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THE IMPACT OF TECHNOLOGICAL INNOVATION ON FIRM PERFORMANCE IN NIGERIA CONSOLIDATED BREWERIES PLC

This research investigated the impact of technological innovation on firm performance. The study was conducted among employees of Nigeria Consolidated Breweries in Ijebu-Ode area of Ogun state. A sample size of one hundred and two (102) employees was purposively selected from Nigeria Consolidated Breweries in the study area. Primary data was employed for this study. Descriptive statistics analysis was employed to analyze the demographic factors of respondents. Results of this study revealed that there was significant positive effect of technological innovation on firm performance ($R = 0.881$, $p < 0.005$). Also, the findings of this study further revealed that technological learning had significant positive effect on firm performance ($\beta = 0.654$, $p < 0.005$). Based on the results, it was recommended that the management of the firm should adopt technological innovation as an essential ingredient of competitive advantage for new product development.

Keywords: technological innovation, technological learning, innovation, firm competitiveness, organizational performance.

1. INTRODUCTION

The technological innovation has become increasingly widespread since Schumpeter proposed this concept in his book "The theory of economic development" in 1912. It is well recognized that in today's hypercompetitive environment seeking to respond the changes constantly arising in the environment does not rely on the static process of sole

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knowledge accumulation or growth of technology assets through resource based view rather it is dependent on the mutual relationship between firm's capabilities (e.g. effective coordination and adaptation of internal and external competencies), technology (e.g. timely responsiveness), and innovation (e.g. flexible innovations) (Karabulut, 2020).

Under this new paradigm, sources of knowledge and transfer of technology can be external to firms. Skilled and educated workers lie in the centre of the identification, acquisition, assimilation, and absorption of external knowledge. Rapid technology change and increased technological complexity makes 'openness' essential for firms. Venture capital translates R&D outcomes to the market because it directly contributes to the execution of an innovative idea (including those coming from external technology sources) and shares the risks in new product development (Karabulut, 2015). These processes facilitate internal and external knowledge exchanges and push innovation across the boundaries of the firm.

In most industries, even industry leaders cannot research and develop a new technology completely on their own. Technological challenges and financial constraints push independent organisations, or even competitors, to collaborate. With progression in technology, more interdisciplinary subjects have emerged. Therefore, a different innovation environment started to form, which Chesbrough later called "open innovation". A strategic perspective of trade-off between the benefits and the cost of open innovation is required to ensure firms with open strategy can balance between taking advantage of open innovation and maintaining core firm-specific competitive advantages (Kocoglu, Imamoglu, Huseyin, Keskin, 2012).

Obembe and Ojo (2014) suggested that organizational performance is multiple hierarchical constructs which indicating financial performance and operational performance such as market share and quality. There are many research studies analyzed the impact of innovation and firm performance. The relationship between the innovation and organizational performance is predominant. Previous research has indicated that there are often mixed results. They fluctuate between the positive and negative results. Innovative performance act as a mediator role between types and performance aspects. Innovation has a strong and direct impact on the organization performance (Karabulut, 2015). Financial, market and production performance positively linked with innovation and innovative performance act as a mediator for their direct positive impact. Innovation strategy is the core indicator of the organizational performance.

Although there are numerous conceptual studies that have been tested in extant literature studies. However, they are limited with numbers and depth of the analysis. Most of the studies have investigated the relationship between innovations typologies, innovation performance mainly linked with the manufacturing sector. The studies related to the service sector have made the investigation linked with the company business strategies with the perspective of innovation (Dotun, 2015). Especially, innovation capability is far-less concerned and under-examined within the service sector.

On the other hand, most of the research dealt with innovation capability and firm performance typologies (Abdu, Adamu, 2018). There are no studies intimately studies the relationship between technological innovation, innovation capability and firm performances in the literature. Research in the specific features of technological innovation and issues in the Nigerian service industry is quite limited and untested until recently especially compared to the banking sector. This study is therefore taken upon as an attempt at determining the impact of technological innovation on firm performance.

The broad objective of the study is to examine the impact of technological innovation on firm performance. Specific objectives of this study are to: first and foremost, determine the impact of technological innovation on firm performance. Secondly, examine the effect of technological learning on firm performance.

The following questions are raised in the course of this study: Firstly, what is the impact of technological innovation on firm performance? Secondly, is there any effect of technological learning on firm performance?

This study will enable firms take into account the competition level in their sector prior to strategic decisions. This is because an increasing competition is affected by developing structure of the global markets and division of labour today. This study will therefore help companies to achieve a key point in the competitiveness of manufacturing and service firms which is innovation performance. Furthermore, this study will enable them to view the impact of technological innovation capability on company's performance in another dimension. This is because innovation is an interactive process characterized by technological interrelated uses between sub-systems. This study will therefore enlighten firms on how to use technological innovation in enhancing customer competence and technological competence in the industry which they operate in. Also, the findings of this study will act as a starting point for future researchers to embark on similar areas of study thereby contributing to the existing body of knowledge and expanding the frontier of knowledge. It is in the opinion of the researcher that gaps may still exist that this study may not have covered, therefore future researchers can help to fill this gap.

2. LITERATURE REVIEW

2.1. Concept of Innovation

After Schumpeter's first introduction of innovation concept, it was long taken for granted that innovation refers only to activities that occurred within a firm or within an R&D department, which therefore made creativity and innovation important strategic resources guarded by careful management and legislative protections. This is now classified as "closed innovation," in which each step in the innovation process is dependent on a firm's own capabilities (Adeyeye, 2014). Toward the end of the twentieth century, this closed innovation model was gradually disrupted as a result of the increased mobility of skilled workers, more rapid technological change and increased technological complexity, and the prevalence of venture capital.

Innovation often happened by using open technologies and high-quality open resource and relies on a different kind of knowledge and information system. Knowledge management is the most important part of the innovation, especially knowledge-intensive industry like insurance. Knowledge is a competitive advantage for underwriting and servicing in insurance companies. In the insurance industry trade secrets, confidential information and valuable ideas are part of the workforce knowledge. Therefore, using knowledge management system to capture the internal expert will be crucial to the insurance companies (Hamidi, Benaddjelil, 2015). The firm's capability to innovate is the most crucial factor for competitive advantage in highly turbulent market condition. Innovation capability leads organization to develop innovations continuously to respond the changing market environment and it's embedded with all the strategies, system and structure that support innovation in an organization (Stefan, Bengsston, 2017).

Innovation can only happen if the company has the capacity to innovate (Adeyeye, Jegede, Adekemi, Aremu, 2016). Innovation capability is considered as the valuable assets for the firms to provide and sustaining competitive advantage and in the implementation of the entire strategy. It is composed through the main process within the firm and cannot separate from the other practices. It is tacit and non-modifiable and closely correlated with the experimental acquirement and interior experiences (Abdu, Adamu, 2018). The capability of innovation facilitates firms to introduce new product quickly and adopt new systems rather it is important to factor for feeding the ongoing competition. Innovation performance can be explained as combination of assets and resources. Therefore, it requires wide variety of resources, assets, and capabilities to drive through success in rapidly changing environment (Abdu, Adamu, 2018).

2.2. Concept of Technological Innovation

Adeyeye (2014) stated that technological innovation is a unique technique or manufacturing process owned by a company, which allows it to react quickly to an environmental shift. Karabulut (2015) posits that technological innovation designates the capability of an organization to choose, diffuse and then improve its technology. As such, it is a progressive process of experience accumulation including the use of technology, the improvement and application of existing technology. Kocoglu et al., (2012) emphasizes that technological innovation is the skill involved in realizing and supporting a company's technological innovation strategy. Obembe and Ojo (2014) point out that technological innovation is the ability to access and digest external knowledge into some unique skill or knowledge, then using it in a dynamic way to improve or develop a new product and launch it successfully.

Namusonge, Muturi and Olawoye (2016) also remark that technological innovation is the combination of knowledge techniques and management skills from different areas, that by strengthening these areas, the company can build its organizational competitiveness. According to Dotun (2015) technological innovation involves acquisition of more and flexible process equipment, in combination with more flexible organization and administrative processes that facilitates or enables frequent changes in the production line. Jayani and Hui (2018) define technological innovation as the successful implementation of creative ideas within an organization. While Hamidi and Benadjelil (2015) says that technological innovation is the process of turning opportunities into new ideas and of putting them into widely used practice. Hamidi and Benadjelil sees this as a process that includes the technical, design, manufacturing, management and commercial activities involved in the marketing of a new or improved product.

According to Adeyeye (2014) technological innovation involves acquisition of more and flexible process equipment, in combination with more flexible organization and administrative processes that facilitates or enables frequent changes in the production line. Technological innovation as the successful implementation of creative ideas within an organization while Dotun (2015) says that technological innovation is the process of turning opportunities into new ideas and of putting them into widely used practice. Janayi and Hui (2018) sees technological innovation as a process that includes the technical, design, manufacturing, management and commercial activities involved in the marketing of a new or improved product. Azubuike (2013) suggests that innovations do not have to be breakthrough or paradigm shifting. Stefan and Bengston (2017) suggests that the overall management of technological innovation includes the organization and direction of human

and capital resources towards effectively creating new knowledge, generating ideas aimed at new and enhanced products, manufacturing processes and services, developing those ideas into working proto types and finally transferring them into manufacturing, distribution and use.

2.3. Technological Innovation and Firm Competitiveness

Technological innovation is broadly seen as an essential component of competitiveness, embedded in the organizational structures, processes, products and services within a firm. Innovativeness is one of the fundamental instruments of growth strategies to enter new markets, to increase the existing market share and to provide the company with a competitive edge. Schumpeter (1934) described different types of innovation as new product, new methods of production, new sources of supply, the exploitation of new markets and new ways to organize business.

Drucker (1985) defined innovation as the process of equipping in new improved capabilities or increased utility. Metcalfe (1998) stated that when the flow of newness and innovation desiccate firms' economic structure settles down in an inactive state with little growth. Therefore, innovation plays a significant role in creating the differences of performance and competition among firms. Further buttressing the relationship between innovation and corporate performance, McAdam and Keogh (2004) investigated the relationship between Firms' performance and its familiarity with innovation and research. They found that the firms' inclination to innovations was of vital importance in the competitive environments in order to obtain higher competitive advantage. Zehir, Esin and Karaboga (2015) stated that most firms seek technological innovation to gain competitive advantage in their market.

As described by Zhang, Delin, Shumin, Xiang and Jizhen (2018), technology is one of the main sources of competitive advantage for a company. Within the same industry, companies with a technological edge tend to have better profitability as well as being faster in developing new product lines or other technological innovation. According to numerous studies related to resource-based theory, such as Zhnage et al., (2018), technological innovation is at the core of the company's competitive capability. Dotun (2015) suggests it is the most important core asset. Azubuike (2013) attest that a company should develop its competitive edge in order to acquire long lasting competitive advantages. Companies need to be constantly aware of the changing environment while keeping and developing new technological capabilities in order to survive.

2.4. The Relationship between Technological Learning and Innovation

Innovation allows organizations to progress parallel with the changes flourishing in the environment. It's a strategic key in responding to the new challenges of an environment full of uncertainties (Azubuike, 2013). For an organization, innovation would denote the generation or adoption of novel ideas or behaviour. In the literature the idea that innovation is essential for firms' long-term success and survival constituting a competitive instrument is widely recognized (Jayani, Hui, 2018). Stefan and Bengston (2017) suggestions as; organizations fit to the changing conditions of the technology and the market by diversifying and adapting, and even rejuvenating or "reinventing" through innovation.

Namusonge, Muturi and Olawoye (2016) claimed that technological learning provides a base of knowledge upon which innovations can be developed. The degree of novelty is dependent on the situation and the individuals through which the technological learning

emerges, thereby the breadth, depth and speed of technological learning leverages the ability to integrate organization specific technologies and technological skills that equip the actors in the technological learning process to adapt quickly to changing environment. Furthermore, technological learning is considered as having impact on firm, innovation at three levels namely; instrumental, innovative and creative (Durowoju, 2017). Instrumental impact drives incremental change in firm processes, outputs operations and performance, innovative impact results in radical change in firm processes, outputs, operations and performance and finally creative impact leads to architectural change in firm processes, outputs, operations and performance (Durowoju, 2017).

2.5. Innovation and Organizational Performance

Azubuikwe (2013) stated that innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced. Entrepreneurs need to search purposefully for the sources of innovation, the changes and their symptoms that indicate opportunities for successful innovation and they need to know and to apply the principles of successful innovation.

Since the beginning of the recent decade when the competitive environment went through a major transformation due to globalization, business organizations have intensified their search for strategies that will give them a sustainable competitive advantage. Such strategies generally require that the firm continuously differentiates its products and process, that is, firms must constantly be innovative (Hamidi, Benabdeljlil, 2015). In such condition, where innovation in products and process regarded as an essential prerequisite for the organizational survival and success, attention to entrepreneurship orientation and change to an entrepreneur organization attracted the much attention of academic researchers and organizational members. McAdam and Keogh (2004) confirmed that entrepreneurial orientation is manifest in product and process innovations.

Karabulut (2015) described entrepreneurial orientation as the process, practice, and decision-making activity that leads to new entry. Karabulut (2015) delineated five dimensions of EO including innovativeness, risk taking, proactiveness, competitive aggressiveness and autonomy, which underlie nearly all entrepreneurial processes. Innovativeness is an organization's tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products. The organization researchers are of the view that adoption of innovation is a main vehicle for organization adaptation and change to improve firm performance especially under the conditions like scarce resources, dynamic business environment, intense competition and changing customers demand for better quality (Dotun, 2015).

Schumpeter (1942) emphasized the role of innovation in the entrepreneurial process. He stated that this was a process of "creative destruction" where wealth was created when existing market structures were disrupted by the introduction of new goods or service that shifted resources away from existing firms and caused new firms to grow. Innovativeness has become an important factor used to identify entrepreneurship. Drucker (1985) and Durowoju, (2017) believe that innovation is the specific tool for entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. The scholars further believe that innovation is better practiced in phases. Innovation involves the exploitation of new ideas.

Namusonge, Muturi and Olawoye, (2016) claimed that innovation is the ability to take quick advantage of scientific or technological discoveries, commercializing them in ways

that translate the new discoveries into added-value goods and services and processes for their customers/clientele. In its original sense, innovativeness can be defined as the degree to which an individual or other entity is relatively earlier in adopting new ideas than the other members of a system (Abdu & Adamu, 2018). Similarly, it is the tendency to support new ideas, experimentation and creative processes. Durowoju (2017) also associate innovation closely with creativity; however, they suggest that it must be linked to entrepreneurship if the innovation is to become a commercial opportunity to be exploited.

Adeyeye, Jegede, Adekemi and Aremu (2016) classified innovations into three: product, process and technological. According to them, product innovation involves shortening the product life cycle, expand commercial production process, generate sales and revenue and recoup development investments. This also connotes the number of implemented innovations in the product line. Firms' ability to launch new and sophisticated products in increasingly fast cycle is essential to success in the currently dynamic business environment. Process innovation entails the number of innovations implemented in the manufacturing or service process. Product and Process innovations are inter-connected and interwoven in an effort to meet certain production targets. Zhang, Delin, Shunmi, Xiang and Jizhen (2018) technological innovation involves acquisition of more and flexible process equipment, in combination with more flexible organization and administrative processes that facilitates or enables frequent changes in the production line.

2.6. Theoretical Review

2.6.1. Lazonick's Theory of the Innovative Enterprise

Lazonick's (2005) theory of the innovative enterprise is rooted in the Chandlerian Framework as it focuses on how strategy and structure determine the competitive advantage of the business enterprise. It also builds on Lawrence and Lorsch (1967) conceptualization of organizational design problems as differentiation and integration. The theory distinguishes the optimizing firm from the innovative firm. Lazonick identifies three social conditions that support the development of the innovative firm. The first condition is strategic control, which refers to the set of relations that give key decision-makers the power, knowledge and incentives to allocate the firm's resources to confront market threats and opportunities. The second condition is organizational integration. That is, the horizontal and vertical integration of skills and knowledge to support cumulative learning over-time. The third condition is financial commitment to ensure that sufficient funds are allocated for competence development to sustain the cumulative innovative process.

The essence of the innovative enterprise, according to Lazonick (2005), deals with the organizational integration of skill base that can engage in collective and cumulative learning. The theory of the innovative firm propounded by Lazonick, alongside other researchers in the field of strategy stresses the importance of organizational and management processes as core elements that underpin firms, innovative performance. Innovative performance is seen in the literature as one of the most important drivers of other aspects of firm performance. Hence, innovative performance exerts positive effects on firm's production, market and financial performances. Innovative performance, especially in the form of new product success, is linked in the literature to an increase in sales and market shares, since it contributes considerably to the satisfaction of existing customers and gaining of new customers.

3. METHODOLOGY

The descriptive survey research was employed in this study. Descriptive survey research is effective in describing the existing conditions or variables being investigated. The reason for adoption of descriptive design methodology is that it helps the researcher to come into close contact with the population of study as well as obtaining accurate information from the respondents. The area for this study is Nigeria Consolidated Breweries located in Ijebu-Ode area of Ogun state. The study area is chosen because it will enable the researcher to have a proper coverage and gathering of information needed from the respondents of study. Also, the study area which is the Nigeria Consolidated Breweries is recognized for its groundbreaking technological innovation which made it recognized amongst other producers of brewed products in the Nigerian manufacturing industry.

The population of this study includes all employees of Nigeria Consolidated Breweries who are fully employed and who may be junior, senior or managerial level workers in the company. Hence, the population of this study included a total of one hundred and thirty-seven (137) employees of Consolidated Breweries Plc. The sample will be drawn from the population of the study using simple random sampling technique. The justification for using simple random sampling technique is because it will enable all respondents of this study to have equal chances of been selected for this study. However, the total number of respondents for the purpose of this study will be drawn from one hundred and thirty-seven (137) employees of Nigeria Consolidated Breweries located in Ijebu-Ode area of Ogun state. The size is considered sufficiently large enough to carry adequate estimation of the study. One hundred and thirty-seven (137) copies of questionnaires were administered out to the respondents but only one hundred and two (102) questionnaires were returned. Therefore, a total number of one hundred and two (102) returned questionnaires were valid instruments for this study. The sample for this study included a total of one hundred and two (102) employees of Consolidated Breweries Plc, Ijebu-Ode Ogun state.

The research instrument used for this study is a questionnaire designed by the researcher. The questionnaire is divided into two sections. The first section seeks to obtain the personal information of the respondents while the second section contains items relating to the objectives set out from the chapter one of this study. The split-half statistic method will be used to determine the reliability status of the research instrument. The administered questionnaires after retrieval will be parted into two groups of odd numbers and even numbers. The scores of the two groups will be correlated using Pearson's Product Moment Correlation method. The Cronbachs' Alpha Coefficient method will be used to test the reliability and validity of the research instrument. The responses of the respondents will be coded using frequency percentage counts and simple percentage in analyzing the data on the research instrument. The statistical method of linear regression would be used to test the hypothesis which will be done with the aid of Statistical Package for Social Sciences version 20.0.

4. RESULT AND DISCUSSION

For this study, the analytical techniques employed in analyzing the data collected from the respondent were the Simple Percentage Analysis. The descriptive statistics of the data is shown below:

Table 1. Descriptive Statistics of the Data

Gender	<i>Male</i>	<i>Female</i>			
	38.2%	61.7%			
Age	<i>20–30 years</i>	<i>31–40 years</i>	<i>41–50 years</i>	<i>51–60 years</i>	
	34.3%	28.4%	15.6%	21.5%	
Marital Status	<i>Single</i>	<i>Married</i>	<i>Divorced</i>	<i>Widowed</i>	<i>Widower</i>
	28.4%	20.5%	15.6%	16.6%	18.6%
Academic Qualification	<i>SSCE</i>	<i>OND/HND</i>	<i>B.Sc.</i>	<i>M.Sc.</i>	<i>Others</i>
	21.5%	30.3%	23.5%	13.7%	10.7%
Organization Level	<i>Junior Staff</i>	<i>Middle Level Supervisor</i>	<i>Senior Staff</i>		
	48%	31.3%	20.5%		
Year of Experience	<i>Below 5 years</i>	<i>6–10 years</i>	<i>10 years & above</i>		
	46%	33.3%	20.5%		

Sources: (Field Survey, 2022).

4.1. Hypotheses Testing

H₀₁: Technological innovation has no significant effect on firm performance.

Table 2. Summary of Regression Results of the effect of Technological Innovation on Firm Performance

R = 0.881						
R² = 0.776						
Adjusted R² = 0.772						
Standard Error = 0.49021						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	567.531	1	516.612	235.245	.000 ^a
	Residual	161.340	101	.631		
	Total	213.871	102			
a. Dependent Variable: Firm Performance						
b. Predictors: (Constant), Technological Innovation						

Degree of freedom at 0.05% level of significance

Source: (Field Survey, 2023).

From the analysis of results in table I above, it shows the summary of the regression results, it therefore revealed that technological innovation has a significant impact on firm performance. The values of the regression results as follows ($R = .881$; $P < 0.005$) shows that technological innovation has a significant impact on firm performance. This means that firm performance improves as a result of the improvement in the technological and innovative capabilities of a firm. The null hypothesis is therefore rejected, while the alternative hypothesis is accepted that technological innovation has a significant impact on firm performance.

H₀₂: There is no significant effect of technological learning on firm performance.

Table 3. Summary of Regression Results on the effect of Technological Learning on Firm Performance

R = .654^a						
R² = .428						
Adjusted R² = .423						
Standard Error = 3.06103						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	792.994	1	792.994	84.632	.000 ^b
	Residual	1058.797	101	9.370		
	Total	1851.791	102			
a. Dependent Variable: Firm Performance						
b. Predictors: (Constant), Technological Learning						

Degree of freedom at 0.05% level of significance

Source: (Field Survey, 2023).

From the analysis of results in table II above, it shows the summary of the regression results, it therefore revealed that technological learning has a significant effect on firm performance. The values of the regression results as follows ($R = .654$; $P < 0.005$) shows that technological learning has a significant relationship with firm performance. This means that technological learning is a strong predictor of firm performance. Hence, the more technological knowledgeable the employees in an organization, the less time they are able to complete tasks and achieve more within the time given in the organization.

4.2. Discussion of Findings

From the result of the analysis of hypothesis one, it was revealed that technological innovation has a significant impact on firm performance. This means that firm performance improves as a result of the improvement in the technological and innovative capabilities of a firm. The result corroborated the study of Obembe and Ojo (2014) on the effects of technological capabilities, Innovations and clustering on the performance of firms. The result shows positive impact of technological capabilities, innovations, and clustering on the performance of firms.

In addition, the analysis of hypothesis two established that technological learning is a strong predictor of firm performance. Hence, the more technological knowledgeable the employees in an organization, the less time they are able to complete tasks and achieve more within the time given in the organization. This result corroborated the findings of Azubuike (2013) on understanding the way in which technological innovation capabilities affect the efficiency and potential of firm performance. The study posits the importance of technological innovation as an essential ingredient of competitive advantage for new product development. The survey findings verify the existence of correlation between technological innovation and firm performance on new product development.

5. DISCUSSION AND IMPLICATIONS FOR MANAGEMENT

The objective of the study was to examine impact of technological innovation on corporate performance. This is imperative because in today's hypercompetitive

environment seeking to respond the changes constantly arising in the environment does not rely on the static process of sole knowledge accumulation or growth of technology assets through resource based view rather it is dependent on the mutual relationship between firm's capabilities (e.g. effective coordination and adaptation of internal and external competencies), technology (e.g. timely responsiveness), and innovation (e.g. flexible innovations).

The study concluded that technological innovation is an indispensable aspect of corporate performance. This is because without advancement in the production method, processing of products will continually experience a downward slope which will therefore indicate that the business organization is not meeting up with customers demand, however meeting up with customers demand through the adoption of technological innovation increases the profitability of the firm. Findings of this study revealed that technological innovation predicts corporate performance because without advancement in the tools and techniques of production, such an organization will gradually lose its customers to competitors.

The study therefore concluded that companies who want to experience increment in their level of profitability should seek new ways and means of product deliver, meeting up with customers demand, increase the level at which technological learning is been dispersed in the organization. This study has therefore achieved the objective which it set out to achieve in determining the impact of technological innovation on corporate performance.

The following recommendations are made in the light of the findings of this study: firstly, the management of the firm should adopt technological innovation as an essential ingredient of competitive advantage for new product development. Secondly, technological innovation should be adopted so as to develop innovative products in very short time frames, with market acceptance and creating business value. Lastly, firms should make significant improvement in technological learning because it will help them to achieve high returns on the investment and increase their profitability.

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