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MODELLING THE TRILOGY OF INNOVATION, LEARNING AND PERFORMANCE

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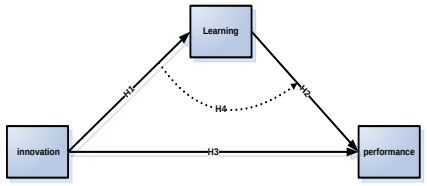
Graphical abstract



Abstract

Recently, organizations are looking the ways to enhance their performance through innovation and learning. Most organizations are enhancing innovation to increase performance and to get a competitive advantage. However, very few studies are focused to investigate the role of organizational learning in the context of organizational innovation and performance. Current study aimed to investigate the mediating role of organizational learning between the relationship of the organizational innovation and performance. A random sample of 212 employees of the banking sector was selected to collect data. Results indicated that organizational learning significantly mediates the relationship of the organizational innovation and performance. Thus, a study was conducted to assess the presence of organizational learning can enhance the organizational performance in the presence of organizational innovation.

Keywords: performance, Organizational innovation, organizational learning.

1.0 INTRODUCTION

Banking Sector has witnessed many technological and procedural innovations during the recent years, which directly affected the performance of banks. Most of the recent research focused on finding the direct relationship of innovation and learning with performance [1]. Innovation leads to procedural changes which organizations are facing in the dynamic and competitive environment and no doubt the role of organizational learning is crucial in adapting the innovation. Many researchers tried to establish its relationship with organizational performance. Study of the literature indicates less emphasis on the mediating role of learning between the relationship of organizational innovation and performance. This current study will try to fill this gap.

2.0 LITERATURE REVIEW

2.1 Organizational Learning

Organizational learning is the capability "within an organization to maintain or improve performance based on experience. This activity involves knowledge acquisition (the development or creation of skills, insights, and relationships), knowledge sharing (the dissemination to others of what has been acquired by some), and knowledge utilization (integration of learning so that it is assimilated and broadly available and can be generalized to new situations)" [2]. Therefore, organizational learning is the process by which the organization increases the knowledge created by individuals in an organized way and transforms this knowledge into part of the organization's knowledge system. The process takes place within a community of interaction in which the organization creates knowledge, which expands in a

constant dynamic between the tacit and the explicit [3]. The development of new abilities and knowledge and the increase in the organization's capability enable organizational learning. Organizational learning involves cognitive and behavioral change. More than ever, organizational learning has become a need rather than a choice. Inability to learn is the reason most firms disappear before forty years have passed [4].

Organizational learning is a major component in any effort to improve organizational performance and strengthen competitive advantage. The development of new knowledge, derived from organizational learning, reduces the likelihood that a firm's competencies will become outdated, enabling the competencies to remain dynamic and thus favoring improvement in performance. Organizational learning usually has positive connotations, since this form of learning is associated with performance improvements [4]. The primary aim of organizational learning is to enhance the performance, quality and quantity, allowing the firm to increase and improve sales, to achieve more support and to create, maintain and enlarge its customer base. Further, organizations that learn and learn quickly increase strategic capability, enabling them to sustain a position of competitive advantage and improve their results. These attitudes, behaviors, and strategies of organizational learning guide organizations to superior long term performance [7].

2.2 Organizational Innovation

Innovations are important since they constitute the basis for acquiring and retention of a sustainable competitive advantage [7]. Innovation can be defined as ''a new idea, method, or device. The act of creating a new product or process. The act includes invention as well as the work required to bring an idea or concept into final form'' [8-11].

The extensive and diverse literature on organizational innovation has received important contributions from works on organizational learning in the last decade. Much of this research observes a positive relationship between organizational learning and employee effectiveness, which ultimately affects organizational performance [12]. Various authors also show that innovation is essential to improving performance and that innovation comes into play in order to improve organizational performance [4, 13].

Although research widely prescribes firm innovation as a means of improving organizational performance, many firms do not or cannot develop innovation properly. Researchers urge attention to what enables firms to innovate, to search for answers beyond semiautomatic stimulus–response processes [14]. Empirical studies support the relationship between organizational learning and innovation [13]. Different types of learning and innovation are also related. For example, generative learning is the most advanced form of organizational learning and occurs when an organization is willing to question long-held assumptions about its mission, customers, capabilities, and strategy and to generate changes in its practices, strategies, and values. Such learning forms the necessary underpinnings for radical innovations in products, processes, and technologies [4, 15].

An organization committed to learning increases its organizational innovative capability because the organization is less likely to miss the opportunities that emerging market demand creates. Such organizations have the ability and knowledge to anticipate customer needs, possess more and better state of the art technology and use that technology to innovate [12]. Different theories reveal that organizational innovation is important for organizational performance. Organizations that concentrate on speed of innovation gain a greater market share, which produces income and high profitability. The more valuable, imperfectly imitable and rare innovations are, the higher performance will be [12].

2.3 Organizational Performance

Organizational performance refers to the ability of an enterprise to achieve such objectives as high profit, quality product, large market share, good financial results, and survival at pre-determined time using relevant strategy for action [16]. McCloy et al. described performance as those behaviours or actions which are regarded as relevant to those goals of the said organization in question [17].

Past researchers further argued that performance itself cannot be said to be the outcome itself, consequences or the result of behaviors or action, but rather performance can be said it is the action itself [16-17]. Thus they argued that performance tends to be multidimensional, a situation whereby for any specific-type of job, there tends to be a number of substantive performance components that are distinguished in terms of their inter-correlations and patterns on co-variation with other variables.

Organizational performance can also be used to view how an enterprise is doing in terms of level of profit, market share and product quality in relation to other enterprises in the same industry. Consequently, it is a reflection of productivity of members of an enterprise measured in terms of revenue, profit, growth, development and expansion of the organization.

2.4 Organizational Learning and Innovation

The extensive and diverse literature on organizational innovation has received important contributions from works on organizational learning in the last decade. Much of this research observes a positive relationship between organizational learning and organizational innovation [10, 12]. Different types of organizational learning (adaptive or generative) and innovation

(incremental or radical) have a close, positive connection [18]. The deeper innovation reaches, the greater the degree of learning required. Thus, the more innovative the products, services or methods, the greater the degree of critical capacity, skill and new and relevant knowledge necessary [15]. The process of creating organizational knowledge, which draws new knowledge from existing (organizational learning), is the cornerstone of innovative activities. Organizational knowledge creation is the process that strengthens innovation, not knowledge in itself [3]. Further, organizational innovation depends on the organization's knowledge base, and organizational learning in turn promotes this knowledge base [19].

An increasing number of firms had analyzed organizational innovation as an organizational learning process or apply organizational learning models to specific aspects of the organizational innovation process [20]. Organizational learning supports creativity [21], inspires new knowledge and ideas [22], increases ability to understand and apply these ideas [22], favors organizational intelligence and (with the organization's culture) forms a background for organizational innovation orientation. An organization committed to learning increases its organizational innovative capability because the organization is less likely to miss the opportunities that emerging market demand creates. Such organizations have the ability and knowledge to anticipate and understand customer needs, possess more and better state-of-the art technology, and use that technology to innovate. They also have a strong capacity to understand rivals' strengths and weaknesses and thus to learn from their successes and their failures and to generate greater innovative capability than competitors [12].

These ideas have recently begun to receive some empirical attention. Past studies had shown a positive association between organizational innovation and a culture that emphasizes adaptation, innovation, and learning [13]. By analyzing a sample of innovative firms, research can show that more complex and innovative activities urge firms to coordinate and exchange information between users and producers, which implies strong interactive learning [23]. This study proposed the following hypothesis on the basis of the above discussion.

H1: There is a positive relationship between organizational innovation and organizational learning

2.5 Organizational Learning and Performance

The literature emphasizes the importance of organizational learning for a company's survival and effective performance [4, 15]. However, empirical analysis of this relationship has been limited, due to various difficulties, such as ambiguity or the time delay between the two (today's learning will affect tomorrow's performance) and the possibility that exogenous factors disguise the results of learning. Research should analyze the influence of organizational learning on performance in technological firms empirically, but a little knowledge is available concerning the mechanisms that transform organizational learning into performance [24].

To assert that an increase in organizational learning always leads to growth in organizational performance is erroneous, since learning may not always improve an organization's results [24]. Nonetheless, generally speaking, organizational learning has a positive influence on performance improvements. This positive influence normally occurs in both technological companies and manufacturing firms [4, 15]. Firms that show a greater breadth, depth, and speed of organizational learning have higher performance levels [13].

The primary aim of organizational learning is to enhance performance, quality and quantity, allowing the firm to increase and improve sales; to achieve more support; and to create, maintain and enlarge its customer base. Further, organizations that learn and learn quickly increase strategic capability, enabling them to sustain a position of competitive advantage and improve their results. These attitudes, behaviors, and strategies of organizational learning will guide organizations to superior long-term performance.

Organizations that encourage the learning spirit tends to sacrifice (to some extent) immediate performance to achieve future performance, since immediate performance is due to the organizational learning drawn from yesterday, while future performance will be the product of today's learning process [15]. This study proposed following hypothesis on the basis of the above discussion

H2: There is a positive relationship between organizational learning and performance

2.6 Organizational Innovation and Performance

Different theories reveal that organizational innovation is essential for better performance. According to marketing theories, organizations that concentrate on speed of innovation gain a greater market share, which produces high income and high profitability.

Strategic theories stress that organizations that adopt an innovation first are able to create isolation mechanisms. Because knowledge of the innovation is not available to competitors, these mechanisms protect profit margins, enabling the organization to gain important benefits.

Likewise, the theory of resources and capabilities maintains that the capabilities, resources and technologies needed to adopt the innovation make external imitation more difficult and allow firms to sustain their competitive advantages and obtain greater organizational performance [25].

Thus, a positive link exists between organizational innovation and organizational performance [26], or

between different aspects of organizational innovation (e.g., innovation in design or speed and flexibility) and organizational performance [12].

The innovation literature also includes various empirical studies supporting this relationship, as do various works that use econometric methods to demonstrate the relationship empirically [27]. The more valuable, imperfectly imitable and rare innovations (e.g., technological) are, the higher performance will be [25].

Organizations with greater innovation will achieve a better response from the environment, obtaining more easily the capabilities needed to increase organizational performance and consolidate a sustainable competitive advantage [12, 13]. Not promoting innovative projects and activities will have a negative effect on productivity and organizational performance [27]. Innovation has a direct influence on organizational performance [26, 28]. This study proposed following hypotheses on the basis of the above discussion:

H3: There is a positive relationship between organizational innovation and performance

H4: Organizational learning mediates the relationship between the organizational innovation and performance. Figure 1 shows the framework of the study.

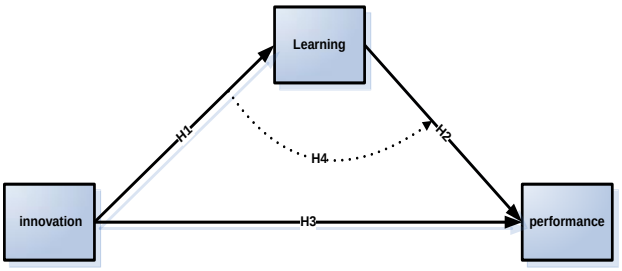


Figure 1 Framework of the study

3.0 METHODOLOGY

The study is based on primary data. The universe for this research is 27 public and private sector banks of Pakistan.

Respondents were branch managers/operations managers, Area Managers, Regional Mangers and Vice Presidents of the banks. A total of 250 questionnaires was sent to the banks, while 212 were returned but 200 were considered.

3.1 Respondents Demographic Characteristics

Table 1 shows the demographic details of respondents with respect to the experience level in this research. The table shows the details of respondents who participated in this study. The date describes gender, designation, qualification, age, education, work experience and time spent in current position. There are 200 respondents who returned the questionnaire out of 220.

As shown in Table 1, the response rate of male respondents is more than the females. There were about 85% male respondents, while the remaining 15% were the female respondents. One reason can be the general proportion in our country for female workers is less as compared to male members. Twelve percent of the respondents were less than 30 years of age, 30% between 31-35 years. 28% between 35-40 years while respondents who are between the age of 49 years and above is 30 %. The maximum number of respondents was lying in the age group of 31-35 years and 49 years and above.

Table 1 Demographic Variables

Demograpy	Number	Percentage
Gender		
Male	171	85
Female	29	15
Designation		
Branch Manager	160	80
Area Manager	24	12
Regional Manager	4	2
Vice President	12	6
Qualification		
Higher Education	39	19
Maximum Education	49	25
Post Graduate	112	56
Age		
Less than 30 Years	25	12
31-35 Years	60	30
35-40 Years	56	28
40 and above	59	30
Work Experience		
Less than 5 Years	21	10
5 to 10 Years	73	36
10-15 Years	55	28
15 and Above	51	26
Current Position		
Less than 5 Years	136	68
5 to 10 Years	46	23
10-15 Years	14	7
15 and above	4	2

The proportion of Branch Managers is more than other respondents. As the percentage demographics show that 80% of the respondents were Branch Managers, 12% were Area Managers, 2% were Regional Managers and remaining 6% were Vice Presidents. Proportion of branch managers are high as they were easy to be contacted as compared to the area managers, regional managers and vice presidents. 10 percent of the respondents belong to the category of those employees who have been working in the banking sector for less than 5 years. 36% of the employees were from the category who had a been there in the banking sector between 5-10 years. 28% lie between 10-15 years and 26% were the respondents having the professional experience of 15 years and above. Twenty five percent was

having maximum education while 56% were post graduate degree holders. 23% were having the experience of 5 to 10 years in the current position, 7% of the respondents were having the experience of 15-20 years in the existing position while 2% were in the current position for more than 20 years.

3.2 Reliability of Constructs

Reliability of the endogenous and exogenous variables in the model is measured through the cronbach alpha. The construct have reliability indicators above than 0.70 are considerably internally consistent [29].

Table 2 Reliability of constructs

Latent Constructs	Items	Alpha Value
Organizational Learning	04	0.676
Organizational Innovation	09	0.911
Organizational Performance	06	0.874
OVERALL	22	0.798

Construct Organizational Learning measured by the 04 items and has the reliability of 0.676, factor loading range 0.55 to 0.66. Organizational Innovation is measured through 09 items, ranging factor loading 0.58 to 0.80, Cronbach's alpha 0.911. Organizational Performance has 06 items with a factor loading range 0.64-0.80, Cronbach's alpha at 0.84. This indicates that the questionnaire has the sufficient internal consistency, factor loadings and composite reliability.

4.0 RESULTS

This section deals with the testing mediation effect of organization learning between the relationship of Organizational innovation and Organization Performance (SP). Mediation effect has been tested through Baron and Kenny [30] four step mediation testing approach; further results are verified through Sobel test for significance of mediation. Baron and Kenny [30] suggested first three steps are the conditions to test mediation in the fourth step. Any insignificant relationship in the first three steps should cause failure to get into fourth step. Table 3 indicates in step one there exists a significant relationship between the organizational innovation and Organizational performance with p-value less than 0.05 and β value 0.626. These results satisfy the first condition and confirms the hypothesis H3. The second section of the table shows significant regression between Organizational innovation and Organization learning which depicts there exist a significant relationship between organizational innovation and Organizational learning. This satisfies second condition suggested by Baron and Kenny [30] with p-value less than 0.05 and β value 0.613 which confirms hypothesis H1. The Third section shows a significant relationship between Organizational learning and Organizational Performance (OP). Thus, hypothesis H2 is also accepted. After satisfying these three conditions section four of the table 2 test the meditation effect. The results indicate that both the independent variable Organization Innovation and organizational learning show significant relationship with Organizational Performance when tested through multivariate regression, using both Organization Innovation and Strategic Planning Process as independent Variables with p-values of 0.009 and 0.000 respectively.

Table 3 25 Mediation Test for OI between SPP and OP

Step One-Dependent Variable Organizational Performance				
	β	Standard Error	t-value	P-value
Constant	0.279	0.02	13.95	0.000
Innovation	0.626	0.044	14.23	0.000
R2	0.52			
Adjusted R2	0.44			
F Statistics	59.761***			
Step Two-Dependent Variable Organization learning				
	β	Standard Error	t-value	P-value
Constant	2.71	0.10	27.1	0.00
Innovation	0.613	0.047	13.04	0.000
R2	0.51			
Adjusted R2	0.4			
F Statistics	69.205***			
Step Three-Dependent Variable Organizational Performance				
	β	Standard Error	t-value	P-value
Constant	0.97	0.01	9.71	0.00
Learning	0.789	0.036	21.92	0.000
R2	0.712			
Adjusted R2	0.652			
F Statistics	16.078***			
Step Four -Dependent Variable Organizational Performance				
	β	Standard Error	t-value	P-value
Constant	3.43	0.10	34.3	0.00
Innovation	0.242	0.086	-6.474	0.000
Learning	0.626	0.021	-2.62	0.009
R2	0.734			
Adjusted R2	0.686			
F Statistics	30.243***			
Sobel Test	t-value		p-value	
	11.2		0.000	

, Note: ***Significant at p<0.001

This situation fulfills the conditions of partial mediation. As such, organization learning partially mediates the relationship between organizational innovation and Organizational Performance.

The last section of Table 5.25 consists of results from the Sobel test. P-value of less than 0.05 shows the significance of mediation effect of Organization learning between the relationship of the organizational innovation and Organizational Performance (OP), values for Sobel test for *a* is 0.613 Standard error of *a* is 0.047, value of *b* and standard error of *b* is 0.789 and 0.036 respectively. The Sobel test reconfirms the mediation effect of organizational learning on the relationship of organizational innovation and Organization Performance (OP).

5.0 CONCLUSION

The results show that there exists a strong relationship between organizational innovation and organizational performance. Banks need innovation to improve their organizational performance and the effect is further enhanced with the combined effect of organizational learning and organizational innovation.

The results show that there exists a positive relationship between organizational innovation and organizational learning. The study also verifies a positive relationship between learning and organizational performance. Thus, managers should encourage the processes that emphasize the processes of innovation, thus enabling organizational learning and encourage employees to get acquainted with new and innovative technologies. Relationship between organizational learning and organizational innovation was also found to be positive. The more the organizational learning, the more is the organizational innovation. The innovative organization learns and knows how to make and keep itself competent. Through learning, the organization can change its behavior and thus renew and reinvent its technology and production to avoid falling into stagnation and to permit organizational innovation. Different organizations will find themselves in different states of evolution in learning. Organizational learning prevents stagnation and encourages continuous innovation. Furthermore, organizational learning also mediates the relationship between the organizational innovation and performance. Thus, presence of organizational learning can enhance the positive relationship of the organizational innovation and learning.

6.0 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The banking sector of Pakistan was taken as target population for this study. The financial and time limitations made this study confined to limited geographic areas. This limitation restricts to generalize the results. This model can be tested in different cultural and national contexts. The sample size was also a limitation of the study. This study just tested the effect of organizational innovation on organizational performance with the mediating effect of organizational learning. The future researchers can take other variables as mediators like organizational structure, job characteristics and national culture. The qualitative techniques can also be employed to further explore the nature and variables in this study.

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