



IMPACT OF ENTREPRENEURIAL INNOVATION ON THE PERFORMANCE OF MANUFACTURING FIRMS (A STUDY OF NIGERIAN BREWERIES, ENUGU, ENUGU STATE)

Dr. Melletus Uchechukwu Agbo

Department of Business Administration
Caritas University Amorji Nike Enugu, Enugu State, Nigeria
Email: agbomelletus@yahoo.com

ABSTRACT

This study investigated the impact of entrepreneurial innovation on the performance of manufacturing firms, using Nigerian Breweries, Enugu as a case study. Having analyzed the distributed 143 questionnaires to staffs of Nigerian Breweries, Enugu, descriptive survey approach was adopted and analyzed using SPSS regressions. The following findings were made: i) there is positive and significant relationship between entrepreneurial innovation and profitability of manufacturing firms. ii) Lack of technical know-how, economic instability and poor management are among the challenges faced by entrepreneurial innovation on manufacturing firms. The study concluded that Innovation should be considered as a vital factor of production. This is because it are an integral part of the profitability of an organization as such it is very important for organizations, in pursuit of a competitive edge, to ensure that the satisfaction of their employees is made a top priority. It further recommended that managers must ensure they employ all types of innovation in order to stand a chance in the open market.

Keywords: *Entrepreneurial Innovation, Profitability, Effectiveness*

INTRODUCTION

The past few years has seen a growing interest in both the academic and business communities in understanding the relationship between innovation and company performance (Bisbe and Otley, 2004). Innovation allows companies to achieve sustainable competitive advantages and is important to company growth (Vermeulen, 2004; Cheng and Tao, 1999). Small firm success and survival is often dependent on the degree to which they incorporate innovation into their strategies. Product innovation is important to maintain market share, process

innovation is important to maintain competitive prices level, and managerial innovation is important to maintain a flexible and durable organization (Heunks, 1998).

Innovation is an increasingly important element of globalization and competitiveness (Gorodnichenko, *et al.*, 2010). As globalization and international competition intensifies, technology becomes more central to firms' performance within the domestic and international market. This study measures AC as an explanatory variable for innovation in firms. The innovation of firms may be affected by both internal and external factors. External factors are basically associated with a firm's interaction with its external environment such as other firms, suppliers or buyers (Jorna and Waalkens, 2006). Internal factors include, for instance, a firm's inherited capacities, such as skills, accumulated experience and prior related knowledge of its workforce (Webster, 2004), organizational structure, communication network, innovation efforts, as well as the ability to respond appropriately to the intrinsic motivation of its employees (Jorna and Waalkens, 2006). It has been asserted that innovation plays an essential role in the survival of firms in the business environment. Innovations can in this context be viewed as a multidimensional concept (Neely *et al.*, 2001). Schumpeter, for instance, defines innovation as the introduction of a new good, the introduction of a new production method, opening of a new market, or opening of a new source of supply (Schumpeter, 1934). Similarly, Lundvall (1992), describes innovation as an ongoing process of exclusion, search, and exploration resulting in new products, new techniques, new organizational forms, and new markets. Malerba (2002) refers to innovation as a tradable application of an invention, as a result of invention integration into economic and social Practice. Kuratko and Hodgetts (2004) defined innovation as the creation of new wealth or the alteration and enhancement of existing resources to create new wealth. Oslo

STATEMENT OF PROBLEM

Currently, one of the major challenges that the world economy faces is the decline in labor productivity growth, which has a negative impact on economic growth period after the global financial crisis for 2008. Efforts of countries in the world to deal with these issues so far seem to be temporary; hence it would not solve the problems thoroughly. The literature on how manufacturing firms venture abroad is extensive (Ribau *et al.* 2017). Firms may react to unsolicited export orders as a means of

shortening the firm's export development process (Katsikeas 1996; Bell *et al.* 2003), which is a common response to environmental pressures (e.g. pressure from competitors, decreases in domestic sales, excess capacity, overproduction, proximity to customers), whereas proactive motivations are based on management choices to expand the business to an international level based on the firm's competitive advantage (Bell *et al.* 2003; Verisan, Achimescu 2011).

A comprehensive review, innovation always is essential for the survival of particular businesses and organizations in general. In fact, innovation still occurs in Nigerian Manufacturing sector when there are external assistance programs for them and their own internal efforts to promote innovation. However, they still need to make more efforts in terms of innovation to survive and grow in the fiercely competitive environment. Among these efforts, researches focusing on innovation are one essential method to establish knowledge of innovation in a systematic way, which will guide the decisions of managers and governments practically and professionally. In recent years, in the world there have been a plenty of researches about innovation on companies, but it is very little in Nigeria, especially testing the effects of innovation on firm performance. Therefore, this study will focus on researching impacts of entrepreneurial innovation on performance of manufacturing firms.

Objectives of the Study

The main objective of this study is to investigate the impact of entrepreneurial innovation on the performance of manufacturing firms. Hence the specific objectives are as follows. To;

- i. Ascertain the impact of entrepreneurial innovation on the profitability of manufacturing firms
- ii. Identify the level of relationship between entrepreneurial innovation and productivity of manufacturing firms.

1.1 Research Questions

The research questions are thus formulated;

- i. What are the impact of entrepreneurial innovation on the profitability of manufacturing firms?
- ii. What is the level of relationship between entrepreneurial innovation on productivity of manufacturing firms?

Research Hypotheses

The research Hypotheses are drafted as follows;

- HO₁**: There is no positive and significant impact of entrepreneurial innovation on the profitability of manufacturing firms
- HO₂**: There is no positive and significant level of relationship between entrepreneurial innovation and productivity of manufacturing firms

REVIEW OF RELATED LITERATURE

Conceptual Framework

Innovation

Innovation is generally defined as conceptualization of new commodities (or a greatly improved commodities), but also as the successful bringing of new commodities to the market (Cakar and Erturk 2010; Schumpeter 1934). Innovation also connotes process of production which is the implementation of a new or significantly improved production or delivery method; and organizational changes which is the creation or alteration of the structures practices and models, management of staff and improving product design (Trott 2010). Accordingly, the firm's innovation capability is the ability to mobilize the knowledge, possessed by its employees (Kogut and Zander 1996), and combine it to create new knowledge, resulting in product and/ or process innovation. It is recognized as well that competitive advantage can be acquired with a high quality workforce that enables firms to compete on the basis of quality and innovation.

Innovation capability is one of the most important dynamics which enables firms to achieve a high level of competitiveness both in the national and international market. Thus, how to promote and sustain an improved innovation capability should be the key focus area of the top managers of firms (Cakar and Erturk 2010). Drucker(1985) argues that innovation is the heart of entrepreneurship. An organizational wide entrepreneurial spirit to cope with and benefit from rapidly changing market place conditions would be possible only if sustainable innovative undertakings are established. When these organizational initiatives are supported and coordinated within the firm, the outcomes are gained as sustainable competitive advantage through innovation in the form of new products, services or combination of these (Hornsby et al. 2002; Brentani 2001; Quinn 1985; Schumpeter1934).

TYPES OF INNOVATION

Product Innovation

A product innovation can be recognized easily by stakeholders of a firm. It usually requires continuous research and development to be competitive in the market. This can be considered as any good or service that is perceived by an individual or a firm as new (Kotler, 1991). Also, it refers to the introduction of new products or services in order to create new markets or customers, or satisfy existing market or customers (Wang and Ahmed, 2004; Wan et al., 2005). Product innovation entails diverse organizational strategies as well as unique inputs which results in novel outputs (Martinez-Ros and Labeaga, 2009). Production innovation has been investigated in accordance with a wide range of managerial phenomena, including entrepreneurial firms in the emerging countries (Li and Atuahena-Gima, 2001), continuous innovation in mature firms (Dougherty and Hardy, 1996), collaborative networks (Nieto & Santamaria, 2007), INNOVATION spillovers (Audretsch and Feldman, 1996), human resource systems and organizational culture (Lau and Ngo, 2004), and leadership (Gruber, 1992). Product innovation is usually the result of producing and commercialization of new goods (products or services) or with improved performance characteristics. Product innovations assist SMEs to distinguish themselves from their competitors, through proffering solutions to individual or national challenges.

Product innovation remains one of the major roots of competitive advantage to firms (Mohd and Syamsuriana, 2013). This is because when firms engage in innovation, the quality of their goods and services is improved upon and this enhances the performance as well as the competitive advantage of the firm. (Forker et al., 1996). As noted by Hult et al. (2004), product innovation shields a firm from threats and competitors creates opportunity for the innovating firm to enjoy the 'first mover' advantage. Bayus et al. (2003) proved that product innovation had positive and significant link with organizational performance. Alegre et al. (2006) opined that product innovation dimension was strongly and positively associated with firm performance.

Process Innovation

A process innovation is a tool to improve organizational efficiency. A firm may adopt new technologies, buy new machineries, train their employees and reorganize their processes to make a process innovation. This can be defined as changes in the ways of producing or developing products, including new logistics, new raw material, new production lines, new

production processes/methods, and new technology. This type of innovation does not stand on its own. In many cases, process innovation may be the consequence of product innovation or/and organizational innovation. New processes basically rest on the use of new technologies to increase the efficiency and quality of production. This view on innovation was reflected by the first and second edition of the "Oslo Manual" the OECD's handbook for innovation surveys (OECD, 1997; OECD and Eurostat, 1997). Process innovation entails the implementation of new or improved production process or adoption of new tools, technology, or knowledge in producing a product (Langley et al., 2005; Oke et al., 2007). Process Innovation is very essential in the manufacturing process of a firm as it gives a firm an advantage over its competitors. Interestingly, studies have revealed that process innovation is positively related to performance of firms (Vivero, 2002; Mohd and Syamsuriana, 2013; Nham et al., 2016).

Marketing Innovation:

A marketing innovation can be easier and cheaper compared to product innovation for a firm. It might help to rejuvenate the firm's position in a market. A firm may penetrate to its market and increase its sales revenues. This is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing." (OECD and Eurostat, 2005). Marketing innovation has to do with the market mix and market selection in a bid to meet consumers' expectations (Mohd and Syamsuriana, 2013). Marketing innovation plays a crucial role in fulfilling market needs and responding to market opportunities (Rodriguez-Cano et al., 2004). Marketing innovation entails devising a better way of meeting the needs of customer, entering a new market, or strategically positioning a firm's product on the market with the intention of increasing firm's sales (Gunday et al., 2011). Marketing innovation is carried out through marketing activities such as; pricing strategies, product package design properties, product placement and promotion activities, etc (Kotler, 1991). Studies have shown that marketing innovation positively impact sales growth of firms through the increased demand for products, which as a result, yields additional profit to innovative firms (Johne and Davies, 2000; Sandvik, 2003).

Organizational innovation

An organizational innovation expands the capabilities and vision of a firm, improves employee satisfaction, leads to organizational transformation. Organization innovation involves changes in the ways of organizing and managing a firm, including human resource management and the improvement of the firm's access to the market (i.e., expanding new markets) (Avermaete et al., 2003). "It entails the implementation of a new organizational method in the firm's business practices, workplace organization or external relations." (OECD and Eurostat, 2005). Organizational innovations has the propensity to enhance firms' performances by reducing administrative and transaction costs, improving workplace satisfaction (and thus labor productivity), gaining access to non-tradable assets (such as non-codified external knowledge) or reducing costs of supplies (OECD Oslo Manual, 2005). Organizational innovation can increase the performance of firm through decreasing transaction cost and administrative cost thereby improving workplace satisfaction. Also, organizational innovation can be implemented in business practice through the application of new techniques for arranging routines and procedures for carrying out activities. It includes the introduction of new methods for the allocation of responsibilities and decision making among employees.

Firm Performance

Performance measurement and performance management practices have become common place in all businesses. The knowledge of the association between innovation and firm performance offers practical insights for proper management of firms. With this knowledge, managers of SMEs would be capable of optimizing their decision-making processes as it relates to various performance output. This knowledge will also assist them in the maximal allocation of the resources. As noted by Murphy et al. (1996), firm performance is a multi-faceted concept, which include indicator such as; production, finance or marketing (Sohn et al., 2007), or consequential such as relating to growth and profit (Wolff & Pett, 2006). Studies have described firm performance in terms, how organizational objectives are well achieved (Jarvis et al., 2000; Wood, 2006). Firm performance can be assessed by examining how successful an organization is in achieving its goals (Gerba and Viswanadham, 2016). Scholars have argued that performance of firms can be described as the firms' ability to produce suitable outcome and actions (Wood, 2006; Chittithaworn et al., 2011). Gerba and Viswanadham (2016) opined that

performance can be in terms of financial and non-financial performance. This includes; return on investment (ROI), sales volume, sales value, profitability, total assets, employment size, capital employed, market share, customer satisfaction, productivity, turnover, delivery time, employees turnover, etc.

Innovative and Firm Performance

Murphy, Trailer and Hill (1996) claimed that firm performance is a multidimensional concept, and three indicators can be production, finance or marketing (Sohn, Joo & Han, 2007), or consequences such as growth and profit (Wolff & Pett, 2006). It can be measured with objective or subjective indicators (Dawes, 1999; Harris, 2001). In this study, performance involves 4 indicators: production, market, and financial performance. Innovative performance is the combination of overall organizational achievements as a result of renewal and improvement efforts done considering various aspects of firm innovation, for instance, processes, products, marketing, organizational structure, etc. Therefore, innovative performance is a composite construct, (Hagedoorn & Cloudt, 2003) based on various performance indicators pertaining, such as, to the new patents, new product announcements, new projects, new processes, and new organizational arrangement.

THEORETICAL FRAMEWORK

Technological Innovation Performance Theory

The theory of technological innovation was firstly put forward by Schumpeter, who thought that the purpose of technological innovation was to obtain potential profits. Subsequently, many scholars both at home and abroad have explored and carried out research on the subject of technological innovation. Innovation can provide related services for the organization, its suppliers, and its consumers through new technologies, new processes, new methods, new services, and new business development methods, and can obtain a certain value. Technological innovation is a discontinuous event, with a novel idea. The Organization for Economic Co-operation and Development (OECD) believes that technological innovation is mainly from new products and new technology, and that the significant technological changes are comprehensively from them. Therefore, technological innovation presents characteristics of uncertainty, systematization, pluralism, accumulation, high investment, high income, and high risk.

Enterprises technological innovation performance is used to measure the level of enterprise technology innovation activities or results, i.e., effectiveness. Technological innovation performance refers to the degree that the enterprises introduce the inventions to the market in the narrow sense; in a broad sense, technological innovation performance refers to the process that originality takes from idea to market, including the performance of the invention, technology, and innovation that is achieved in the process. The indicators to measure the enterprises technological innovation performance include the number of patents, the number of patent cited, and the number of new products. Some scholars explained Chinese enterprises technological innovation performance using the enterprise technology innovation efficiency and the enterprise technological innovation output.

However, at present, there is no uniform standard for measuring the level of technological innovation. The level of technological innovation of enterprises can be measured by innovation expenditure per capita; the level of technological innovation of enterprises can also be measured by the ratio of innovation expenditure to revenues. The patent situation is important in the analysis of innovation capability. Due to inconsistencies in accounting standards, inconsistencies in new product identification, and fictitious expenses, etc. in new product innovation investment compared with sales revenue, it is more objective and comparable to use patents to reflect the ability of technological innovation.

Empirical Review

Innovation enables firms to offer greater variety of differentiated products that can improve financial performance (Zahra et al., 2000). Guijarro and Dominco, (2008) Innovation facilitates how SMEs respond to market changes and maintain their competitive advantage. This paper analyses the relationship between the degree of innovation (measured as innovation in products, processes and administration systems) and performance among 1,091 Spanish manufacturing SMEs. The results show that innovation positively impacts SMEs performance in low and high technology industries. Innovation was more important to achieving a competitive advantage to high technology firms than low technology firms. These results support innovation as being important to a firm's sustainable competitive advantage.

In their study, Lwambwa, Bwisa and Sambwa, (2013), Utilizing the conceptual model of the Entrepreneurial Orientation (EO) performance relationship, explored the effect of innovativeness dimension of corporate entrepreneurship (CE) on financial performance of Kenya's manufacturing firms. Specifically, they established the effect of product innovativeness on financial performance; the effect of process innovativeness on financial performance; and the effect of organizational innovativeness on financial performance of manufacturing firms in Kenya. Data gathered from 186 manufacturing firms in Kenya supports hypotheses one (Ho1) and three (Ho3); and rejects hypothesis two ((Ho2). The implications of the findings for managerial practice, policy makers and future researches were discussed.

Ukpabio, Onyebisi and Siyanbola, (2010) investigated how innovation affect the performance of manufacturing Small and Medium enterprises (SMEs) in a developing Nation A total of 305 samples was obtained from SMEs in the textile/leather/apparel and footwear subsector; wood/furniture and woodworks subsector; and domestic/industrial plastic and rubber subsector in Southwestern Nigeria. Data collected was analyzed using correlation analysis and hierarchical regression analysis. The correlation result shows that all dimensions of innovation (product, process, market, and organizational) had significant positive relationship with firm performance including the control variable 'firm size'. However, the regression result confirmed that process innovation and organizational innovation influences SMEs performance significantly. Additionally, product innovation had significant impact on innovation with the exclusion of other innovation dimensions from the model and marketing innovation had significant impact on the performance of SMEs with the exclusion of organizational innovation from the model. Overall, innovation accounts for about 55.7% of variation in the performance of the manufacturing SMEs. The study concluded that all dimensions of innovation, and specifically process and organizational innovation are critical elements for the enhancing the performance of SMEs in Nigeria. Therefore, owners and managers of SMEs should pay critical attention to implementation of innovation activities in their firms as it positively impact performance.

Ribau et. al., (2017) study aimed to present the impact of a set of internal innovation capabilities on export performance of small and medium-sized firms (SMEs), with the mediating role of entrepreneurial orientation contingent upon the proactive or reactive behaviour of the firms to external stimuli. The study involved the analysis of 147 questionnaire-based survey of managers from plastic manufacturing SMEs operating in Portugal that were subjected to a Partial Least Squares-Structural Equation Modelling (PLS-SEM) technique. The results showed that proactive firms to external stimuli are not only better at innovating but also their entrepreneurial orientation capabilities underpin a better performance in international markets when compared with firms that react to external stimuli. The study has implications for SMEs aiming at increasing their export performance and innovativeness. For practitioners the findings of this study should enable SMEs owner/managers to better understand the possible impacts of innovation capabilities and entrepreneurial orientation on export performance, and thus lead to more effective SMEs management.

METHODOLOGY

Research Design

This research adopted the survey research design which suits the research due to its descriptive nature. Multiple choice questions were also used in designing the questionnaire in an attempt to exhaust all the possible responses which is relevant to the work.

Sources of Data Collection

Both primary and secondary source of data were utilized in gathering the information relevant for this work.

Primary data: Primary data consist the use of questionnaire and oral interview. The researcher decided to employ these technique due to its importance to the research.

Secondary data: Secondary data were also adopted in this research work especially in its reference in order to back up the theoretical work. Some of the secondary sources utilized includes textbooks, lecture material, seminar paper and related articles in academic journals and from the internet.

Population of the Study

A population is made up of all conceivable elements or observations relating to a particular phenomenon of interest of the research subject or

element. The population of this study comprises two hundred and twenty four (224) staff of Nigerian Breweries, Enugu (Field Survey, 2019).

Sample Size Determination

For the purpose of this study, the researcher derived the sample size statically by using Taro Yamani (Abdullahi, 2012) as follow;

Using the formula;

$$n = \frac{N}{1+N(e)^2} \text{Where;}$$

n = Sample size

N = Population (224)

e = Margin of error (0.05) Thus, the sample size is:

$$n = \frac{224}{1+224(0.05)^2}$$

$$n = \frac{224}{1+224(0.0025)}$$

$$n = \frac{224}{1+0.56}$$

$$n = \frac{224}{1.56}$$

$$n = 143 \text{ persons}$$

Therefore, the sample size for this study is 143 staff. The study also made used of simple random sampling because it is distinguished by the fact that each population element has not only a known but equal chance of being selected.

Sampling Technique

This research study adopted simple random sampling technique which makes it possible for all the workers to have equal opportunity to being selected as the representative sample based on the total population of the two hundred and ten, a normal confidence level of 95% and error tolerance of 5% was used.

Description of the Instrument

The instrument for collection of data for this research study is questionnaire, as this was used to obtain the necessary data from the respondents. The extent of existence for all variables in the research area was measured on a five-point Likert scale ranging from Undecided to Strongly Agree, ranging from 0-4. Where Undecided (UD) =0; Strongly Disagreed (SD) =1; Disagreed (D) = 2, Agree (A) = 3 and-Strongly Agree (SA) = 4.

Validity of the Instrument

To ensure the research instrument is valid the researcher made use of content validity and this ensured that the researcher instrument covers the research objectives, hypothesis and research questions. The researcher structured the questionnaire in a simple way so that the respondents could not find it difficult to select their favor option/preferred option.

Reliability of the Instrument

The researcher used Test-Retest reliability to test the consistency of different administrations and also to determine the coefficient reliability of this research. Forty (40) questionnaire were given to a set of respondents and obtained result. At interval of two weeks and 48 questionnaire were administered to another set of respondents were the results obtained was the same as that of the first groups, hence the reliability of the research instrument.

Method of Data Analyses

Data for the study were analyzed using frequency distribution table, and percentages was used to analyze the data from the questionnaire, while simple regression and correlation with the use of SPSS were used to analyze the hypotheses.

DATA PRESENTATION AND DISCUSSION OF FINDINGS

Table 3.1

Distribution of questionnaire and response rate

| Total copies of questionnaire | Respondents | Percentage (%) |
|-------------------------------|-------------|----------------|
| Number returned | 127 | 88.9 |
| Number not returned | 16 | 11.1 |
| Total | 143 | 100 |

Source: Field survey, 2022

From table 3.1, out of 143 questionnaire issued to the respondents 127 representing 88.9% were completely filled and returned while 16 questionnaires representing 11.1% were not returned. This implies that good number of the questionnaire was attended to by the respondents.

Hypothesis One

Table 3.2 H₀: There is no positive and significant impact of entrepreneurial innovation on the profitability of manufacturing firms

Enhanced production process increases profitability

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid STRONGLY AGREE | 60 | 47.2 | 47.2 | 100.0 |
| AGREE | 40 | 31.5 | 31.5 | 52.8 |
| UNDECIDED | 10 | 7.9 | 7.9 | 7.9 |
| DISAGREE | 13 | 10.2 | 10.2 | 21.3 |
| STRONGLY DISAGREE | 4 | 3.1 | 3.1 | 11.0 |
| Total | 127 | 100.0 | 100.0 | |

Table 3.3

Correlations

| | | | Innovation increases productivity of a firm | New marketing strategies influences profitability | Enhanced production process increases profitability |
|----------------|---|-------------------------|---|---|---|
| Spearman's rho | Innovation increases productivity of a firm | Correlation Coefficient | 1.000 | .930 | .953 |
| | | Sig. (2-tailed) | . | .000 | .000 |
| | | N | 127 | 127 | 127 |
| | New marketing strategies influences profitability | Correlation Coefficient | .930 | 1.000 | .907 |
| | | Sig. (2-tailed) | .000 | . | .000 |
| | | N | 127 | 127 | 127 |
| | Enhanced production process increases profitability | Correlation Coefficient | .953 | .907 | 1.000 |
| | | Sig. (2-tailed) | .000 | .000 | . |
| | | N | 127 | 127 | 127 |

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

The result of Spearman Product Moment Correlation Coefficient on table 3.3, there is positive and significant relationship between entrepreneurial innovation and profitability of manufacturing firms, is observed to be positive with a coefficient of (0.930 and 0.953) and statistically significant with a p-value of (0.000) which is lower than the acceptable 0.01% significance level. Therefore, the alternative hypothesis is accepted that there is significant and positive relationship between entrepreneurial innovation and profitability of manufacturing firms.

Table 3.4 H0:Lack of technical know-how, economic instability and poor management are among the challenges faced by entrepreneurial innovation on manufacturing firms.

Economic instability

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid STRONGLY AGREE | 58 | 45.7 | 45.7 | 100.0 |
| AGREE | 44 | 34.6 | 34.6 | 54.3 |
| UNDECIDED | 3 | 2.4 | 2.4 | 2.4 |
| DISAGREE | 15 | 11.8 | 11.8 | 19.7 |
| STRONGLY DISAGREE | 7 | 5.5 | 5.5 | 7.9 |
| Total | 127 | 100.0 | 100.0 | |

Table 3.5

ANOVA

| | | Sum Squares | of df | Mean Square | F | Sig. |
|----------------------------|----------------|-------------|-------|-------------|---------|------|
| Lack of technical know-how | Between Groups | 164.494 | 4 | 41.124 | 205.458 | .000 |
| | Within Groups | 24.419 | 122 | .200 | | |
| | Total | 188.913 | 126 | | | |
| Poor management | Between Groups | 160.894 | 4 | 40.223 | 224.789 | .000 |
| | Within Groups | 21.831 | 122 | .179 | | |
| | Total | 182.724 | 126 | | | |

The result reveals that Lack of technical know-how, economic instability and poor management are among the challenges faced by entrepreneurial innovation on manufacturing firms. The coefficient of the correlation is 0.200 and 0.179, with a sig. value of 0.000. The effect is significant since the sig. value of 0.000 is lower than the acceptable 0.01% significance level.

FINDINGS

The major aim of this research is to examine the Impact of Entrepreneurial Innovation on Performance of Manufacturing Firms(A study of Nigerian breweries plc. Aba, Abia state).

Sequel to the analysis carried out, the following were deduced:

- i. That there is positive and significant relationship between

- entrepreneurial innovation and profitability of manufacturing firms
- ii. That Lack of technical know-how, economic instability and poor management are among the challenges faced by entrepreneurial innovation on manufacturing firms

CONCLUSIONS

Innovation should be considered as a vital factor of production. This is because it are an integral part of the profitability of an organization as such it is very important for organizations, in pursuit of a competitive edge, to ensure that the satisfaction of their employees is made a top priority.

It further revealed that there is positive and significant relationship between entrepreneurial innovation and profitability of manufacturing firms. It also stated that Lack of technical know-how, economic instability and poor management are among the challenges faced by entrepreneurial innovation on manufacturing firms

RECOMMENDATIONS

The following recommendations are made based on the findings of the study;

- i. Managers must ensure they employ all types of innovation in order to stand a chance in the open market.
- ii. Management should bring about a change in the managerial plan of the organization.
- iii. Also management must ensure they create a work environment that is conducive for workers with adequate working conditions as well as training their employees to fit the economic demand of the nation.

REFERENCES

- Andrews, J. P., Sirkin, H. L., Haanæs, K., Michael, D.C., (2007). Innovation 2007: A BCG Senior Management Survey. Boston Consulting Group Report, August.
- Baer, M., Frese, M., (2003). Innovation is not Enough: Climates for Initiative and Psychological Safety, Process Innovations, and Firm Performance. *Journal of Organisational Behavior* 24, 45-68.
- Fagerberg, J., Mowery, D.C., Nelson, R.R., 2004. *The Oxford Handbook of Innovation*. Oxford University Press, USA.

- Jong, J.P.J. de, W. Dolfsma, A. Bruins and J. Meijaard (2002), *Innovation in Service Firm Sunraveled: What, How and Why*, Zoetermeer, the Netherlands: EIM.
- Kleinknecht, A. (2000), Indicators of Manufacturing and service Innovation: their Strengths and Weaknesses, in Metcalf, J.S., and I. Miles (eds), *Innovation System and the service Economy*, Boston: Kluwer AP, pp. 169-186).
- Kleinknecht, A., and P. Mohnen (2002) (eds.), *Innovation and Firm Performance. Econometric Explorations of Survey Data*, Basingstoke, UK: Palgrave.
- Kleinknecht, A., and R. Oostendorp (2002), R&D and export Performance: Taking Account of Simultaneity, In: Kleinknecht, A., and P. Mohnen (eds.), *Innovation and Firm Performance .Econometric Explorations of Survey Data*, Basingstoke, UK: Palgrave, pp. 310-320.
- Lefebvre, E., and L-A Lefebvre (2002), Innovative Capabilities as Determinants of Export Performance and behaviour: A Longitudinal Study of Manufacturing SMEs, in Kleinknecht, A., and P. Mohnen (eds.), *Innovation and Firm Performance. Econometric Explorations of Survey Data*, Basingstoke, UK: Palgrav
- Lööf, H., A. Heshmati, R. Asplund and S.O. Naas (2001), *Innovation and Performance in Manufacturing Industries: A Comparison of the Nordic Countries*, SSE/EFI Working Paper Series in Economics and Finance No. 457, pp. 38.
- Mairesse, J., and P. Mohnen (2001), *To be or not to be Innovative: An Exercise in Measurement*, Cambridge, MA: NBER, Working Paper 8644, pp. 35.
- Meinen, G. (2001), Industriële Innovatie, deel II: loont innoveren? *Industriemonitor*, Statistics Netherlands.
- Sirelli, G. (2000), Innovation and Firm Performance, Summary of Session C, *Conference Innovation and Enterprise Creation: Statistics and Indicators*, France, 23-24/11/2000.
- Voss, C.A. (2004), Implementation of Manufacturing Innovations, in: Dodgson and Rothwell