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*Ex Oriente Lux...*

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İktisadi ve İdari Bilimler Fakültesi İşletme Bölümü  
60150 TOKAT

Tel: +90 356 252 16 16 – 2363

Fax: +90 356 252 16 73

E-Posta/E-Mail: [stratejidergisi@gmail.com](mailto:stratejidergisi@gmail.com)

# *STRATEJİK YÖNETİM* ARAŞTIRMALARI DERGİSİ

STRATEJİK YÖNETİM  
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***TECHNOLOGICAL AND MARKETING INNOVATION FOR  
EXPLAINING ORGANIZATIONAL GROWTH***

**Muhammed Farooq JAN**  
*Iqra National University*  
**Zeeshan JAVED**  
*Iqra National University*  
**Zohaib ALİ**  
*Iqra National University*  
**Azmat Ali SHAH**  
*Iqra National University*  
**Zeeshan HAİDER**  
*Iqra National University*

**ABSTRACT**

**Purpose**– Purpose of this research paper is to check the impact of technological and marketing innovation on organizational growth and to compare impact of both.,

**Design**– Survey based technique has been adopted for the study. Technological and marketing innovation are measured by an adopted scale, including elements of innovation as technology and marketing, and organizational growth. Data for the study was taken from 89 respondents from glass industry in Peshawar, Pakistan.

**Findings**– Findings of the study suggest that technological innovation and marketing innovation has significant impact on organizational growth.

**Keywords**–*Marketing innovation, Technological innovation, Organizational growth.*

**ORGANİZASYONEL BÜYÜMENİN AÇIKLANMASINDA  
TEKNOLOJİK VE PAZARLAMA İNOVASYONU**

**ÖZET**

**Amaç:** Bu araştırmanın amacı, teknolojik ve pazarlama inovasyonun örgütsel büyüme üzerindeki etkisini kontrol etmek ve her ikisinin etkisini karşılaştırmaktır.

**Tasarım:** Ankete dayalı teknik bu çalışma için benimsenmiştir. Teknolojik ve pazarlama inovasyonu, teknoloji ve pazarlama olarak inovasyon unsurları ve örgütsel büyüme gibi kabul edilmiş bir ölçüyle ölçülür. Çalışmanın verileri Pakistan'ın Peshawar kentindeki cam endüstrisinden 89 katılımcıdan alınmıştır.

**Bulgular:** Çalışmanın bulguları teknolojik inovasyonun ve pazarlama inovasyonunun örgütsel büyüme üzerinde önemli bir etkisi olduğunu göstermektedir.

**Anahtar Kelimeler:** *Pazarlama İnovasyonu, Teknolojik İnovasyon, Organizasyonel Büyüme.*



## **Introduction**

Innovation is the continuous process of adding value, features to the existing product or service. Adding features to the products or services cannot be ensured only with technological advancement, but it is also need innovation in the overall organizational process and departments where needed and lead to a new concept of multi-dimensional innovation. Generally, innovation is not only limited to the product or service, but its scope also covers the entire organizational departments i.e. human resource, finance, marketing, R&D, operational practices and other activities.

According to Smith (2005), “in today’s ever-changing economic landscape, innovativeness has become a key factor influencing strategic planning.” He has further taken into consideration the reasons behind growth which includes the optimum utilization of resources, to run the plat on its efficiency and to invent solutions for the present as well as emerging problems.

When innovation is defined in generalized terms, these are the changes in the existing structure of production and services i.e. to add other portfolios or to have diversifications or to produce a product or service which is not in existence. In recent arena of rapid changes in technology and global competition the survival and success of the organizations depend on innovations and to bring changes according to the market trend. If we study the behavior of stakeholders and customers, they want to adapt the changes and prefer to focus on the products and services with additional effectiveness and features for efficient satisfaction of needs and wants of the end users.

A number of researches like Stephan and Aurdretsch, (1996); Massard and Bernard, (2000); Powell and Brantley (1992) and Zuckeret et al. (1998) were also of the same views that the local partnerships of

academia and industry will develop the partnership which will be helpful to have innovations in academics and production.

The overall organizational process, structure, and performance is affected by innovation and changes in the production, services and customer behavior. This effect may be resulting negatively or positively. Here the success story of glass industry will not be out of place to mention. Nasir Saddique Corporation of Lahore introduced glass utensils with a brand Toyo Nasic and replaced the silver or steel glasses from the shelf at the houses and from the table at the restaurants and hotels. Omer Glass industry added jugs, Ash tray, bowls and pots for flower baskets and so many others with value added features i.e. features of resistance to cool and hot, bubbles free glass, unbreakable and fully transparent (Naveed, Ahmed & Bushra, 2011).

The innovation is a key factor of organizational growth therefore; organizations will have to keep the needs and wants of the customers as well as end users in mind when ever want to bring any change or to make innovation, because the higher the satisfaction of the customer will lead to positive growth in the sector. The industries will only be able to have entry in the market if they develop the team who can constantly shoulder the responsibilities for making innovations, bring change in the production process and present an acceptable portfolio of products and services to the market/customers.

Keeping in view the changing market needs for glass family products the present study is designed to check the impact of technological innovation on the customer satisfaction, market share and increase in sales. The study in hand will take into consideration the glass industries located at the industrial state Jamrud road Peshawar and their innovation practices in their products as well as marketing strategies. Though these industries have not yet adopted high scale marketing campaigns but still there are quotable examples of sales promotion which they have used at their various locations at the utility stores, CSD shops and other mega malls.

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## 1. Conceptual Framework

### 1.1. Technological Innovation

It is an important factor of organization innovation and is define as the adaptation of new ideas, plans and ideas for products and services, plus also a start of new elements. Abdi and Ali (2013) technological innovation is strongly related to the service or product and activities related to process which meets the external users, requirements of the customers and needs of the markets. The author also argues that organization with high technological innovation have more advantage in this challenging and competitive environment.

In usage of mankind glass is among the oldest material and it is due to this reason that either innovation was adopted at a very slow rate in this industry (Saftaig, 2012). The author further argued that for conservation of resources and also for the coming generation in order to maintain the environment, glass industry sees itself compelled to think about energy efficiency.

Liao et al. (2008) argues that with respect to facilities and product the technological innovation is the only innovation and technological innovation promote the organization to gain organizational advantage, achieving organization excellence plus also encouraging competitive advantage. Moreover Armbruster et al. (2008) says routines, operation and process of the organization is affected by the technological innovation. It applies the new changes, process and procedures to the new service or product which influence the flexibility, speed of production of services and products with quality.

Every organization focus and wants to accomplish the goals through technological innovation, achieving the objectives and increasing the organizational growth, which represents that it's a significant tool for surviving and sustaining in the uncertain business operations.

**H<sub>1</sub>:** Technological innovation positively influences organizational growth.

## 1.2. Marketing Innovation

In term sense innovation is not only related to process, services and products, but it is also in relation with organizing and marketing. In OECD Oslo Manual (2005), four innovation types different from each other were introduce (a) Process innovation (b) product innovation, (c) organizational innovation and (d) marketing innovation. Further in the report it is mentioned that innovation in marketing type is implementing a new method which involves changes in design, placement of the product, promotion of the product.

Walker (2008) argued that product or service and marketing innovation are interrelated and that there should be additional research for clarification of the findings of a study on public organizations. Futher Gunday et al. (2011) argued that regarding marketing product innovation relationship, there is no distinct study which investigates the interaction of marketing-product innovation. As Miler (2001) argue most organizations seek the technological innovation for gaining competitive advantage and all these efforts are supported by marketing measures.

Marketing innovation increases the sales by the consumption of the products and yields extra profit to organization (Johne & Davies 2000). Further, Gunday (2011) stated that today's market which is driven by the customer, and the customer is considered as the key for gaining good financial results, and in financial performance the important source which is seen as a competence is marketing (e.g. Li, 2000). Since growth in sales and market share directly contribute to financial goals.

**H<sub>2</sub>:** Marketing innovation positively influences organizational growth.

The above factors are having directly and indirectly impact on glass industries in Peshawar because their products are not only sold locally but they are having exports to Afghanistan, Iran and other Central Asian Republics.



Organizational growth is not a new phenomenon but it is in existence since long. The country of origin as well as their subsidiaries are paying attention to such innovations and bring consistently changes in their concepts, customer services and sales promotion activities.

## **2. Methodology**

### **2.1. Aim**

The aim of this research is to find the effect of technological innovation and marketing innovation on organization growth in glass industries. In this context, research questions of this research can be explained as below.

RQ 1. What is the effect of technological innovation on organizational growth in glass industries?

RQ 2. What is the effect of marketing innovation on organizational growth in glass industries?

### **2.2. Study Design**

The present study investigates the influence of technological and marketing innovation on the organization growth. Data was collected from the employees of the glass industry in Peshawar, Pakistan for testing the hypotheses. In exploration of the effect of technological and marketing innovation on organizational growth, a questionnaire was distributed among the middle level management employees of glass industries located at Jamrud Road Peshawar, Pakistan. As per criteria of Krejcie and morjan (1970) the required sample size was 97. As some managers did not reply to the survey so sample size was fixed at 89. Convenience sampling technique was adopted for survey. For checking the relationships and to find which factor's role is better in the organizational growth, regression and correlation analysis were applied.

## **2.3. Measurement**

### **2.3.1. Technological Innovation**

Technological innovation is the independent variable of the research. This means the new and latest administrative and management programs, systems for development of the staff (Nilakanta & Subramanian 1996). Scale developed by Abdi and Ali (2013) was adopted for judging the extent to which organizations applies the latest and new design of work and system, management system, skills enhancement and ultimately to organization growth. The Chronbach's Alpha score was 0.78 which proves that the scale was reliable.

### **2.3.2. Marketing Innovation**

Marketing innovation is also an independent variable of the research. It means the implication of new methods which involves the changes in the design of the service or product, its placement, and the promotion. For measuring this variable, a five point Likert scale was also adopted developed by Gunday et al. (2011) for judging customer needs, opening of new marketplace for organization growth. The Chronbach's Alpha score was 0.75 which proves that the scale was reliable.

### **2.3.3. Organizational Growth**

Organizational growth is the dependent variable of the research. Measurement scale for organizational growth has been adopted from Kazanjian, & Drazin (1989). Organizational growth is advancement in the organizational process, activities, and services which can add additional values to the products. For this variable the scale was developed for understanding the extent to which technological, marketing innovation influence organizational growth. The Chronbach's Alpha score was 0.67 which proves that the scale was reliable.

### 3. Findings

Regression analysis was applied for further testing the relationship between dependent and independent variables. In below Table 1 is about the model summary and in the table the success measure of the model is R Square and it shows the variance of dependent variable. The findings are highlighted by the following table.

**Table 1.** Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.732 <sup>a</sup>	.536	.525	.44651

a. Predictors: (Constant), MarketingInnovation, TechnologicalInnovation

The table highlights that there is a 53.6 % change in dependent variable which is organizational growth. Or in other words technological innovation and marketing innovation will bring 53.6 % variation in organizational growth.

**Table 2.** ANOVA Test:

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.796	2	9.898	49.647	.000 <sup>b</sup>
	Residual	17.146	86	.199		
	Total	36.942	88			

a. Dependent Variable: Organizational Growth

b. Predictors: (Constant), Marketing Innovation, Technological Innovation

The Anova test was carried out to investigate the model under study good fit. The “F” statistic showed that overall model is adequately fit for further analysis. The relationship can be analyzed for further investigation of the direction of parameter.

**Table 3.** Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.757	.336		2.253	.002
	TechnologicalInnovation	.785	.095	.695	8.246	.000
	MarketingInnovation	.050	.061	.070	.825	.001

a. Dependent Variable: OrganizationalGrowth

The coefficient above Table 3 also provides the variables relationship, each variable contribution measure to the model is given by standardized beta. Unit of change measure is indicated by the standardized beta values and in this the independent variable shows an effect of dependent variable. Sig (p) and “t” value show the significance values of research, a small or low value of “P” and high value of “t” indicates that independent variables has large effect on the dependent variable.

Technological innovation as the independent variables and its significant predictor is = .695,  $p < .000$ , therefore our first hypothesis is supported. Marketing innovation as the other independent variable significant predictor is = .070,  $p < .001$ , which supports second hypothesis of the study.

Correlation analyses was used for further confirm the associations. Thus, findings of these analyses are presented in the tables below.

**Table 4.** Correlation

		Technological Innovation	Marketing Innovation	Organizational Growth
Technological Innovation	Pearson Correlation	1	.491**	.730**
	Sig. (2-tailed)		.000	.000
	N	89	89	89
Marketing Innovation	Pearson Correlation	.491**	1	.411**
	Sig. (2-tailed)	.000		.000
	N	89	89	89
Organizational Growth	Pearson Correlation	.730**	.411**	1
	Sig. (2-tailed)	.000	.000	
	N	89	89	89

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The above Table 4 highlights the correlation for variables of the current research. The study has two independent variables, which are technological innovation and marketing innovation and one dependent variable as organizational growth. A strong and positive correlation ( $r=.730$ ) is shown in the table between technological innovation and



organizational growth, also there is a positive correlation ( $r=.411$ ) between marketing innovation and organizational growth.

#### **4. Conclusion and Limitations**

A strong and positive correlation ( $r=.730$ ) is shown in the table between technological innovation and organizational growth, also there is a positive correlation ( $r=.411$ ) between marketing innovation and organizational growth, also technological innovation and marketing innovation will bring 53.6 % variation in organizational growth. The “F” statistic showed that overall model is adequately fit for further analysis.

Technological innovation as the independent variables and its significant predictor is = .695,  $p<.000$ , and the results are in line with the findings of Liao et al. (2008), therefore our first hypothesis is supported. Marketing innovation as the other independent variable significant predictor is = .070,  $p<.001$ , and the results of the current study are consistent with the results of Walker (2008), which supports second hypothesis of the study.

The findings of the study are consistent with Liao et al. (2008) and Walker (2008). The main aim of the current study was to investigate the role of technological innovation and marketing innovation on the organizational growth in glass industry in Pakistan. From the findings a considerable evidence of the relationship between the variables of study. From the results it can be seen that technological innovation and marketing innovation has a positive association with organizational growth. Another important result was noticed that the role of technological innovation is high in the organizational growth than marketing innovation in Pakistani glass industry. Therefore it is very important for the glass industry to better understand the technological innovation for growth.

The present study has many limitations apart from the time and resources as in this study the only glass industry was chosen, furthermore in the current study no mediator or moderator was tested

so that can be added to have a better understanding from strategic point of view. Furthermore for practical approach organizations needs to evoke working environment by using different strategies like strategic innovation, quality innovation approach it will improve organizational performance and enhance growth.

## REFERENCES

- Abdi, A. M., & Ali, A. Y. S. (2013). Innovation and business performance in telecommunication industry in Sub-Saharan African context: Case of Somalia. *Asian journal of management sciences & education*, 2(4).
- Armbruster, H., Bikfalvi, A., Kinkel, S., & Lay, G. (2008). Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys. *Technovation*, 28 (10), 644-657.
- Stephan, P. E., & Audretsch, D. B. (1996). Company-scientist locational links: The case of biotechnology. *American Economic Review*, 86(3), 641-652.
- Autant-Bernard, C., & Massard, N. (2000). Scientific interactions, geographic spillovers and innovation. An empirical study on the French case. In 40th European Regional Science Association Congress.
- Gunday, G., Ulusoy, G., Kilic, K., & Alpkan, L. (2011). Effects of innovation types on firm performance. *International Journal of Production Economics*, 133(2), 662-676.
- Howard Smith (2005), "What Innovation Is". A CSC White Paper, European Office of Technology and Innovation.
- Johne, A., & Davies, R. (2000). Innovation in medium-sized insurance companies: How marketing adds value. *International Journal of Bank Marketing*, 18 (1), 6-14.
- Liao, S. H., Fei, W. C., & Liu, C. T. (2008). Relationships between knowledge inertia, organizational learning and organization innovation. *Technovation*, 28(4), 183-195.
- Kazanjian, R. K., & Drazin, R. (1989). An empirical test of a stage of growth progression model. *Management science*, 35(12), 1489-1503.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.
- Li, L. X. (2000). An analysis of sources of competitiveness and performance of Chinese manufacturers. *International Journal of Operations & Production Management*, 20(3), 299-315.
- Manual, O. (2005). "The measurement of scientific and technological activities", Guidelines for Collecting and Interpreting Technological Innovation Data. *European Commission and Eurostat*.
- Miller, W. L. (2001). Innovation for business growth. *Research-Technology Management*, 44 (5), 26-41.
- Naveed, A., Ahmad, U., & Bushra, F. (2011). Promotion: A predictor of job satisfaction a study of glass industry of Lahore (Pakistan). *International Journal of Business and Social Science*, 2(16).
- Powell, W. W., & Brantley, P. (1992). Competitive cooperation in biotechnology: Learning through networks. *Networks and organizations*, 366-394.
- Saftig, B. (2012). Sustainability and Energy Efficiency. *Focus on Glass and Solar Industry*, 16-20.
- Walker, R. M. (2008). An empirical evaluation of innovation types and organizational and environmental characteristics: towards a configuration

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framework. *Journal of Public Administration Research and Theory*, 18(4), 591-615.

Zucker, L. G., Darby, M. R., & Armstrong, J. (1998). Geographically localized knowledge: spillovers or markets? *Economic Inquiry*, 36(1), 65-86.