

Exploring the link between Innovativeness and Organizational Performance

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Abstract

Purpose: The present paper is an attempt to examine the impact of innovativeness on organizational performance. The investigation was carried out in Information Technology (IT) industry of Northern region of India.

Methodology: A sample of 420 employees working in the Northern region was analyzed by applying Partial Least Square Structural Equation Modeling 3.0 (PLS-SEM) and Statistical Package for Social Sciences (SPSS).

Findings: The key objective of the present research is to identify the dimensions of organizational innovativeness that has an effect on organizational performance. The findings revealed that product, process and marketing innovativeness have a significant and positive impact on organizational performance, whereas, the impact of behavioral innovativeness on performance is not significant.

Practical Implications: The outcomes of the study provide important insights to the policy makers and strategists to redesign the innovation practices and strategies that will further help in improving organizational performance.

Originality: Limited studies have been conducted in IT sector of Northern region in order to determine the role of innovativeness in predicting organizational performance. Therefore, the results of this study contributes to the existing literature and also presents the perception of employees regarding the role of innovation to improve organizational performance.

Keywords: *Information Technology, Organizational innovativeness, organizational performance, Structural Equation Modeling, India*

1. Introduction

In the last few decades, researchers have been working on the concept of innovativeness, and how it favors organizations to remain competitive in this business scenario. In this complex and dynamic environment and modernizing demands of the customers, businesses have been trying to innovate and discover new ways to perform their business activities. In the context of organization, innovativeness can be defined as the innovative culture that motivates the workforce to explore innovative concepts and finding solutions to the issues in different ways (Chatman and Cha, 2003). Ability of an organization to innovate is regarded as an important factor for the success and sustainability of the organization (Rhee et al., 2010; Rubera and Kirca, 2012). The number of innovations implemented by an organization is the operational definition of organizational innovativeness (Avlonitis et al., 1994; Garcia and Calantone, 2002).

Studies have stated that innovativeness has been considered as a crucial element in determining organizational performance (Calantone et al., 2002; Lee and Tsai, 2005; Hughes and Morgan, 2007) and also play a crucial role in improving the profitability and growth of modern business firms (Wuyts et al., 2004; Tajeddini, 2009). Innovative firms are more flexible and can face the challenges and transformations easily, therefore, are better in creating new opportunities and exploiting the existing opportunities (Drucker, 1985). Generally, innovativeness is used either in defining an individual innovation or its influence and importance (Kleinschmidt and Cooper, 1991; Brockman and Morgan, 2003) or is used in describing the organizational culture (Hurley et al., 2005). Various scholars have focused on the significance of innovation from the strategic viewpoint in gaining a competitive edge and creating value (Franko, 1989). Thus it can be concluded that innovativeness can be considered as one of the significant factors for providing strategies to move into new marketplaces, improve the already existing market share and also helps in gaining competitive advantage.”

The concept of innovativeness has become an essential ability of an organization to distinguish them from others (Vila and Kuster, 2007). Organizations have understood the importance of innovations to deal with the situations and sustain in this competitive scenario. Every individual and organization has initiated the process of applying their innovative strategies to enhance the performance level and gain competitive advantage in globalized environment and to achieve this, organizations have been investing more to boost overall performance (Franco-Santos et al., 2012).

According to Metcalfe (1998), when innovativeness of an organization withers, the level of organizational growth also decreases. Due to increase in competition level in this globalized environment, organizations have understood the significance of



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innovation (Gunday et al., 2011). Increase in innovativeness helps the organizations by evolving new competencies that allows to accomplish and sustain improved performance in today's multifaceted, competitive and constantly fluctuating environment (Cepeda-Carrion et al., 2012; Wang and Wang, 2012). Organization's innovative behavior has an imperative role in enhancing the performance of the organization, maintaining reputation and also increasing the competition level in the marketplace. In the current times, organizations are upgrading their competitive position and embracing innovation for surviving and succeeding in a competitive environment (Baumol, 2002). Low performing organizations are less likely to attract new clients and can also destroy the trust of present customers associated with the organization (Alosani et al. 2019). Thus in the current times of rapid and continuous environmental changes; and intense competition, there is a strong need to explore the role of organizational innovativeness in terms of product innovativeness, process innovativeness, marketing innovativeness and behavioral innovativeness towards the performance of the organization.

The present study is focused on examining the impact of innovativeness on organizational performance in North Indian IT sector. In 2020, IT sector has contributed around 8 percent to the country's GDP. The revenue of IT sector is estimated to reach US\$ 194 billion in 2021 with 2.3 percent increase (NASSCOM, 2021) and this sector has been growing rapidly and is one of the biggest employment generating sectors. Limited research has been conducted in the selected region highlighting the impact on innovativeness on organizational performance, so to fill this research gap, the present study has emphasized on exploring the link between the four dimensions of organizational innovativeness and performance of organization. Moreover, previous research studies have treated innovativeness as a unidimensional construct.

Therefore, analyzing the impact different dimensions of innovativeness (product, process, marketing and behavioral) on organizational performance provide an important insight in taking effective measures to improve performance of their firm. The main objective of the study is to analyze the impact of different dimensions of organizational innovativeness on organizational performance. The results of the study will contribute in framing innovative strategies by analyzing the innovativeness-performance relationship on the basis of empirical data, by the managers and the policy-makers to boost the organizational performance and gain competitive advantage.

2. Review of Literature

2.1 Theoretical Framework

Resource-based view of the firm (Barney, 1991) has been considered as a theoretical framework in the present study. According to the concept of RBV theory, the organizations with certain resources and better proficiencies will have a competitive



advantage and improved performance. In the domain of innovativeness, the resource based view serves as a theoretical underpinning to examine the relationship between the firm's capability to innovate and organizational performance. The ability of an organization to renew the supply of resources to adopt innovation is determined by competitive advantage (Eisenhardt and Martin, 2006). The concept of RBV suggests that innovativeness helps the organizations in gaining a competitive advantage and improving organizational performance (Barney, 1986). Yang et al. (2009) and Damanpour et al. (2009) stated that RBV provides clear investigation of relationship between innovativeness and performance. But some studies have also found an insignificant relationship between innovativeness and performance (Terziovski, 2010).

In context of the present study, innovativeness is considered as a value-creating element that helps the organizations to adopt new ideas, processes and approaches to face the challenging demands of the customers and enhance performance. Organizations with innovative behavior motivates their employees to search for new tactics to introduce newness in the products and services that will help in attracting new customers (Theoharakis and Hooley, 2008).

2.2 Innovativeness

Shan et al. (2016) defined innovativeness as “a firm's tendency to engage in and support new ideas, experimentation, and creative processes that may result in new products, services, or technological processes”. Calantone et al. (2002) stated that firm innovativeness is conceptualized from two viewpoints, first is behavioral and second is willingness to change. Apart from the basic classification of innovation as product and process innovation, the concept can also be assessed as product, process, marketing and organizational innovation (OECD, 2005). Also, Wang and Ahmed (2004) stated that dimensions of product, process, marketing, strategic and behavioral innovation helps in examining the competitive capabilities of the organizations.

Product innovation is introducing new or better products to the marketplace, the improvements can be in terms of technicalities, composition or other functions. This type of innovation is mainly focused on differences in needs of customers or increase in competition level. Further, process innovation is implementing new or advanced production methods, changes in technique, tools or the software used. Process innovation is planned to deliver new or improved quality products and decrease production costs. Marketing innovation is the process of implementing innovative marketing methods by modifications in designing and packaging, pricing and promotions. Such innovations aims at need of customers by positioning the products with the objective of enhancing sales of the organization. Lastly, organizational innovativeness is the process of implementing innovative business strategies. This type



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of innovation helps the organizations by reducing the transactional and administrative expenditure, increasing the performance level and satisfaction level of the workforce (OECD Oslo Manual, 2005).

2.3 Organizational performance

Performance of any organization has a significant role in attracting new customers and retain the previous customers. Performance can be defined as the process of assessing the progress of an organization in achieving the set objectives (Neely et al. 2005). Organizations use different techniques for the evaluation of performance. Performance is also defined as an output or actual performance of an organization. Financial and non-financial measures can be used to assess the performance of the organization (Bagorogoza and Waal, 2010; Bakar and Ahmad, 2010). Financial measures includes ROI (Return on Investment), ROA (Return on assets), growth in sales, net profit and non-financial measures includes perspectives related to learning, growth and customers. Various researchers have included both types of performance indicators to analyze organizational performance (Hilman and Kaliappen, 2015; Saunila et al., 2014; Gunday et al., 2011).

2.4 Innovativeness and Organizational Performance

In this knowledge-driven economy, it is important to have proper innovative strategies to cope up with this dynamic environment. Organizations in this competitive scenario seek to become more innovative so that they can perform better (Sinha and Trivedi, 2014). Various researchers around the globe have conducted studies to establish the relationship between innovativeness and organizational performance. For instance, Chen et al. (2020) examined the role of organizational innovation in predicting firm performance and the results found that innovation has an impact on organizational performance and technological innovation mediates the relationship between innovation and firm performance. If the organizations offer innovative products in this transforming and competitive market, the customer and organizational relationship also gets invigorated.

Developing and promoting innovative products and services helps in enhancing the organizational performance. Baker and Sinkula (2002) stated that, long term success of the organization depends on the innovativeness of the firm. Such innovative firms can easily take a lead to grab opportunities in the market which helps in improving the organizational performance (Srinivasan et al., 2009). Desai and Srivastava (2017) revealed that emotional intelligence has a moderating impact on the relationship between leadership styles and organizational performance. Yuliansyah et al. (2021) also revealed that innovativeness has a positive effect on firm's performance. Hilman and Kaliappen (2015) carried out a research among hotel industry employees in Malaysia to examine the impact of process and



service innovation on organizational performance. The findings highlighted that, in comparison to service innovation, process innovation has a higher impact on organizational performance. A similar kind of research was conducted on Dubai police to analyze the effect of innovation on performance, and the results of the study revealed that there exists a positive impact of innovation on performance (Alosani et al. 2019). Similarly, in another research conducted by Shashi et al. (2019), the product and process innovation have a positive and significant impact on environmental and financial performance.

Other research studies have also provided evidences that there exists a relationship between innovativeness and organizational performance (Saunila et al., 2014; Tajuddin et al., 2015; Cai and Li, 2018; Davila et al., 2019), whereas, some studies have found a negative or no relationship between innovativeness and performance (Subramanian and Nilakanta, 1996). Studies have found that the impact of marketing innovativeness on performance has been neglected that are also important for the effectiveness of the organization. Furthermore, most of the studies with respect to innovativeness-performance relationship were conducted in SMEs sector (Finoti et al., 2017; Bature et al., 2018; Saqib et al., 2018; Ng et al., 2019; Centobelli et al., 2019; Domi et al., 2020), manufacturing sector (Jin et al., 2004; Terzioviski, 2010; Acar and Özşahin, 2018), IT manufacturing companies (Su et al., 2018). To study a different dimension of innovativeness-performance relationship, the present research seeks to discover the impact of innovativeness on organizational performance in information technology sector to contribute to the existing literature.

After an extensive literature review, a conceptual framework was proposed for the study. Figure 1 presents the conceptual framework.

(Figure-1 here)

On the basis of the above arguments and existing empirical relationships, the study posits the following hypotheses:

H1: There is a significant impact of product innovativeness on organizational performance.

H2: There is a significant impact of process innovativeness on organizational performance.

H3: There is a significant impact of marketing innovativeness on organizational performance.

H4: There is a significant impact of behavioral innovativeness on organizational performance.



3. Research Methodology

The present research uses descriptive research design and purposive sampling (non-probability technique) to gather information from the respondents. The employees working in North Indian IT sector were selected to obtain the information. There are around 450 NASSCOM listed companies in Northern region of India (NASSCOM, 2021) and the present study has primarily focused on the IT/ITeS companies. An email was sent to the organizations whose contact details were mentioned on NASSCOM website and 76 companies responded to participate in the survey. The questionnaire with a cover letter was shared with the interested organizations through mail. The empirical analysis was performed using the responses received from 420 employees. Therefore, the sample size of the study was considered to be appropriate as per the recommendations of Cochran (1963), a sample size above 385 represents normal data. To collect data from respondents, a structured questionnaire was used, which was divided in two parts, first part consists of the items related to innovativeness and performance and second part was designed to gather information about the demographic profile of respondents. The data was analyzed by applying Structural Equation Modeling using Smart PLS 3.0 and Statistical Package for Social Sciences (SPSS).

To measure organizational innovativeness, 16 items were adapted from Wang and Ahmad (2004). Organizational performance was measured using five subjective measures (financial and non-financial) adapted from Flynn et al. (2010) and the respondents were asked to evaluate their organization's performance relative to their competitors. All the items included in the questionnaire were measured on a 7-point Likert scale ranging from 1 "Strongly Disagree" to 7 "Strongly Agree"

4. Analysis and Findings

4.1 Descriptive Analysis

Please refer to table-1 at the end of the paper

Table 1 represents the demographic profile of respondents. Out of the total number of respondents, 271 (64.5 percent) were male and 149 (35.5 percent) were female. Regarding the age group of respondents, majority (77.8 percent) were under 40 years of age category and only 36 (8.6 percent) of the respondents were above 40 years. About the marital status of the respondents, 261 (62.1 percent) were married and 159 (37.9 percent) were unmarried. In terms of the educational qualification, 278 (61 percent) of the employees were postgraduates and 78 (18.6 percent) have completed their graduation. The majority of the respondents 309 (73.5 percent) have 1-10 years of experience and only 111 (26.4 percent) respondents have more the 10 years of work experience in their present organization. Employees who have at least one year of work experience in the current organization were requested to participate in the survey.



4.2 PLS SEM Results

Smart PLS results undergoes completion of two stages, first is a measurement model assessment (reliability and validity assessment) prior to the evaluation of structural model, which is the second stage. Confirmatory factor analysis was performed to check the validity of the measurement model.

Measurement Model Assessment

Please refer to figure-1 at the end of the paper

“Reliability and validity of the constructs present in the model were examined. Reliability was examined to ensure the consistency among the variables. Cronbach’s alpha, rho_A and composite reliability were used to ensure the internal consistency reliability. In the assessment of reliability, higher the value, the higher is the reliability. The values of reliability in between 0.60 and 0.70 are considered “suitable in exploratory research”, however the values between 0.70 and 0.95 are considered “adequate to good” (Hair et al., 2019). The table (Table 2) indicates that the internal consistency reliability of the constructs was well established. Convergent validity was evaluated by Average Variance Extracted (AVE) and the value should be above 0.5 (Hair et al., 2019). The values of AVE for the constructs considered in the present study ranging from 0.62 to 0.72 (which were above 0.5), indicates that the construct explains 50 percent of the variance of its items.”

Please refer to table-2 at the end of the paper

After establishing the construct’s reliability and convergent validity, Fornell and Larcker (1981) criterion was employed to ascertain discriminant validity. Discriminant validity determines the extent to which a construct is empirically different from other constructs. Fornell and Larcker (1981) criterion recommended that the diagonal values should be greater than the value below as the condition of discriminant validity. Therefore, Table 3 shows that the discriminant validity for the model have been established.

“Discriminant validity is the extent to which a construct is empirically different from other constructs in the path model. Previous literature has used Fornell and Larcker criterion and cross loadings to establish discriminant validity. But, Henseler et al. (2015) has suggested a new approach HTMT ratio of correlations to determine discriminant validity. “HTMT Criterion is defined as the mean value of indicator correlations across constructs relative to the mean of average correlations of the indicators measuring the same construct” (Hair et al., 2019). Henseler et al. (2015) suggested that HTMT values should be lower than .90.”



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Please refer to table-3 at the end of the paper

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Structural Model Assessment

After examining the reliability and validity, Structural model assessments were employed to test the hypothesized relationships between organizational innovativeness and performance using bootstrapping method. In the first hypothesis (H1), the results revealed that product innovation has a positive and significant impact on performance ($\beta=0.443$, $p<0.05$). In the second hypothesis (H2), process innovation positively and significantly impacts performance, ($\beta=0.274$, $p<0.05$). Similarly, in third hypothesis (H3), results showed that marketing innovation also has a positive and significant impact on performance ($\beta=0.150$, $p<0.05$) and in fourth hypothesis (H4), behavioral innovation do not have significant impact on performance ($\beta=0.073$, $p>0.05$)

The value of R2 was .599, which indicates that organizational innovativeness explains 59.9 percent variance of organizational performance.

Please refer to figure-3 at the end of the paper

4.3 Path Coefficients and Hypotheses Testing

“Table 5 represents the results of hypotheses framed for the present research purpose. It was found that all the dimensions of innovativeness, except behavioral innovativeness, have a positive and significant impact on organizational performance. Therefore, H1, H2, H3 were supported and H4 was not supported. In comparison to process and marketing innovativeness, product innovation has more influence on organizational performance. Results indicate that if organizations adopt innovative culture and promote such activities at the workplace, then it will help in improving organizational performance.”

Please refer to table-5 at the end of the paper

Predictive Relevance

Q2 is the measure to assess the predictive accuracy of the path model (Geisser, 1974; Stone, 1974), and this value is calculated by using blindfolding technique in Smart PLS. Hair et al. (2019) suggested that the Q2 values should be greater than zero. Table 6 depicts that the Q2 value is greater than zero, which indicates that the model has predictive relevance.

Please refer to table-6 at the end of the paper

5. Discussion

Latest technology has created a way for the new businesses (Yunis et al., 2018), whereas, if the acceptance rate towards the new technology is slow, the businesses will not be able to survive in this competitive environment and will get closed within few years of their operational activities (Bunyasi et al., 2014). The study was conducted to gain insights in enhancing performance through organizational innovativeness from the perspective of employees working in Indian IT sector. The study found that innovativeness is an important contributor in enhancing the performance level of organizations in this globalized and intensified competitive environment. The main contribution of the study is the confirmation that effectiveness of innovativeness helps in predicting better performance of Indian IT sector.

Regarding the individual effects of dimensions of innovativeness, product innovation has a higher impact on the organizational performance ($\beta=0.443$, $t=7.322$, $p<0.05$), followed by the impact of process innovation ($\beta=0.274$, $t=4.779$, $p<0.05$) and then marketing innovation ($\beta=0.150$, $t=3.064$, $p<0.05$). Findings revealed that introducing innovative products to the customers will help in improving the performance level of the organization. It was also believed that adopting new ways in production of innovative products as well as introducing innovative ways to promote them will also help in enhancing the performance. Employees feel motivated when they think of introducing new and innovative ways to meet the demands of the customers. Behavioral innovativeness do not have a significant impact on organizational performance ($\beta=0.073$, $t=1.939$, $p>0.05$). The employees might not be getting enough support from their managers, as organizations have to follow work from home protocol during the pandemic. So the innovativeness in terms of behavioral outcomes may not be as impactful as compared to other forms of innovativeness.

Organizations modify the existing products and introduce new products to attract potential customers and to improve performance. As suggested by Taticchi et al. (2010), the organizations need to maintain an innovative culture to improve organizational performance to deal with the market uncertainties. Organizations should also focus on encouraging employees who think innovatively and try new ways of doing the tasks so that behavioral innovativeness can impact the organizational performance. Therefore, organizations should improvise their existing services to sustain their business and to achieve this, they should introduce innovativeness to their workplace (Brown and McDonell, 1995).

Results of this study contribute to the previous literature on the relationship between innovativeness and organizational performance (Deshpandè and Farley, 2007; Battisti and Stoneman, 2010; Gunday et al., 2011; Alpay et al., 2012; Alegre et al., 2013; Tajuddin et al., 2015; Cai and Li, 2018; Davila et al., 2019; Centobelli et al., 2019).



The results of the present study has therefore served as a validation of the findings obtained from the previous research studies. To summarize, based on the findings of the study, it implies that if organizations adopt and implement innovative strategies at the workplace, the organizational performance will enhance.

6. Implications of the Study

The results of the study have both theoretical and managerial implications. The study has identified the strength of the relationship between the dimensions of innovativeness and organizational performance. The study contributes to the IT sector by highlighting the need to develop an innovative environment as a way to improve the organizational performance. The findings of the research also contribute to the managers and strategists of IT sector to emphasize and formulate appropriate strategies to create an innovative environment at the workplace that will also motivate the employees to think beyond and help in improving organizational performance. As the product innovativeness was found to have the strongest impact, organizations must focus on meeting the demands and requirements of the customers and this will ultimately enhance the performance of the newly launched product (Atuahene-Gima, 1996).

The study will also help the management to formulate and deploy appropriate strategies to develop the organizational innovativeness and can also make best use of them for the growth and development of the organization. Furthermore, the results will also help the managers to take more effective decisions related to the incorporation of innovative culture to their organization as a part of their organizational strategy to improve effectiveness of the firm. In order to enhance performance of the organization, the management should assess their organization's readiness to respond to the innovations to meet the needs of the customers in this competitive environment. In this competitive environment, this study presents some important implications to the management, policy-makers to inculcate the innovative culture in the organization.

7. Recommendations

Innovation is considered as an effective tool in enhancing organizational performance, therefore strategy makers should focus on maintaining innovative culture in the organizations to enhance performance and gaining competitive advantage. Secondly, the key findings of the study support that innovativeness plays a vital role in predicting the performance and therefore, the policy makers should ensure the proper execution of such strategies. The concept of organizational innovativeness in the present study will help the organizations in effective measurement of their innovative capability. Organizations should focus on maintaining an innovative environment to meet the needs of the existing as well as future customers. The managers should nurture the implementation of innovativeness to have better organizational performance. Managers



should also encourage and motivate their employees in developing innovative ideas that helps the organizations to meet the desired objectives (Chatman and Cha, 2003).

As the process of innovativeness requires a risk-taking behavior, therefore the organizations should ensure optimum efforts to meet the requirements of the diverse marketplace. Organizations need to properly interpret the changing trends with respect to the customers as well as the competitors to innovate in right direction. Furthermore, if the organizations and their management wishes to enhance the performance, then there would be a need to make required modifications to the products, process, marketing and behavioral innovativeness to manage the demands of innovative products and services of the customers by adopting a synchronized innovative culture. Incorporating such strategies in the organizational environment will help the organizations in developing and improving the performance which can be the ultimate goal of any business entity.

8. Limitations and Future Scope

Despite of having practical contributions, the study also has some limitations that creates a pathway for future scope. Results are based primary data collected from IT companies of North Indian region, therefore the results may not be generalizable to the firms in other regions or economies. Future research can include different level of IT industries to perform a comparative analysis which will be advantageous in identifying that which level of IT industries has improved their organizational performance through innovativeness. Similar studies can also be conducted in diverse geographical locations to have generalizability of the findings of the present study.

Studies can also be conducted using the secondary data in other sectors or countries to test the validity, robustness and generalizability of the results. Also, the present study has analyzed the impact of four dimensions of innovativeness on organizational performance, therefore, further research studies can have comprehensive understanding of the relationship of other dimensions of innovativeness with organizational performance in different sectors with greater sample size, as higher sample size helps in strengthening the results and the generalizability. Future research can also cover the mediating effect of risk taking propensity of the firm on the relationship between innovativeness and firm performance.

Studies conducted in future can also put special emphasis on the financial aspects of performance of the organization to verify the results as the present study were based on both financial and non-financial indicators. Furthermore, comparable results can be obtained by conducting a similar kind of study in developed and developing countries. When analyzing the antecedents of organizational performance, the researchers should also consider other factors also, for instance, organizational culture, employees' commitment and contentment level. Yuliansyah et al. (2021)



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have studied the variable organizational learning, while examining the relationship between innovativeness and performance. The nature of the study is descriptive, future studies can adopt exploratory research design to provide new and additional insights while measuring organizational performance. Further, as COVID pandemic has affected several economies of the world, therefore, a comparative study can also be conducted on the variables pre and post covid-19 period to derive substantial and reliable results.

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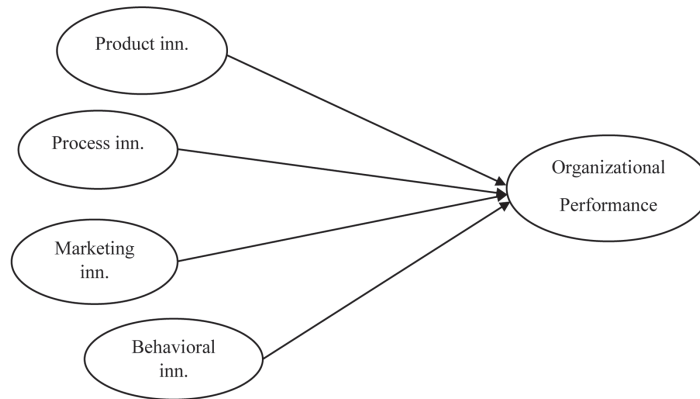
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Figure 1. Proposed Conceptual Framework



Source: The author

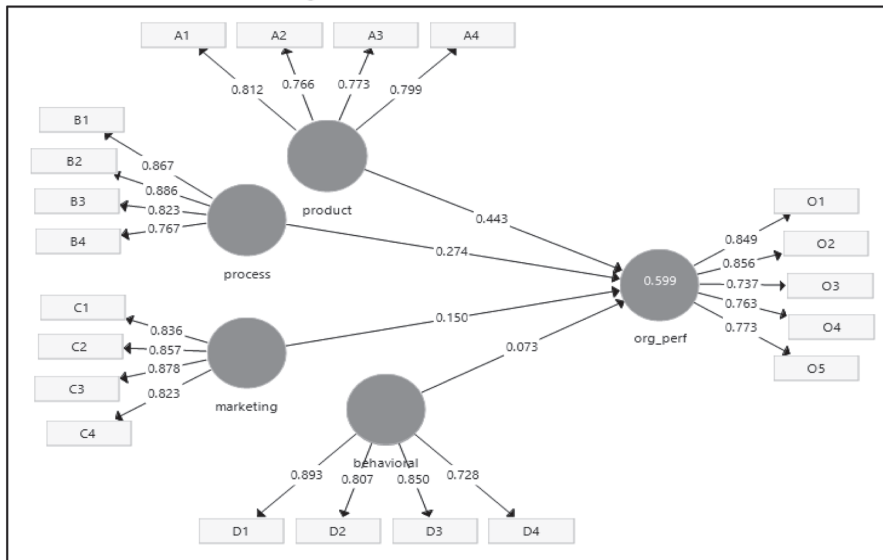
Table 1. Demographic Profile

Characteristics	Category	Frequency	Percent
Age	less than 29 years	156	37.1
	29-34 years	171	40.7
	35-40 years	57	13.6
	Above 40 years	36	8.6
	Total	420	100
Gender	Male	271	64.5
	Female	149	35.5
	Total	420	100
Marital Status	Married	261	62.1
	Unmarried	159	37.9
	Total	420	100
Educational Qualification	Graduation	78	18.6
	Post-Graduation	278	66.2
	Others	64	15.2
	Total	420	100
Experience	less than 5 years	153	36.4
	5-10 years	156	37.1
	above 10 years	111	26.4
	Total	420	100

Source: Author's Calculations



Figure 2. Measurement Model



Source: Author's Calculations

Table 2. Measurement Model Assessments

Construct	Indicator	Factor Loading	Cronbach alpha	rho_A	Composite Reliability	AVE
Product Innovativeness	A1	0.812	0.798	0.808	0.867	0.62
	A2	0.766				
	A3	0.773				
	A4	0.799				
Process Innovativeness	B1	0.867	0.857	0.866	0.903	0.701
	B2	0.886				
	B3	0.823				
	B4	0.767				
Marketing Innovativeness	C1	0.836	0.871	0.882	0.911	0.72
	C2	0.857				
	C3	0.878				
	C4	0.823				
Behavioral Innovativeness	D1	0.893	0.853	0.862	0.892	0.675
	D2	0.807				
	D3	0.85				
	D4	0.728				
Organizational Performance	O1	0.849	0.855	0.86	0.897	0.635
	O2	0.856				
	O3	0.737				
	O4	0.763				
	O5	0.773				

Source: Author's Calculations



Table 3. Discriminant Validity

	Behavioral	Marketing	org_perf	process	Product
behavioral	0.822				
marketing	0.037	0.849			
org_perf	0.102	0.585	0.797		
process	-0.031	0.562	0.66	0.837	
product	0.071	0.628	0.73	0.686	0.788

Note: org_perf- Organizational Performance

Source: Author’s Calculations (Fornell and Larcker, 1981 criterion)

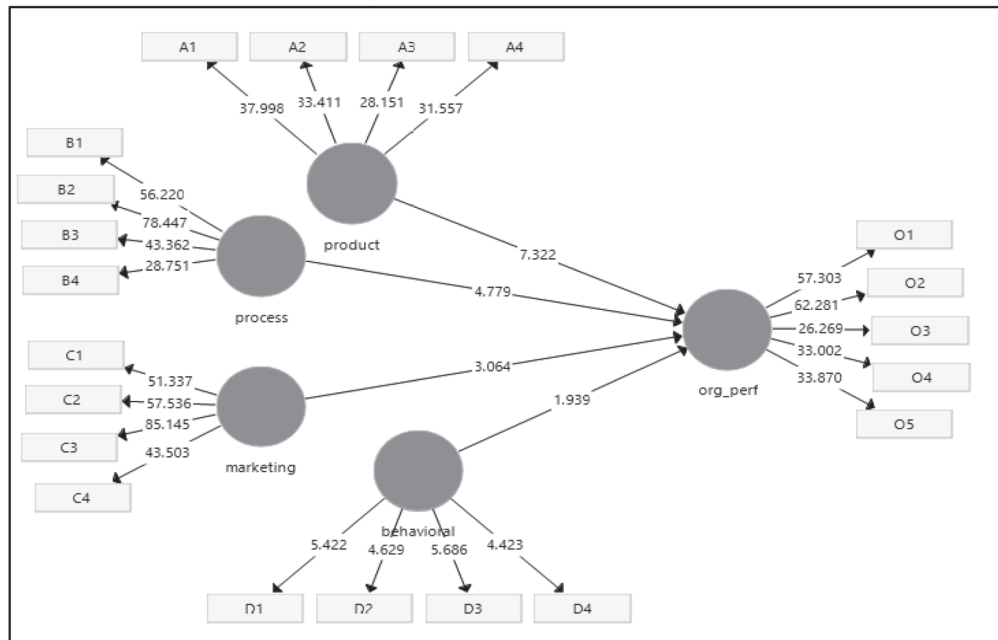
Table 4. Heterotrait-Monotrait Ratio (HTMT)

	Behavioral	Marketing	org_perf	process	product
behavioral					
marketing	0.053				
org_perf	0.098	0.672			
process	0.06	0.631	0.763		
product	0.091	0.746	0.864	0.816	

Note: org_perf- Organizational Performance

Source: Author’s Calculations

Figure 3. Structural Model



Source: Author’s Calculations



Table 5. Path coefficients

Hypotheses	Standardized Beta Value	Standard Deviation	t-value	P-Values	Results
product -> org_perf	0.443	0.060	7.322	0.000	Supported
process -> org_perf	0.274	0.057	4.779	0.000	Supported
marketing -> org_perf	0.150	0.049	3.064	0.002	Supported
behavioral -> org_perf	0.073	0.038	1.939	0.053	Not Supported

Note: org_perf – Organizational Performance

Source: Author’s Calculations

Table 6. Predictive Relevance

Construct	SSO	SSE	Q ² (=1-SSE/SSO)
Organizational Performance	2100	1314.9	0.374

Source: Author’s Calculations



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