



Inbound Open Innovation: A Catalyst for High-Performing Firms

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Abstract

In this study, we look at how learning organizations moderate the link between internal innovation performance, knowledge management, product innovation performance, and overall organization performance. This study fills a gap in the literature by taking a novel look at an old problem—how to boost company performance via innovation—and incorporating knowledge management as an integral part of the solution. Data for the study came from a survey of 204 people working for different companies in Pakistan; the researchers used a quantitative research strategy. The findings point to a favorable correlation between organizational success and the following metrics: knowledge management, product innovation performance, and internal innovation performance. Additionally, a learning organization moderates the relationship between internal innovation performance and organization performance. These results show how important it is for businesses to encourage a learning and innovation culture if they want to improve their performance. Findings from this study can guide efforts to enhance organizational performance by shedding light on the elements that make a difference. The impact of innovation on performance can evolve over time, therefore studies that focus on shorter periods may not be able to capture all of the relevant details. The research may have overlooked some of the nuances of information management, sharing, and utilizing it for innovation within companies, despite the fact that it is a novel approach

Keywords: *Knowledge Management, Internal Innovation Performance, Organization Performance, Product Innovation Performance & Learning Organization.*

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1. INTRODUCTION

Economist Chesbrough¹ first used the term “open innovation” (OI) to emphasize the need of taking advantage of outside resources to enhance a company’s internal growth. OI also refers to the intentional transfer of knowledge from one entity to another, which can speed up internal innovation and expand markets for innovation’s external application. Organizations may and should use both internal and external ideas and paths to market as they strive to improve their technology. Businesses should concentrate on a strategy that can leverage and make the most of market innovation, rather than doing internal research, claims Chesbrough (2003). According to Raees et al. (2023), the main way that open innovation happens is through the acquisition of technology from outside sources during open exploration activities, also known as inbound innovation. An organization’s innovation system may bring in new ideas and technical know-how when they get inbound innovations. This system can access and combine external information with the company’s internal ideas. Harnessing, using, and improving technology through the integration of external information is what it is defined as. Merging in-house knowledge with outside knowledge may help a business prosper in the market and provide value to customers. Inbound OI activities include things like collaborating with other businesses or educational institutions, involving research and development institutions in product development, involving customers or end-users in product development, and acquiring intellectual property rights from outside organizations (Alam et al., 2023). The modern business environment is highly competitive and dynamic, posing constant internal and external challenges to firms. That’s why open innovation is so important for businesses looking to improve their performance (Zaman and Kusi-Sarpong, 2023).

By embracing open inbound innovation, companies can improve their innovation capabilities, leading to new product and service offerings and increased sales and market share (Haque et al., 2023). By working with external partners and leveraging their expertise, companies can improve their ability to innovate and bring new products and services to market faster. Inbound open innovation is the process of working with external partners such as customers, suppliers and other companies to generate new ideas and bring innovative products and services to market. However, implementing inbound open innovation can be challenging as it requires companies to develop new organizational skills and processes to work effectively with external partners (Suh and Kim, 2012). When it comes to corporate R&D performance, there are four distinct approaches: in-house R&D, technology acquisition or licensing, R&D cooperation and networking, and product/service innovation, process innovation, and company-created patents. Company internal organization, public backing, more competition, and partnerships with private labs all had a beneficial effect on innovation success, according to the study’s authors, (Egbetokun and Savin, 2015) conclude that the breadth of a firm’s network portfolio, that is, the number of external knowledge sources, has a positive impact on both the firm’s overall innovation and product innovation performance. Moreover, various informal collaborations have a positive impact on firms’ ability to innovate, whereas various formal agreements only partially improve overall innovation performance, so the impact is marginal (Jamil et al., 2023). Furthermore, the performance of

internal innovation can have a positive impact on knowledge management by generating new knowledge and expertise within the organization. Product innovation performance is the ability of a company to bring new and improved products and services to market. By investing in product innovation, companies can improve their competitiveness and increase their market share. In addition, product innovation performance can positively impact knowledge management by generating new knowledge and expertise in product development and customer preferences. By investing in these areas, companies can improve their innovation capacity, launch new products and services, and increase their competitiveness and market share (Denicolai et al., 2018).

The aim is to investigate the relationship between inbound open innovation and firm performance. Specifically, the study aims to identify the key factors that contribute to the success of inbound open innovation and how these factors influence firm performance. The purpose of the research paper is to provide insights into the benefits of inbound open innovation and how firms can leverage this approach to improve their performance. The study also aims to contribute to the existing body of literature on open innovation by providing empirical evidence on the relationship between inbound open innovation and firm performance (Khan et al., 2023a). Similarly, Love and Roper (2015) found that a firm's internal organization, the presence of external public support, increased competition, and building ties with commercial laboratories all have a positive impact on a firm's innovative performance, i.e., innovative sales. we discovered that while giving, while increasing openness, it was not a plus. have a great impact on innovation. Internal innovation performance is measured by the number of new patents filed, the number of new products or services launched, the revenue generated by the new product or service, the market share gained by the new product or service, the return on investment, etc (Khan et al., 2023b). Effective in-house innovation performance includes identifying customer needs and preferences, leveraging in-house knowledge and resources, developing new or improved ideas, processes, products or services that meet customer needs, and A strategic approach is needed that includes the effective commercialization of these innovations to markets (Khan et al., 2023c). Knowledge management is the process of identifying, capturing, organizing, and sharing knowledge and information within an organization to improve its performance. Knowledge management can involve a range of activities, such as creating knowledge databases, developing knowledge-sharing networks, implementing training programs, and fostering a culture of continuous learning and improvement. Product innovation performance refers to the effectiveness of a firm's product innovation efforts in terms of creating new or improved products that meet customer needs and generate value for the firm.

This study offers a novel perspective in several ways. for example, Initially, this study provides a more intricate comprehension of how these aspects jointly impact company success. Furthermore, this study employs a diverse methodology to assess innovation performance, encompassing not just patents and product introductions but also market share, income generation, and return on investment. This approach provides a more thorough review compared to past research. Furthermore, this study distinguishes itself by include knowledge management as a vital factor in

improving business performance through innovation, an issue that has not been thoroughly addressed in previous research. This research makes a substantial contribution to the current knowledge by offering a comprehensive and evidence-based examination of the elements that influence the success of inbound open innovation and its effect on a company's performance.

1.1 Research Question

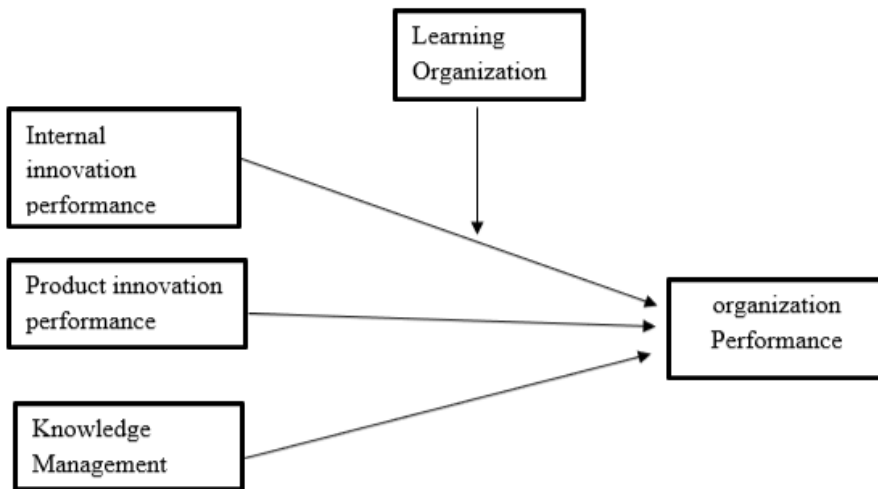
1. How can firms leverage external sources of knowledge and expertise to improve their innovation capabilities?
2. What is the impact of inbound open innovation on various dimensions of firm performance such as revenue, market share, profitability, and customer satisfaction?
3. What are the factors that influence the effectiveness of inbound open innovation?
4. How can firms overcome the challenges associated with implementing inbound open innovation?
5. What are the effective strategies to implement inbound open innovation and improve overall firm performance?

1.2 Problem statement

“Innovation is critical for the success of firms in today's dynamic business environment. Inbound open innovation, which involves the integration of external knowledge and resources into the firm's innovation process, has emerged as a promising approach for firms to enhance their innovation capabilities. However, despite the growing interest in inbound open innovation, there is limited empirical evidence on the relationship between inbound open innovation and firm performance. This study aims to address this gap by investigating the factors that contribute to the success of inbound open innovation and how these factors influence firm performance (Khan et al., 2023d). The findings of this study will provide insights into the benefits of inbound open innovation and how firms can leverage this approach to improve their performance” (Denicolai et al., 2018).

2. LITERATURE REVIEW

2.1 Conceptual Framework



2.2 Theoretical Framework

There are four independent variables: product innovation performance, internal innovation performance, knowledge management, and learning organization. These variables can influence the dependent variable, organization performance. A learning organization can moderate the relationship between the independent variables and organization performance, meaning that it can enhance the positive effects of the independent variables on organization performance. The framework suggests that these variables are all interconnected. The impact of these variables on organization performance is a complex and multifaceted phenomenon.

2.3 Theory Exposition

This study is supported by a resource-based theory. One popular approach to strategic management is resource-based theory, or RBT. As a management framework, it has often helped pinpoint key resources that are necessary for a business to keep its competitive edge. To understand and predict the fundamental factors that affect a company's performance and competitive advantage, the theory provides an essential framework (Utami et al., 2021). Firms can gain a competitive edge by investing in product innovation, internal innovation, knowledge management, and building a learning organization. By doing so, firms can develop and leverage their resources and capabilities to achieve superior organizational performance in terms of product innovation performance, internal innovation performance, and knowledge management. A learning organization can help the firm to develop and enhance its resources and capabilities by continuously learning and adapting to changing market conditions. In terms of product innovation performance, a firm can leverage its resources and capabilities to develop new and innovative products that meet the needs of its customers. Internal innovation performance can be improved by investing in R&D, building a culture of innovation, and incentivizing employees to come up with new ideas. Knowledge management can help the firm

to capture, store, and share knowledge across the organization, which can lead to better decision-making and innovation. Finally, a learning organization can help the firm to continuously improve its resources and capabilities by fostering a culture of learning and experimentation. By doing so, the firm can achieve superior organizational performance

2.4 Organizational Performance

An organization's performance is the degree to which it effectively positions itself in the business market by leveraging its information, financial and human resources (Conțu et al., 2022). Organizational performance includes the company's actual productivity and actual earnings calculated as opposed to projected productivity, goals and intentions (Olokundun et al., 2018). Organizational performance is defined as a company's ability to achieve its goals through effective management, good governance, and a relentless commitment to achieving business objectives. Organizational performance indicates how well a company is meeting its goals. Organizational performance is one of the most important concepts in management research (Gomes and Mendes, 2023). The researchers assumed that there were different schools of thought regarding the definition of organizational performance. Most researchers used the term "performance" to denote a set of measures of input and output efficiency, and transaction efficiency. Organizational performance is a very broad concept that encompasses various aspects of the management, operational and competitive capabilities of an organization and its activities. In addition to financial performance, there are several non-financial performance indicators that have been used in previous studies to develop a better understanding of corporate performance, including: B. Market performance and customer satisfaction.

An organization's performance depends on its leaders' ability to create collaborative environments and lead teams. Effective outcomes require the emotional involvement and empathy of participants in team activities to provide solutions to problems that need to be solved in the most professional way (Raatikainen et al., 2022). Individual performance can have a positive or negative impact on overall organizational performance in the short, medium, or long term (Conțu et al., 2022).

However, according to (Daft, 1978), organizational performance is the ability of an organization to use its resources efficiently and effectively to achieve its goals. Like (Daft, 1978), (Richard and Johnson, 2001) defined organizational performance as the ability to achieve organizational goals and objectives (Abu-Jarad et al., 2010). A question that has always been asked about organizational performance has been what factors drive organizational performance. According to (Bertels et al., 1999), there are two main lines of research in the economic policy literature on the determinants of organizational performance (Suchek et al., 2021). One was based on economic tradition and emphasized the importance of external market factors in determining firm performance.

HR system is a key component that helps increase the efficiency of an organization and gain a competitive advantage. The researchers also investigated the impact of a single HR task or a specific bunch of HR tasks on performance, assuming

an appropriate level of analysis for studying organizational-level performance impacts (El-Kassar et al., 2022). Singh and Sarkar (2012) is highly dependent on how an organization adapts to changes in its external environment. In the literature, performance refers to “the degree to which an organization as a social system achieves its goals given the resources and means”. It's important to keep in mind that any organization wants to continuously improve, and organizational performance is related. Individual performance correlates with the performance of team members working at the organizational level (Conțu et al., 2022). The effectiveness of the leadership process depends on the leader's ability to lead a working team with enthusiasm while meeting the personal needs of each team member (Conțu et al., 2022).

2.5 Hypothesis Development

2.5.1 *Internal Innovation Performance and Organization Performance*

Innovation performance refers to the effectiveness of an organization's operations in various areas and the performance objectives that can be achieved through product service innovation, process innovation, and management innovation to ultimately create competitive advantage for the organization. means evaluability of technology (Guo and Zhong, 2022). The adoption and eventual transformation of a particular technology to interpret the current state of technology and create or change operational or other capabilities aimed at achieving higher levels of techno-economic efficiency. Enterprises with strong mechanisms of innovation performance and organizational performance aim for higher profitability, improved organizational competitiveness, sustainable development and governance (Guo and Zhong, 2022, Zhang et al., 2022). Innovation performance is of fundamental importance to a company's value creation and decision-making processes. Innovation is one of the key processes in any business organization and its management and measurement should be defined as a structured process. Innovation is one of the factors that determine a company's performance and results, and fostering a culture of innovation is fundamental. For these reasons, innovation performance and its precedents have been studied in a variety of contexts, from multinationals and subsidiaries to SMEs (Lazzarotti and Manzini, 2009, Zaman et al., 2023).

H1: Internal innovation performance has a positive impact on organizational performance

2.5.2 *Product Innovation and Organizational Performance*

Product innovation is defined as the unique features that distinguish a particular product from existing products in the market (Cheng et al., 2020). In today's competitive business environment, innovation has become a key quality that companies strive for excellence and a key factor in product differentiation. From the consumer's point of view, product innovation is performed “first” in the market in a particular product category in order to provide more benefits to the consumer. From a market performance perspective, product innovation improves market share,

revenue, and revenue growth. Therefore, product innovation generates continuous profit, thereby improving his relevant KPIs of the organization (Abey Siriwardana and Jayasinghe-Mudalige, 2022). Additionally, a more innovative environment will increase the use of advanced manufacturing techniques such as computer-aided design, computer-integrated manufacturing, and just-in-time systems. Using these technologies not only improves quality, but also increases customer satisfaction (Li et al., 2021). These changes lead to process efficiencies, which in turn increase company profits. Therefore, the study argues that product innovation has a positive impact on firm performance. The following hypotheses are proposed.

H2: Product innovation has a positive impact on organizational performance.

2.5.3 Knowledge Management and Organization Performance

Finding and sharing relevant knowledge enhances organizational performance; this is the fundamental idea of knowledge management (KM) practice. According to Singh et al. (2020), KM has a favorable correlation with non-financial performance measures including innovation, productivity, and quality. As a matter of fact, KM is likely to impact several facets of organizational performance all at once. Financial and non-financial results are distinct components when considering the impact of KM. While changes to KM and other organizational practices may not immediately impact financial performance, they do impact a number of intermediate skills, which should have an impact on financial performance (Migdadi, 2022). The bottom line will look good if KM practices boost overall company performance. Based on our review of the literature, we have isolated four key areas of his KM approach that we feel have an impact on performance.

2) the capacity to learn from mistakes and experiment with new ideas; 3) an environment that values and rewards innovation and pedagogy; and 4) an understanding of the importance of knowledge and education in achieving organizational goals. To drive new product innovation and overall organizational performance, it is vital to be able to communicate internal best practices, and to tap into external information is as critical (Khan et al., 2022). There is a favorable correlation between company success and the ability of KM to provide a competitive advantage. Each of the three “value disciplines” or strategic competences proposed by Tracy and Wisema might lead her to a distinct edge in the market. In our study, we found that knowledge management practices had a positive correlation with organizational performance, which in turn had a favorable correlation with financial success (Singh et al., 2020).

H3: Knowledge management has positive impact on organizational learning

2.5.4 Learning Organization Moderate relationship between Internal Innovation Performance and Organization Performance

To improve performance, companies must focus on continuous learning and application of knowledge. This is the key to success and fosters individual, team and organizational learning that leads to continuous improvement and innovation

in business operations. The quality of a learning organization is necessary for an organization to be able to achieve these goals. It is an organization that fosters learning for all its members and consciously changes and influences the situation. Additionally, learning organizations have built-in systems for capturing and sharing knowledge, allowing the organization to competitively progress and continue to develop. According to (Marsick and Watkins, 1994, Jiang et al., 2023), A learning organization is one that is “continuously learning and changing.” Learning occurs within individuals, teams, organizations, and even the communities in which organizations engage. “Learning is a continuous and strategically used process, integrated into and parallel to work” (Alipour and Karimi, 2011). Marsick and Watkins (1994) describe learning as an action-essential model that helps individuals and teams within an organization view the organization from a learning perspective and identify and adjust practices that facilitate the learning process. provided seven dimensions of an organization that Change the barriers that hinder or slow learning within your organization (Ardoin et al., 2023). Based on Alerasoul et al. (2022), he said organizational learning occurs at four levels. Individual, team or group level, organizational and global level. Based on these levels , (Marsick and Watkins, 1994) provided a seven-dimensional model of behavioral commands in learning organizations.

H4: learning organization has a moderator relationship between Internal Innovation Performance and organizational performance

3. METHODOLOGY

3.1 Research Approach

A research approach is a set of processes and strategies that outlines the principles of data collection, analysis, and interpretation, from general hypotheses to detailed methods. The deductive approach has been used for this research. In a deductive method, a hypothesis is developed based on an existing theory, and then a research plan is created to test the hypothesis. It's the Possibility of quantitatively evaluating ideas.

3.2 Data Collection

The intended demographic consists of individuals employed by various companies worldwide. Sampling is the process of picking a sample that accurately represents the whole population, allowing for conclusions to be made about the characteristics of the population as a whole. The sample size was determined by selecting a subset of the population by sampling. The sample size for this study consisted of replies from 215 participants, from whom we collected data. To ensure the statistical validity and reliability of our findings, we opted for a sample size of 215 individuals. This study employed non-probability and convenience sampling approaches. The selection of this strategy was based on its optimal suitability for several departments or organizational units. By employing this approach, we can enhance transparency, mitigate prejudice, and generate results that accurately reflect the performance of every individual inside the organization.

3.4 Data Analysis

This study employed Smart PLS (3), a statistical program, to analyze the data using PLS-SEM. The characteristics of the data and the sample, as well as the results of the moderation and mediation analysis, led to the selection of this method of study. Also, research in marketing, human resource management, and similar domains has given this method a lot of attention recently (Bradburn et al., 2018). In order to foretell the impacts of dependent variables, Hair et al. (2013) proposed use PLS-SEM. In a similar vein, Moon (2011) posited that this approach builds the relationships between variables and is appropriate for concurrently predicting a collection of equations in the proposed research model. This research use PLS-SEM, a validated reporting method, to carry out thorough analysis within the field of management sciences. When it comes to theoretically constructed linear and additive causal links, SEM, a second-generation multidimensional data investigation tool, is the way to go (Jamil et al., 2022). Researchers are able to investigate the connections between concepts using this method. Due to its ability to study latent characteristics that are difficult to examine or are not observable, SME is ideal for measuring direct and indirect pathways. The inner and outer model analyses that make up structural equation modeling (SEM) look at the connections between the variables that are independent and dependent, as well as the connections between the latent constructs and the indicators that point to them. Variance analysis is the main emphasis of PLS, and Smart PLS might do this. Hence, this method is chosen for this investigation.

4. RESULTS

4.1 Common Biased method

This study analysed common method bias in data collection. The test was performed with multiple constructs in the current research model, including innovation performance, knowledge management, learning organisation, organisational performance, and product innovation performance, so the sample used in this study has no significant concern with regard to common method bias.

Table 1: Common Bias Method

Constructs	VIF
Innovation performance 1 (IP1)	1.324
Innovation performance 2 (IP2)	1.324
Knowledge management 1 (KM1)	1.510
Knowledge management 2 (KM2)	1.856
Knowledge management 3 (KM3)	1.865
Knowledge management 4 (KM4)	1.437
Learning organization 1 (LO1)	1.606

Learning organization 2 (LO2)	2.045
Learning organization 3 (LO3)	1.553
Organization performance 1 (OP1)	1.483
Organization performance 2 (OP2)	1.570
Organization performance 3 (OP3)	1.647
Product innovation performance 1 (PIP1)	1.813
Product innovation performance 2(PIP2)	2.074
Product innovation performance 3(PIP3)	1.290

4.2 Variance inflation factor (VIF)

Table 3 summarized the values of VIF. VIF is conventional and perhaps the important one for analyzing common method bias. The VIF values of IP1 & IP2 are 1.324 & 1.324. The VIF value of KM1, KM2, KM3 & KM4 are 1.510, 1.856, 1.865 & 1.437. The VIF values of LO1, LO2 & LO3 are 1.606, 2.045 & 1.553. The VIF values of OP1, OP2 & OP3 are 1.483, 1.570 & 1.647. The VIF values of PIP1, PIP2 & PIP3 are 1.813, 2.074 & 1.290.

Table 2: Reliability Analysis and Convergent Validity

Construct Name	Items	Outer loadings	Cronbach's Alpha	CR	AVE
Innovation performance	IP1	0.857	0.855	0.663	0.747
	IP2	0.871			
Knowledge Management	KM1	0.792	0.855	0.784	0.597
	KM2	0.785			
	KM3	0.792			
	KM4	0.719			

Learning Organization	LO1	0.796	0.872	0.787	0.695
	LO2	0.892			
	LO3	0.809			
Organization Performance	OP1	0.825	0.864	0.770	0.680
	OP2	0.804			
	OP3	0.844			
Product innovation performance	PIP1	0.865	0.853	0.810	0.663
	PIP2	0.910			
	PIP3	0.646			

Above Table 2 shows the results of the reliability and validity testing of the measurement scales.

4.3 Internal Consistency

The current study have determined the internal consistency of the constructs through Cronbach's values. Study have presented the results in Table 4 Cronbach's alpha values were above the threshold of 0.70 set by (Gadermann et al., 2012): IP ($\alpha = 0.855$), KM ($\alpha = 0.855$), LO ($\alpha = 0.872$), OP ($\alpha = 0.864$) and PIP ($\alpha = 0.853$)

4.4 Convergent Validity

Table 2 summarizes the result of composite reliability (CR) and average variance extracted (AVE). CR values were above the threshold of 0.7 (Hair et al., 2017): IP (CR = 0.663), KM (CR = 0.784), OP (CR = 0.787), LO (CR = 0.770) & PIP (CR = 0.810.) The AVE values were also above the threshold of 0.50 (Chin, 2010): IP (AVE = 0.747), KM (AVE = 0.597), LO (AVE = 0.695), OP (AVE = 0.680), PIP (AVE = 0.663). Factor Loadings were significant, and t-values were above the threshold value of 0.50 (Hair et al., 2017). The values of CR > 0.7 (Hair et al., 2017) and AVE > 0.5 (Chin, 2010) were above the threshold values and fulfilled the standard requirements for validity (Schuberth et al., 2018). The Table 2 indicates that individual items of each item are loaded higher in their relevant construct as

compared to other constructs due to their cross-loading difference being higher than the recommended criteria of 0.1 recommended by (Gefen and Straub, 2005), it also confirms the discriminant validity.

Table 3 : Heterotrait-Monotrait Ratio (HTMT)

	Innovation performance	Knowledge management	Learning organization	Organization performance	Product innovation performance
Innovation performance					
Knowledge management	0.887				
Learning organization	0.971	0.949			
Organization performance	0.921	0.944	0.997		
Product innovation performance	1.112	0.910	0.961	0.901	

The heterotrait-monotrait ratio (HTMT) is the most recent criteria for assessing and quantifying discriminatory validity. As demonstrated in Table 5, the heterotrait-monotrait ratio (HTMT) values of these constructs were less than 0.9 (Ali et al., 2016), indicating that discriminating validity is proven.

4.5 Discriminant Validity

The Fornell-Larcker criteria is then used to assess discriminant validity. The establishment of discriminant validity reveals the construct's uniqueness and captures a phenomena that others have not noticed. The correlations between constructs were discovered to be no more than the square root of the variance retrieved between each pair of components (Yusuf et al., 2018). Table 6 demonstrates that the square root of AVE is greater than the correlation values, indicating that the constructs are different and distinctive.

Table 4: Discriminant Validity

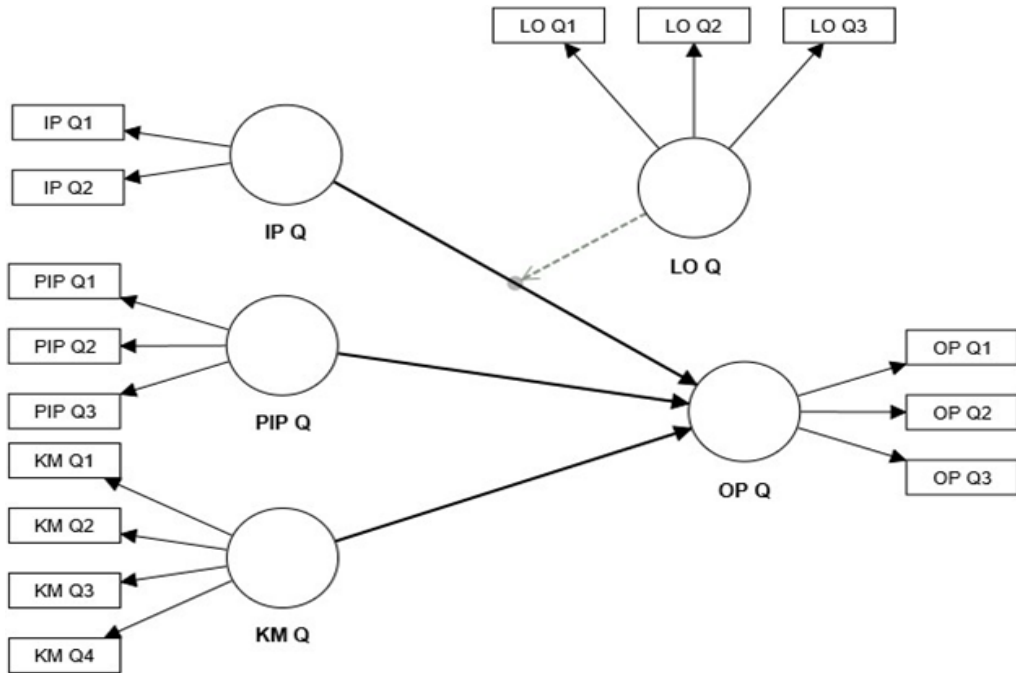
	Innovation performance	Knowledge management	Learning organization	Organization performance	Product innovation performance
Innovation performance	0.864				
Knowledge management	0.644	0.773			
Learning organization	0.693	0.743	0.833		
Organization performance	0.660	0.739	0.775	0.825	
Product innovation performance	0.775	0.703	0.745	0.706	0.814

Note: The square root of the VE is shown on the diagonal, the correlations between the constructs under shown under the diagonal.

4.6 Structural Model

The research produced a structural model based on bootstrapping of 5,000 subsets. The structural model is described, and the findings of the model and hypotheses are presented in succeeding parts.

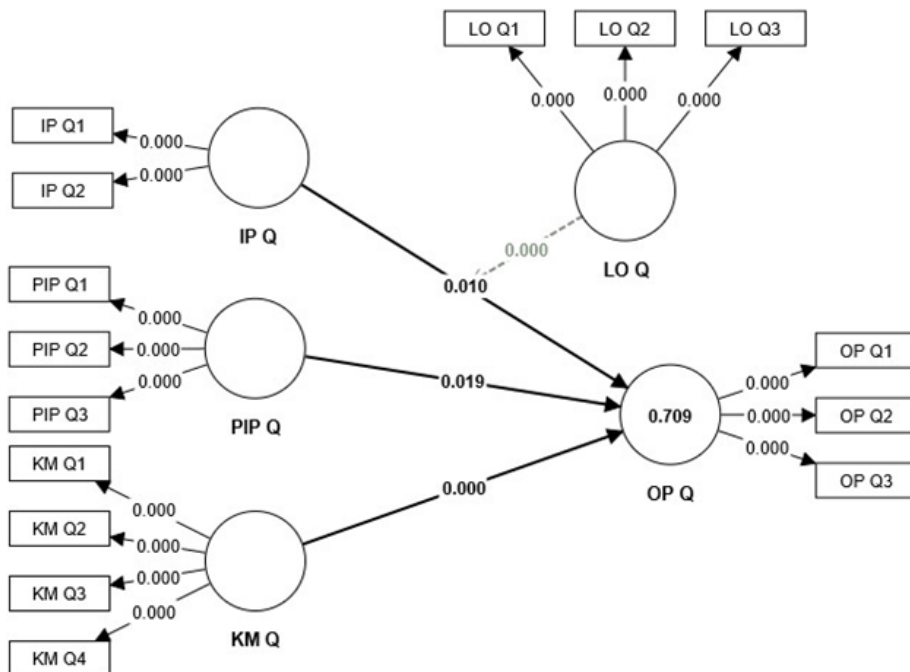
Figure 2 Structural Model



4.6 Measurement Model

The measurement model analyzes the correlation between the latent variables and their corresponding measurements. The structural model represents the connection between the underlying variables. In order to evaluate the measurement model, it is customary to fully saturate the structural model, which involves enabling all latent variables to correlate with each other.

Figure 3 Measurement Model



4.7 Predictability of the Model

This research has ascertained the predictability of the model based on R square values. The adjusted r square values are greater than 0.10, suggesting that the model has adequate predictive power.

Table 5: Predictivity of the Model

	R-Square	R-Square Adjusted
Organization	0.709	0.705

4.8 Hypothesis Results

Innovation performance (H1) has a significant determination influence on organization performance with t-statistic 2.586(p=0.010) Knowledge management (H2) has significant impact on organization performance with t-statistic 7.091(p=0.000) Learning organization (H3) has significant impact on organization performance with t-value 9.146(p=0.000) Product innovation performance (H4) has significant determination influence on organization performance with t-value 2.343 (p=0.019).

Table 6: Hypothesis Testing

Hypothesis	Structural relation	Std. deviation (STDEV)	T-Values	P-Values	Beta	Result
H ₁	Innovation performance-> organization performance	0.040	2.586	0.010	0.002	Accept
H ₂	Product innovation performance-> organization performance	0.049	2.343	0.019	0.002	Accept
H ₃	Knowledge management-> organization performance	0.047	7.091	0.000	0.001	Accept
H ₄	Learning organization-> innovation performance-> organization performance	0.031	5.279	0.000		Accept

5. DISCUSSION

The study focuses on the relationship between inbound open innovation and firm performance. Specifically, the study identifies the key factors that contribute to the success of inbound open innovation and how these factors influence firm performance. Hypotheses (H1) state that internal innovation performance positively influences organization performance. The current study results show that internal innovation performance has a significantly positive influence on organization performance with the effect size ($\beta = 0.002$)². The current results have been validated with the results of previous studies. According to Denicolai et al. (2018), Innovation performance is of fundamental importance to a company's value creation and decision-making processes. Innovation is one of the key processes in any business organization and its management and measurement should be defined as a structured process. Technological assets have a substantial impact on organizational performance by enhancing both the prospective and actual ability to absorb and utilize new knowledge and information. These abilities, in return, influence the internal adaptability of the workforce and the creativity inside the business, ultimately resulting in improved organizational effectiveness (García-Sánchez et al., 2018). These studies collectively show that the internal performance of innovation has a crucial role in determining the success of a company. It affects several areas of how the business operates and leads to better performance results. Hypotheses (H2) state that product innovation performance positively influences organization performance. The current study results show that product innovation

performance has significantly positive influence on organization performance with the effect size ($\beta = 0.002$)² From the consumer's point of view, product innovation is performed "first" in the market in a particular product category in order to provide more benefits to the consumer. From a market performance perspective, product innovation improves market share, revenue, and revenue growth (Cheng et al., 2020). Product advancements, particularly inside cultural institutions, have a substantial influence on social effectiveness. Technological and organizational innovations primarily affect economic performance, but product innovations have a stronger impact on social performance. This suggests that product innovation has a varied influence on different elements of organizational performance (Xie et al., 2023, Jiang et al., 2023). These studies emphasize the essential significance of product innovation in promoting organizational success, suggesting that well-executed product innovation strategies may enhance performance in several aspects of an organization.

Hypotheses (H3) state that knowledge management positively influences organization performance. The current study results show that knowledge management has significantly positive influence on organization performance with the effect size ($\beta = 0.001$)² The underlying principle of KM practice is that finding and sharing useful knowledge improves organizational performance. KM is positively associated with non-financial performance indicators such as quality, innovation and productivity (Yusuf et al., 2018). Knowledge management approaches positively impact several facets of organizational performance, including increased decision-making, improved service offerings to customers, decreased operational costs, and heightened organizational competitiveness. This is mainly because of the heightened awareness and usage of crucial information necessary for accomplishing the organization's objective. The key elements, ranked in terms of significance, are knowledge generation, dissemination, acquisition, implementation, and retention (Kimani, 2021). These studies show that when knowledge management is done properly and supported by leadership and organizational culture, it results in significant enhancements in several aspects of organizational performance.

Hypotheses (H4) state that learning organization moderates the relationship between internal innovation and organization performance positively influences on organization performance. The current study results show that learning organization and innovation performance has significantly positive influence on organization performance with the effect size ($\beta = -0.001$)² Firms that want to improve their organizational performance should focus on developing a culture of continuous learning and improvement, investing in innovation projects, and ensuring that they have strong leadership and a clear strategic vision. By doing so, they can improve their innovation performance and create a more successful and competitive organization. The quality of a learning organization is necessary for an organization to be able to achieve these goals. It is an organization that fosters learning for all its members and consciously changes and influences the situation (Ali et al., 2016). firms that prioritize learning may effectively convert resources and innovation initiatives into improved performance, especially in environmentally conscious firms. This suggests that a learning company may successfully manage and improve the connection between internal green innovation initiatives and organizational

performance, while maintaining a balance between growth and environmental concerns (Zhang et al., 2018). The attitude of personnel towards learning within an organization can have a substantial influence on adaptive performance. This implies that the culture of a learning company may influence the connection between mentality and performance, hence affecting how internal innovation activities contribute to overall organizational performance. The study emphasizes the significance of an organizational learning culture in promoting both learning and adaptive performance (Świątkowski and Dompnier, 2020). These studies demonstrate that a learning organization may effectively control and improve the connection between internal innovation initiatives and organizational performance. This highlights the important significance of a learning orientation in generating better performance results.

5.1 Theoretical Implications

This study's findings demonstrate that open innovation boosts performance across the board, but notably innovation and financial outcomes. Resources were the basis for the idea put forward in this research. Instead of looking outside the firm to determine whether their leveraging efforts were successful or not, RBT takes a more inwardly focused strategy by analyzing their own resources (Kozlenkova et al., 2014). The objective is to take into consideration business resources that are not easily replicable but have the ability to provide a competitive edge in the long run. The existing research on the correlation between incoming openness and performance has shown conflicting results.

5.2 Practical Implications

Academics and practitioners alike should find something of value in this piece, we think. In order to analyze the association between openness and performance, researchers might use this study as a foundation to overcome the constraints of her existing OI research. Include a metric that objectively assesses how open an organization is. H. A more accurate indication than metrics based on secondary data is the amount of investment in external intangibles. Different developmental and job consequences can be better understood when several performance dimensions are defined. While investments in creating intangibles and acquisitions both have a favorable impact on management's bottom line, we contend that acquisitions are somewhat more successful. As far as I can tell, yes. On the other hand, we discover that underdevelopment has a little more noticeable effect on workers, even while these investments don't directly affect other factors like financial and human capital performance.

5.3 Conclusion

Based on the findings of this research paper, it can be concluded that internal innovation performance, knowledge management, and product innovation performance are significant predictors of organization performance. Furthermore, the results indicate that the relationship between internal innovation performance and organization performance is moderated by the presence of a learning

organization. These findings suggest that organizations should focus on improving their internal innovation performance, knowledge management, and product innovation performance in order to enhance their overall performance. Additionally, organizations should strive to become learning organizations in order to maximize the benefits of their internal innovation efforts. Overall, this research provides valuable insights into the factors that contribute to organization performance and can inform the development of strategies aimed at improving performance in this area. Additionally, the findings suggest that product innovation performance is a key driver of organization performance, as it enables organizations to create new products and services that meet the evolving needs of customers. Finally, the results indicate that the presence of a learning organization can help to amplify the positive effects of internal innovation performance on organization performance. This underscores the importance of creating a culture of continuous learning and improvement within organizations. Overall, this research provides valuable insights into the factors that contribute to organization performance and can inform the development of strategies aimed at improving performance in this area.

5.4 Limitations and Future Direction

Despite the variety of methodologies used in this study, it may not have been able to fully capture the range of innovation performance. While metrics like market share, revenue generation, patents, product debuts, and return on investment are important, they might not completely account for other factors that contribute to the success of innovation, such long-term sustainability, staff engagement, and customer pleasure. The results might not apply to all sectors of the economy or all regions of the world. The factors influencing innovation and success may vary throughout sectors, and generalization of findings from one setting may not be feasible. The cross-sectional design of the study may not fully reflect how dynamic and ever-changing innovation processes are. The effect of innovation on performance can change over time, and longer-term research may offer more meaningful insights. information management is an innovative technique, however the study might not completely investigate the subtleties of managing, sharing, and leveraging information for innovation inside firms. There is room for closer investigation of the variety of knowledge management approaches and how they specifically affect innovation. Subsequent research endeavors may include qualitative methodologies, such as case studies or interviews, to acquire more profound understanding of innovation processes and their influence on performance. This might be an addition to the present study's quantitative measurements. Further research may expand on the foundational work of this study by addressing these constraints and investigating these future paths. This will provide richer and more nuanced insights into the complicated interaction between innovation, knowledge management, and company performance.

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