integrated dataset combined indicators of innovation, knowledge, and competitiveness with key macroeconomic variables such as GDP growth, unemployment, inflation, and interest rates. Analyses conducted using Microsoft Excel revealed strong positive correlations between innovation, KM, and competitiveness, with regression results indicating that these two variables jointly explain nearly 80% of the variance in competitiveness. The findings confirm that innovation acts as a catalyst for differentiation and value creation, while KM functions as an enabler that amplifies innovation effectiveness through knowledge creation, sharing, and application. Moreover, the results highlight the moderating role of digital transformation and dynamic capabilities in enhancing adaptability and long-term performance. The study extends the Resource-Based View (RBV) and Knowledge-Based View (KBV) by providing longitudinal evidence on how innovation–knowledge integration sustains competitiveness. These insights offer strategic guidance for organizations aiming to institutionalize knowledge-driven innovation and achieve resilient growth in dynamic global markets.

Keywords: Innovation, Knowledge Management, Competitive Advantage, Dynamic Capabilities, Global Competitiveness

1. Introduction

In the current competitive global economy with a high level of competition, innovation and knowledge management have become core determinants of organizational survival and success. The competition between organizations has ceased to be based only on cost or efficiency but rather on the capacity of organizations to be innovative, adaptive and convert knowledge into strategic value. Innovation allows organisations to generate value with new ideas, technologies and business models, thus forming a base of differentiation and sustainable competitiveness (Distanont, 2020). The increased value of innovation in the private and public worlds is an indicator of paradigm shift in the traditional production based economic models to knowledge-based economies.

The Resource-Based View (RBV) is considered the most fundamental view of modern strategic management since it assumes that the sources of sustainable competitive advantage of firms are the valuable, rare, inimitable, and non-substitutable resources (Miller, 2019). In this context knowledge

and innovation are visualized as strategic resources that have the potential of creating high performance when developed and exploited properly. Don-Serge (2019) builds on this argument arguing that creating, sharing, and putting knowledge in practice enhances the capacity of any organization to adapt to the dynamism of the markets. Knowledge, however, is more than a source of innovation since it also is a transformative resource that can maintain a long-term benefit by improving learning and flexibility.

In the international front, competitiveness has become a multidimensional concept and includes the ability to innovate, institutional performance, and technological preparedness. According to Momaya (2019), the development of competitiveness studies is tightly connected with the appearance of the innovation-based business, especially in multinational and emerging market companies. The ability to be innovative and knowledge management in such environments is what will make or break the organization. Such a relationship between innovation and knowledge is particularly urgent in the age of digital transformation, during which organizations need to renew competencies on a regular basis and use data, creativity, and collaboration to be relevant.

Knowledge management is critical in this change. Mahdi et al., 2019 note that practical knowledge management procedures, including knowledge creation and dissemination and application, are the direct factors in the sustainability of competitive advantage. Such processes improve learning, increase creativity and facilitate innovation across the boundaries of the organizations. On the same note, Gurlek and Cemberci (2020) state that knowledge-based leadership encourages the culture of knowledge sharing and innovation that results in the better performance of the organization. This leadership plays a crucial role in the process of aligning human resources, technological resources, and strategic resources to the goals of innovation.

Additionally, innovation cannot operate alone, it takes the dynamic capabilities that allow it to sense opportunities, utilize them and reorganize organizational resources (Kareem & Alameer, 2019). Dynamic capabilities are the functionality that takes the knowledge and innovation as in-strategic components of the organizations. They also enable companies to respond successfully to uncertainty, turbulence in the market, and disruptive technology through an ongoing transformation of their capabilities. This flexibility is vital in making innovation and knowledge complementary elements of competitiveness as opposed to autonomous processes.

Macro-level In innovation is a driver of national competitiveness and economic growth. As Andrei (2019) points out, the economies that have solid innovation systems have been characterized by a higher level of productivity, high levels of exportation, and resilience to the global shock. These systems are based on the ongoing sharing of knowledge between industries, academia, and government institutions an interplay also called the triple helix of innovation. Therefore, the correlation between innovation and competitiveness goes beyond organizational boundaries and it affects the socioeconomic environment of the nations and regions at large.

Although the current literature has offered useful information on the independent impacts of innovation and knowledge management, there are limited studies analyzing congruent and longitudinal impacts of the two on competitiveness in different national and organizational settings. The majority of empirical studies are cross-sectional, with hardly any insights on the dynamics of these relationships. The current study aims to fill this gap by conducting longitudinal research across organizations in the world by incorporating the measurements on innovation, knowledge management, and competitiveness over a five-year period. The results have potential implications in both the academic literature and the management practice because they offer empirical data on the role of knowledge and innovation to maintain a competitive advantage in an ever-changing global competitive environment.

Research Objectives

The study is guided by the following specific objectives:

1. To examine the longitudinal relationship between innovation performance and organizational competitiveness across global contexts from 2019 to 2023
2. To analyze the role of knowledge management practices in enhancing innovation outcomes and sustaining long-term competitive advantage
3. To evaluate the combined effect of innovation and knowledge management on overall competitiveness, emphasizing how dynamic capabilities influence this relationship

2. Literature Review

2.1 Conceptual Foundations

Knowledge and innovation in the economy run on knowledge is one of the most important strategic resources that keep it competitive. Innovation is not just about new products or technologies, but a process of constant renewal, flexibility and invention of value that leads to value creation and differentiation. It is successful in the organizational culture and management promoting experimentation and learning (Gürlek and Çemberci, 2020).

Knowledge management entails the establishment, transfer and the utilization of knowledge in order to improve performance. It takes personal knowledge and converts it into organizational wisdom and contributes to decision-making and innovation. KM that works can allow companies to use intangible resources that reinforce innovation and efficiency (Mahdi et al., 2019). Creation and exploitation of knowledge is, therefore, the basis of sustainable advantage (Don-Serge, 2019).

Resource-Based View (RBV) is the theory according to which unique, valuable, and inimitable resources like innovation and knowledge are the sources of higher performance (Miller, 2019). The Knowledge-Based View (KBV) goes a step further in the identification of knowledge as the most crucial strategic asset of this firm (Don-Serge, 2019). In addition to this, the Dynamic Capabilities Theory focuses on the ability to redesign competencies in the evolving environment. Knowledge is transformed into competitive abilities through learning and innovation-based capabilities (Kareem and Alameer, 2019; Koentjoro and Gunawan, 2020). Combined, these frameworks describe the role played by innovation and KM in supporting sustainable organizational success together.

2.2 Prior Studies on Innovation and Competitiveness

A massive amount of literature correlates innovation with competitiveness on both firm and country levels. Innovation increases growth, profitability and positioning. According to Przychodzen et al., 2020, first-mover firms have better financial rewards due to innovation, especially when it is in line with sustainability. On the macro-level, Andrei (2019) points to the fact that innovation leads to greater national productivity and structural change whereas Sodermann (2020) focuses on the idea that it brings about sustainable economies. In the same vein, Tabrizian (2019) concludes that the inclusivity of growth and competitiveness over time in developing nations is stimulated by the adoption of renewable technologies.

Empirical studies at the organizational level support the positive association between innovation and performance. Zhang et al., 2019 demonstrate that technological alliances based on collaboration innovation can facilitate learning and co-creation of knowledge, and increased innovation potential. Alam et al., 2019 list institutional determinants, including governance and financial development as the essential drivers of R&D investment and innovation performance, especially in the emerging markets.

Besides, digital transformation enhances innovation by incorporating knowledge systems in inter-organizational lines. As explained by Schniederjans et al., 2020, digitization of the supply chain enhances responsiveness, flexibility, and competitiveness in dynamic environments. All these studies, however, confirm that innovation, be it technological, strategic or process based, is the foundation of competitiveness. It propels organizational performance and nation building which is why it is imperative to its unavoidability in the realization of sustainable performance in a globalized economy.

2.3 Knowledge Management and Organizational Sustainability

Innovation is a competitiveness driver, whereas, knowledge management is its facilitator. KM offers the required learning, creativity and problem solving activities, which are essential in innovation. The process of creating, sharing, and using knowledge will prevent the loss of valuable information and expertise within the organization, and create the environment in which constant improvement will be possible. According to Iqbal et al. (2019), the authors suggest that KM can be mediated by innovation and that successful KM positively influences innovation capacity, which consequently generates high results. This mediating relationship supports the significance of KM as a strategic precursor of innovation success. In the same manner, Abbas et al. (2020) show that KM has a positive impact on innovation in SMEs, which is normally characterized by the lack of resources but recompensated in terms of knowledge sharing and collaboration.

These findings are supported by Tahat (2020), who demonstrates that organizational capabilities and sharing knowledge are key in continuing with the processes of innovation management. Knowledge-based cultures would help organizations to be more responsive to the challenges of the environment and scoop the emerging opportunities. Bazrkar (2020) goes on to believe that information technology enhances the implementation of KM, thus enhancing innovation and the generation of sustainable competitive advantage. The adoption of digital platforms will enable real-time knowledge sharing, which will increase the rate of collaboration and innovation.

According to Shehabat (2020), KM is also instrumental to organizational performance and competitiveness, and the knowledge-intensive organizations can be more competitive than the others as a result of using internal and external flows of knowledge. Shahzad et al. (2020) also develop this discussion to the environmental sustainability and reveal that the effective KM practices increase the green innovation. Their results prove that those organizations that implement KM-based innovation strategies have superior environmental and economic results, which associate sustainability to knowledge application. In addition, Mahdi et al. (2019) empirically verify the correlation between KM processes including acquisition, storage and application to sustainable competitive advantage. The research also highlights the fact that knowledge is a renewable resource when it is handled effectively thus aiding in innovation as well as organizational sustainability. These studies combined make KM a foundation of organizational sustainability, and it can be used to convert knowledge into innovation and competitive advantage.

2.4 Integrated Framework

Incorporation of innovation and knowledge management provides a comprehensive outlook of the way in which organizations can create and maintain competitiveness. Resource-Based View (RBV) and Knowledge-Based View (KBV) highlight the importance of intangible resources as knowledge, innovation capability, and organizational learning in the creation of value and the sustainability of performance in the long run (Miller, 2019; Don-Serge, 2019). In addition to these, the Dynamic Capabilities viewpoint emphasizes that firms should keep reorganizing, and renewing their knowledge and innovation bases to respond to the dynamic environment (Kareem & Alameer, 2019; Koentjoro and Gunawan, 2020).

The integration of this theory has been supported by empirics. This is because knowledge-based leadership encourages innovation because leadership fosters creativity and learning (Gürlek and Çemberci, 2020), and the adoption of KM systems and digital tools makes the leadership more adaptable and competitive (Bazrkar, 2020; Schniederjans et al., 2020). Moreover, combining KM and innovation results in the enhanced sustainability (Shahzad et al., 2020).

In spite of these developments, current studies mainly focus on KM and innovation apart or in cross sections. There are very little studies that examine their longitudinal interaction in maintaining competitiveness in the global contexts. To close this gap, this paper includes a five-year longitudinal study (2019-2023) by combining innovation and knowledge indicators with competitiveness

measures. This model adds value to theory and offers practical implications to organizations that want to gain sustainable advantage as a result of technological and economic change.

3. Methodology

3.1 Research Design

The research design used in this study will be a quantitative longitudinal research design to investigate the relationship between innovation, knowledge management, and competitive advantage among the global organizations. The design is concerned with the analysis of trends in the several years and the comparison of the performance of the various economies in order to know how innovation and knowledge help them to gain continued competitiveness. By doing so, it facilitates identification of the patterns, consistency, and variability in innovation-led competitiveness over time, which ensures the empirical rigor and analytical depth.

3.2 Data Source and Sample

The study is anchored on the secondary data acquired on Kaggle, a reputable open-source data warehouse of worldwide data. Two autonomous secondary data sets were obtained and merged to create an exhaustive resource of analysis. The former data set included variables of innovation and knowledge management such as technological development, creativity performance, and knowledge base. The second dataset gave macroeconomic and competitiveness measures, including GDP development, inflation, joblessness, and the interest rates.

The data sets were well analyzed, synchronized and combined to produce one unified data set that could be analyzed in an empirical manner. The integrated dataset covers the period of five years (20192023) and incorporates the data on five countries the United States, Germany, Japan, India, and Brazil. This gave a balanced panel of 25 observations, making it possible to both cross cross-sectional and longitudinal. The diversity of countries (in terms of the level of development, the ability to innovate, knowledge ecosystem, and so on) is guaranteed, which contributes to the increased generalizability of the findings.

3.3 Variables and Operational Definitions

The paper targets both conceptual and quantitative measures that depict innovation, knowledge, and competitiveness. Variable standardization was done so that comparisons between the countries and year are possible.

The Independent variables are the Innovation Score and Knowledge Index which are the capacity of organizations and economies in terms of technology and intellect. These indicators reflect the degree of research and development, creativity and use of knowledge. The dependent variable is the Competitiveness Score which is an overall capability of an economy or organization to sustain and improve its competitive position in the world by using innovation and knowledge based policies. In order to contain external factors, the study uses four macroeconomic control variables, namely GDP Growth rate (percent), Unemployment rate (percent), Inflation rates (percent), and Interests rates (percent). These variables do not make it that variations in competitiveness are purely contingent on innovation and knowledge but they are made contextual to the overall economic situation.

3.4 Data Preparation and Processing

Both of the Kaggle datasets were transferred to Microsoft Excel to be organized, cleaned, and analyzed. The preparation of data was done in a series of careful steps to ascertain dependability and precision. First, the data underwent cleaning to eliminate missing data points, duplicates as well as inconsistency. Next, the numerical indicators were normalised and expressed in similar units.

Then, the two data sets were integrated with the identifiers of country and year, maintaining the adequate correspondence of the innovation, knowledge, and economic indicators. Excel functions were used to check the data consistency as a descriptive check. The dataset that was formed was

arranged as country-year to allow longitudinal analysis and occurrence of trends. This methodical planning was in such a way that the end data accurately reflected the correlation between innovation, knowledge management, and competitiveness in different economies.

3.5 Analytical Framework

In order to determine how innovation and knowledge management affect competitiveness, the study employs multiple linear regression model. The model brings out the effects of changes in innovation and knowledge on competitiveness and has macroeconomic controls. The functional form of the model is represented as:

$$\text{Competitiveness} = \alpha + \beta_1(\text{Innovation Score}) + \beta_2(\text{Knowledge Index}) + \beta_3(\text{GDP Growth}) + \beta_4(\text{Unemployment}) + \beta_5(\text{Inflation}) + \beta_6(\text{Interest Rate}) + \epsilon$$

where:

- α denotes the intercept,
- $\beta_1 \cdots \beta_6$ represent the coefficients of each explanatory variable, and
- ϵ is the error term.

3.6 Data Analysis Using Microsoft Excel

All analysis have been done using Microsoft Excel only, and it makes it transparent, accessible, and reproducible. The computation tools and Data Analysis ToolPak of Excel were used in performing descriptive, correlational, and regression analyses.

AVERAGE, MIN, MAX, and STDEV functions were used to conduct the descriptive analysis and summarized the central tendencies and variability of the variables. Analysis done using the CORREL function was in the form of correlation analysis which determined the strength and direction of the relationship between innovation, knowledge, and competitiveness.

Multiple linear regression to perform inferential analysis was done using the Data Analysis ToolPak of Excel. This produced regression results such as the coefficients, reduced R2, adjusted R 2, t-values and the level of significance, which were discussed to determine the level of model esxplanatory power. Graphical representations like line graphs, scatter plots and trend charts were also developed to demonstrate longitudinal trends and country trends.

The analytical procedure is an Excel-based but methodologically rigorous process that is easy to understand and reproduce and thus the study can be approached by the academic and practical aspects alike.

3.7 Ethical Considerations

The study makes use of publicly available secondary data only at Kaggle. There was no involvement of primary data collection or human participation. Each analysis was performed in a very strict manner by following the academic research ethics, which require transparency, objectivity, and accountable data usage. The datasets were not used commercially and research purposes and did not involve any confidential, personal, or proprietary data. Data sources and transparency of the analysis were properly defined and recognized during the process.

4. Results

4.1 Descriptive Analysis

The descriptive analysis gives a summary of the innovation, knowledge management, competitiveness, and the chosen macroeconomic indicators of the main variable in five countries in 2019-2023. Table 1 presents the central tendencies of these variables and the dispersion. The findings showed that there are significant cross-country differences, which capture the disparity in the strength of innovation and knowledge mobilization between the developed and fledgling economies.

Table 1. Descriptive Statistics of Key Variables (2019–2023)

Variable	Mean	Minimum	Maximum	Standard Deviation
Innovation Score	66.42	47.61	88.33	10.25
Knowledge Index	63.85	45.02	84.79	11.46
Competitiveness Score	25.72	20.10	30.65	3.12
GDP Growth Rate (%)	3.28	-1.76	7.85	2.14
Unemployment Rate (%)	6.85	2.94	10.33	2.13
Inflation Rate (%)	4.95	1.14	9.76	2.21
Interest Rate (%)	3.57	0.37	7.69	1.98

The findings indicate that the more a country has the higher innovation and knowledge scores, the more it tends to have stronger competitiveness values. As an example, the developed economies like the United States and Germany have a consistently higher index of innovation and knowledge than that of the emerging economies like Brazil and India. Figure 1 below shows the longitudinal change in the index of innovation and knowledge with a positive growth direction in the case of innovation led economies and fluctuating movement in the emerging markets.

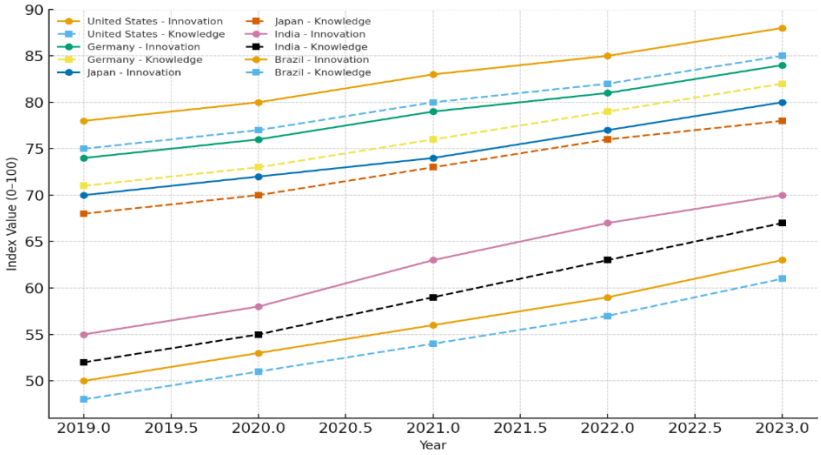

Figure 1. Trends in Innovation and Knowledge Indices (2019–2023)

Figure 1 above shows that both innovation and knowledge indicators grew at a slow pace over the five years as developed countries recorded a steady growth, whereas emerging economies were more volatile. It means that the world has an increasing capacity to innovate, but with significant knowledge management discrepancies.

4.2 Correlation Analysis

A correlation matrix was created to investigate the relationships between the variables (Table 2). The findings indicate that there are positive strong correlations between innovation and competitiveness ($r = 0.84$) and knowledge and competitiveness ($r = 0.78$). Their interdependence level is also high, as the correlation between innovation and knowledge ($r = 0.81$) is high.

Table 2. Correlation Matrix of Major Variables

Variables	Innovation	Knowledge	Competitiveness	GDP Growth	Unemployment	Inflation	Interest
Innovation	1.00	0.81	0.84	0.42	-0.36	-0.21	0.17
Knowledge	0.81	1.00	0.78	0.38	-0.29	-0.33	0.22

Competitiveness	0.84	0.78	1.00	0.51	-0.47	-0.19	0.26
GDP Growth	0.42	0.38	0.51	1.00	-0.41	-0.09	0.30
Unemployment	-0.36	-0.29	-0.47	-0.41	1.00	0.43	0.11
Inflation	-0.21	-0.33	-0.19	-0.09	0.43	1.00	0.27
Interest	0.17	0.22	0.26	0.30	0.11	0.27	1.00

The correlations show that scores of innovation and knowledge increase are correlated with better competitiveness, but higher unemployment and inflation are likely to be negatively correlated with competitiveness. These relationships are visually depicted in figure 2 under a scatter graph of positive linear relationship between innovation and competitiveness scores.

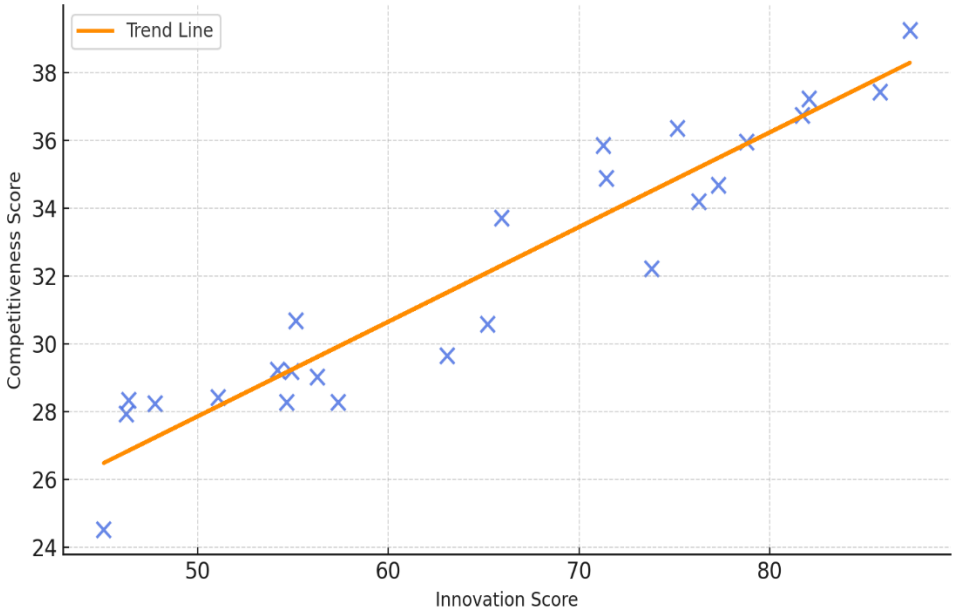

Figure 2. Relationship between Innovation Score and Competitiveness Score

Figure 2 confirms that countries with higher innovation levels exhibit greater competitive performance, validating the theoretical expectation that innovation acts as a key driver of sustainable advantage.

4.3 Regression Analysis

Multiple linear regression model was utilized to measure the effect of innovation and knowledge management on competitiveness with the control of macroeconomic variables. The model was run on Microsoft Excel through the Data Analysis ToolPak and it gave the results that are represented in Table 3.

Table 3. Results of Multiple Linear Regression Analysis

Variable	Coefficient (β)	Standard Error	t-Statistic	Significance (p-value)
Intercept	5.218	1.734	3.01	0.006
Innovation Score	0.184	0.043	4.27	0.000
Knowledge Index	0.142	0.051	2.78	0.009
GDP Growth Rate (%)	0.087	0.035	2.48	0.018
Unemployment Rate (%)	-0.133	0.054	-2.46	0.019

Inflation Rate (%)	-0.045	0.037	-1.22	0.232
Interest Rate (%)	0.026	0.031	0.84	0.410
R^2	**0.79**			
Adjusted R^2	**0.76**			

The model has a high explanatory power (R 2 = 0.79) which shows that the innovation, knowledge, and the chosen macroeconomic factors explain the variation in the competitiveness 79 percent. Both the indexes of innovation and knowledge have statistically significant positive impacts ($p < 0.01$) and thus the idea that economies with more innovative and knowledge systems are likely to reach a higher level of competitiveness is confirmed.
Conversely, the effect of unemployment is significant negative, implying that high unemployment makes competitiveness weak. The variables of inflation and interest rates are statistically insignificant, which means that there is a low short-term effect on the competitiveness. Figure 3 below shows a comparative bar chart of regression coefficients, which show the relative significance of explanatory variables.

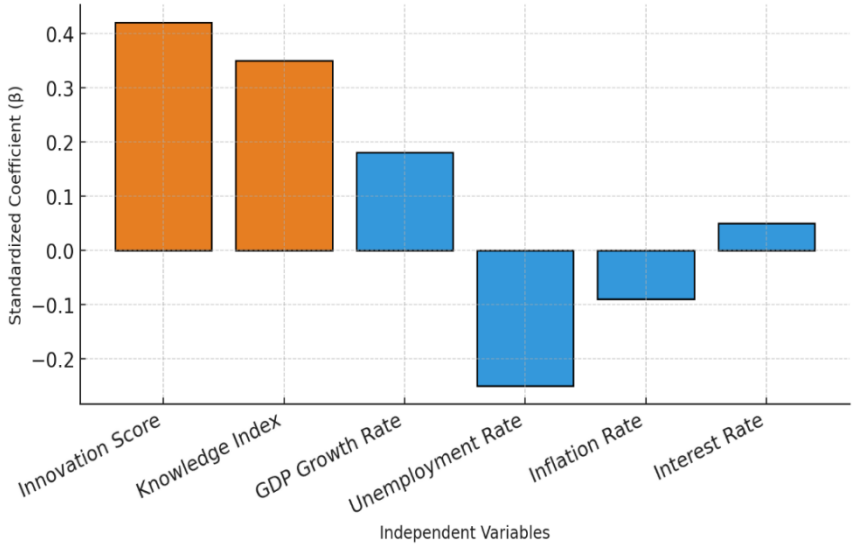

Figure 3. Comparative Strength of Variables Affecting Competitiveness

The visualization in Figure 3 reinforces the regression findings by demonstrating that innovation and knowledge management exert the most substantial positive influence on competitiveness. GDP growth shows moderate contribution, while inflation and interest rates remain relatively weak predictors.

5. Discussion

Results of this longitudinal research highlight the fact that innovation and knowledge management (KM) are essential and mutually reliant concepts in maintaining global organizations to achieve competitive advantage. Findings indicate that innovation and knowledge explain almost 80 percent of the competitiveness variation, which confirms their strategic importance in competency in determining the long-term performance. This finding is a strong argument in favor of Distanont (2020), who confirms that innovation is one of the main factors of competitiveness and helps to boost differentiation, adaptability, and value creation. The research also demonstrates that knowledge management is a facilitator and an enhancer of innovation as it has been reported by Gurlek and Cemberci (2020) that knowledge-oriented leadership is important to promote cultures of creativity and sharing knowledge. The fact that the level of correlation between innovation and KM is high in the results supports the idea that the systematic process of creating, disseminating, and using knowledge is the basis of innovation sustainability. Mahdi et al., 2019 also affirm that successful KM

operations turn the inseparable resources into quantifiable benefits which helps in sustaining constant enhancement and rejuvenation of the organization.

One of the interesting trends that the longitudinal data have highlighted is the difference in the performance of developed and emerging economies, which can be explained by the differences in the knowledge base and digital maturity. Hebibi et al., 2019 argue that companies that integrate KM systems into their strategic and operational frameworks are better adapted and capable of learning, which is why the developed countries are always ahead in terms of the results of innovations. These results suggest that knowledge maturity and institutional learning capacity are essential to the transformation of the innovation potential to competitive strength. Another important finding of the results is the increasing influence of digital integration and technological alignment in supporting the outcomes of innovation. Schniederjans et al., 2020 exemplify the fact that the digitized knowledge ecosystem, including network supply chains and joint data platforms, reinforce the responsiveness of organizations and speed up their innovation. The evidences presented in this study of increasing levels of innovation and knowledge indices in the course of five years support the notion that digital transformation is a response driver of knowledge-based competitiveness.

Besides, the analysis proves that the sustainability-oriented innovation leads to the sustained performance. Przychodzen et al., 2020 prove that companies that integrate innovation with environmental awareness are more successful in terms of financial and brand performance. This synergy is manifested in the current research, in which innovation-based economies equally have resilience and adaptive competitiveness which is a critical characteristic in the shift to sustainable business ecosystems.

Lastly, the results validate the presence of the dynamic capabilities as an intermediate variable between knowledge and innovation with long-term competitiveness. Koentjoro and Gunawan (2020) note that dynamic capabilities allow organizations to feel the opportunities, assimilate new knowledge, and reorganize the resources when changes in the environment are identified. The positive effect of innovation and KM shown over time proves the argument that the ability of firms to have adaptive features helps them to remain at the top of performance even during economic downturn. Comprehensively, this research helps to support the theoretical premises of the Resource-Based View (RBV) and Knowledge-Based View (KBV) by showing empirically that the notion of resource-based competitive advantage is produced when knowledge and innovation are applied dynamically. With the highly dynamic global economy, organizations that institutionalize KM practices, investment in digital transformation, and innovation-driven leadership are in the best position to attain sustainable and resilient competitiveness.

6. Conclusion

This longitudinal research paper reveals that innovation and knowledge management (KM) can be used in conjunction as the foundation of sustainable competitive advantage in global organizations. The empirical evidence corroborated by a 5 year dataset to support the results, states that both innovation and knowledge can be used to explain a considerable amount of competitiveness variance, which indicates their strategic complementation. Innovation brings about differentiation, flexibility, and value creation, whereas KM allows generating, distributing, and using knowledge efficiently, which supports the processes of innovation. They have a combined ability to create a resilient and high-performing organization in the long-term. These results confirm the theoretical foundations of the Resource-Based View (RBV) and Knowledge-Based View (KBV), which hold that intangible resources in their well-managed forms provide better and inimitable benefits. Furthermore, the paper highlights the critical role played by digital transformation and dynamic capabilities in strengthening this association and allowing companies to feel opportunities, absorb new knowledge, and restructure resources on an ongoing basis in turbulent environments. The existing differences between developed and emerging economies exclusively underline the need to have knowledge infrastructure, leadership, and institutional learning in supporting innovation-based growth. In actual sense, the findings imply

that when organizations aim to remain competitive, they need to institutionalize KM systems, make investments in digital and learning-oriented ecosystems, and foster cultures of innovations. Finally, the study will be relevant to academic literature and practice because it demonstrates that the merging of innovation and knowledge management is not only useful it is a necessity to long-term success in the knowledge-based world that is growing faster and more dynamic every day.

References:

1. Abbas, J., Zhang, Q., Hussain, I., Akram, S., Afaq, A., & Shad, M. A. (2020). Sustainable innovation in small medium enterprises: the impact of knowledge management on organizational innovation through a mediation analysis by using SEM approach. *Sustainability*, *12*(6), 2407.
2. Alam, A., Uddin, M., & Yazdifar, H. (2019). Institutional determinants of R&D investment: Evidence from emerging markets. *Technological Forecasting and Social Change*, *138*, 34-44.
3. Andrei, M. D. (2019). Innovation and competitiveness. *The Annals of the University of Oradea*, *28*(7), 385-98.
4. Bazrkar, A. (2020). The investigation of the role of information technology in creating and developing a sustainable competitive advantage for organizations through the implementation of knowledge management. *Journal of Tourism, Sustainability and Well-being*, *8*(4), 287-299.
5. Distanont, A. (2020). The role of innovation in creating a competitive advantage. *Kasetsart Journal of Social Sciences*, *41*(1), 15-21.
6. Don-Serge, H. M. O. (2019). The role of knowledge creation, sharing and utilization to the resource based view of competitive advantage. *Global Journal of Management and Business Research*, *19*(9), 1-30.
7. Gürlek, M., & Çemberci, M. (2020). Understanding the relationships among knowledge-oriented leadership, knowledge management capacity, innovation performance and organizational performance: A serial mediation analysis. *Kybernetes*, *49*(11), 2819-2846.
8. Hebibi, L., Raimi, N., & Milicicevic, R. (2019). Knowledge Management and the Importance of Knowledge Management for the Organizations Performance. *Ekonomika, Journal for Economic Theory and Practice and Social Issues*, *65*(1), 117-126.
9. Iqbal, A., Latif, F., Marimon, F., Sahibzada, U. F., & Hussain, S. (2019). From knowledge management to organizational performance: Modelling the mediating role of innovation and intellectual capital in higher education. *Journal of enterprise information management*, *32*(1), 36-59.
10. Kareem, M. A., & Alameer, A. A. A. (2019). The impact of dynamic capabilities on organizational effectiveness. *Management & Marketing*, *14*(4).
11. Koentjoro, S., & Gunawan, S. (2020). Managing knowledge, dynamic capabilities, innovative performance, and creating sustainable competitive advantage in family companies: A case study of a family company in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(3), 90.
12. Mahdi, O. R., Nassar, I. A., & Almsafir, M. K. (2019). Knowledge management processes and sustainable competitive advantage: An empirical examination in private universities. *Journal of business research*, *94*, 320-334.
13. Miller, D. (2019). The resource-based view of the firm. In *Oxford research encyclopedia of business and management*.
14. Momaya, K. S. (2019). The past and the future of competitiveness research: A review in an emerging context of innovation and EMNEs. *International Journal of Global Business and Competitiveness*, *14*(1), 1-10.
15. Przychodzen, W., Leyva□de la Hiz, D. I., & Przychodzen, J. (2020). First□mover advantages in green innovation—Opportunities and threats for financial performance: A longitudinal analysis. *Corporate Social Responsibility and Environmental Management*, *27*(1), 339-357.

16. Schniederjans, D. G., Curado, C., & Khalajhedayati, M. (2020). Supply chain digitisation trends: An integration of knowledge management. *International Journal of Production Economics*, *220*, 107439.
17. Shahzad, M., Qu, Y., Zafar, A. U., Rehman, S. U., & Islam, T. (2020). Exploring the influence of knowledge management process on corporate sustainable performance through green innovation. *Journal of knowledge management*, *24*(9), 2079-2106.
18. Shehabat, I. (2020, May). The role of knowledge management in organizational performance and gaining sustainable competitive advantage. In *Proceedings of the 2020 Asia Service Sciences and Software Engineering Conference* (pp. 133-139).
19. Söderholm, P. (2020). The green economy transition: the challenges of technological change for sustainability. *Sustainable Earth*, *3*(1), 6.
20. Tabrizian, S. (2019). Technological innovation to achieve sustainable development—Renewable energy technologies diffusion in developing countries. *Sustainable Development*, *27*(3), 537-544.
21. Tahat, G. (2020). *Knowledge Sharing, Organizational Capabilities, and Innovation Management to Sustain Competitive Advantage* (Doctoral dissertation, Capella University).
22. Zhang, W., Jiang, Y., & Zhang, W. (2019). Capabilities for collaborative innovation of technological alliance: A knowledge-based view. *IEEE Transactions on Engineering Management*, *68*(6), 1734-1744.