GODIA ALAKU EZKIEL

HARNESSING TECHNOLOGICAL INNOVATION FOR BUSINESS ADVANCEMENT

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NEAR EAST UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

DEPARTMENT OF BUSINESS ADMINISTRATION

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Approval

We certify that we have read the thesis submitted by **GODIA ALAKU EZKIEL** titled **HARNESSING TECHNOLOGICAL INNOVATION FOR BUSINESS ADVANCEMENT**" and that in our combined opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Business Administration.

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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of the Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

GODIA ALAKU EZKIEL

/ /2025

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GODIA ALAKU EZKIEL

Abstract

HARNESSING TECHNOLOGICAL INNOVATION FOR BUSINESS ADVANCEMENT

Ezekiel, Godia Alaku

Supervisor, Assist. Prof. Dr. Laith Tashtoush

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The main purpose of the dissertation is to determine the effects of technological innovation on business advancement: a case study of Guinness Nigeria. Business advancement is a competitive advantage resource widely impacted by different strains of technological innovation that this paper aims to establish and analyze. Innovation has become a critical element for many organizations in the brewing industry to sustain competitive advantage, especially in today's competitive environment.

A quantitative case study approach is used in this research to study and discuss the critical role of innovation and its impact on business advancement in the organization Guinness Nigeria. Data is collected through primary research in the form of a questionnaire to various managers at different levels in the organization. The summary of data collected is integrated to identify and analyze the effects of technological innovation on business advancement.

Theoretical data and concepts from existing literature were used to assess the research questions and objectives to provide a rich explanation for the research purpose. The research provides a better understanding of how technological innovation in business

advancement drives competitive advantage for companies like Guinness Nigeria to survive the increasingly volatile and competitive beer market.

The study highlights the impacts of innovation on strengthening business advancement processes undertaken by the case company. The results indicate that technological innovation has a direct on business advancement and a positive impact on the company's development processes streaming down to the organization's performance. The study results contribute immensely to existing knowledge of integrating innovation and business advancement in the brewing sector. Opportunities for further research are presented including the potential companies forego by assuming innovation in production processes. Other opportunities include the potential to test the implementation of business advancement while embracing a hundred percent of innovative technologies in production.

Keywords*: technological innovation, business advancement,* Guinness Nigeria.

ÖZ

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Tezin temel amacı, teknolojik yeniliğin iş ilerlemesi üzerindeki etkilerini belirlemektir: Guinness Nijerya'da bir vaka çalışması. İş ilerlemesi, farklı teknolojik yenilik türlerinden yaygın olarak etkilenen bir rekabet avantajı kaynağıdır ve bu makale bu kaynağı belirlemeyi ve analiz etmeyi amaçlamaktadır. Yenilik, özellikle günümüzün rekabetçi ortamında, bira endüstrisindeki birçok kuruluş için rekabet avantajını sürdürmek için kritik bir unsur haline gelmiştir.

Bu araştırmada, yeniliğin kritik rolünü ve Guinness Nijerya'daki kuruluşta iş ilerlemesi üzerindeki etkisini incelemek ve tartışmak için nitel bir vaka çalışması yaklaşımı kullanılmıştır. Veriler, kuruluştaki farklı seviyelerdeki çeşitli yöneticilere bir anket yoluyla birincil araştırma yoluyla toplanır. Toplanan verilerin özeti, teknolojik yeniliğin iş ilerlemesi üzerindeki etkilerini belirlemek ve analiz etmek için entegre edilir.

Mevcut literatürden teorik veriler ve kavramlar, araştırma amacı için zengin bir açıklama sağlamak amacıyla araştırma sorularını ve hedeflerini değerlendirmek için kullanılmıştır. Araştırma, iş ilerlemesindeki teknolojik yeniliğin, Guinness Nijerya gibi şirketlerin

giderek daha değişken ve rekabetçi bira pazarında hayatta kalmaları için rekabet avantajını nasıl sağladığına dair daha iyi bir anlayış sağlar.

Çalışma, vaka şirketinin üstlendiği iş geliştirme süreçlerini güçlendirmede inovasyonun etkilerini vurgulamaktadır. Sonuçlar, teknolojik inovasyonun iş geliştirme üzerinde doğrudan bir etkiye ve şirketin geliştirme süreçleri üzerinde olumlu bir etkiye sahip olduğunu ve bunun da organizasyonun performansına yansıdığını göstermektedir. Çalışma sonuçları, bira sektöründe inovasyon ve iş geliştirmeyi entegre etme konusundaki mevcut bilgiye büyük ölçüde katkıda bulunmaktadır. Üretim süreçlerinde inovasyonu varsayarak şirketlerin vazgeçtiği potansiyeller de dahil olmak üzere daha fazla araştırma için fırsatlar sunulmaktadır. Diğer fırsatlar arasında, üretimde yüzde yüz yenilikçi teknolojiyi benimserken iş geliştirmenin uygulanmasını test etme potansiyeli yer almaktadır.

Anahtar kelimeler: teknolojik inovasyon, iş geliştirme, Guinness Nijerya

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CHAPTER I

INTRODUCTION

Background

The purpose of this dissertation is to examine how technological innovation affects business advancement in the context of Guinness Nigeria located in the southwestern part of the country, precisely Lagos state. For too long a time, the topic of technological innovation has featured dominantly in the studies by scholars in the field of innovative process and business advancement (Oliveira, Alves and Boer, 2017). The dynamics of innovation within the business advancement context have been deemed to be extensive thus many study themes that seek to achieve a more in-depth analysis of technological innovation in the business advancement context

(Chaochotechuang, Daneshgar, and Sindakis, 2015). This research will focus on the themes i) Technological Innovation and Business advancement ii) Organizational performance and competitive advantage to carve out a meaningful discussion from the existing literature.

For companies to prosper and retain long-term competitiveness in the business world today, managers and scholars believe stakeholders must put much effort in the introduction of innovative business operations. Innovative firms adapt to changes better than redundant companies that fail to innovate. It is evident that today, companies ought to spearhead innovation in their corporate strategic plans for a sustainable business model. Such companies produce goods and services that meet the consumers' demand as well as retain their reputation. The market is quickly shifting to market pull strategies from the technology push innovation due to increased demand for better products in all aspects. Now firms must establish fast ways of determining client's requirements and design

products that satisfy these needs (Chaochotechuang, Daneshgar, and Sindakis, 2015). This study focuses on a case study scenario where Guinness Nigeria focuses on Innovation and how it affects the company's business advancement.

More companies are embracing the manufacture of innovative products. Research and development (R&D) teams in leading entities embrace business advancement as a leading contributing factor for improved customer satisfaction. This is made possible through enormous contributions by innovative technology that highly impact the business advancement output.

To succeed, both small and big firms in the 21st century have learned and recognized the need to integrate innovation and new product manufacturing to remain operationally sustainable ((Lambertini and Mantovani, 2010). It also helps organizations maintain current competencies while exploring new ideas that can improve the process and business advancement.

Innovation is perceived and recognized extensively as a vital competitive tool adopted within various organs of a business enterprise. On the other hand, it is a complex endeavor considering markets are unclear. Competition is usually intensive and most products have a short lifespan in the market. Therefore, firms get attracted to innovation because it gives many production choices, brings about best performances that earn customer's loyalty, and creates lovely brands. Consequently, most of these companies benefit from the competitive advantage derived from the merits entangled with innovation. Many researchers have dwelled in studying innovation in the past two decades to establish its consequences and relevance on firms' performance. This is because it strategically reveals new methods that eliminate the obstacles that hinder firms from attaining sustainable competitiveness.

Many factors brew trouble for firms when processing new products. Hence it is vital for one to investigate precisely and cautiously the key factors in successful innovation. Scholars and managers are now attentive to information that can describe success through innovation because technological advanced innovation has the potential of creating competitive advantage by developing competitive goods and services, more efficient and effective procedures, or introducing new business ((Misyer, Omar, & Normaziah, 2012).

Today firms have renewed ways in which they listen to innovation success goals since the cost of innovation keeps rising, technology gets more complex and the innovation cycle declines. These two camps of researchers are involved in this endeavor. We have a group that describes the external factors surrounding innovation success. They analyze the effects of its network, examine how firms collaborated to develop a new idea since innovation can result from significant input from various partners working together. The next camp focuses on studying internal factors such as performing analysis on an applied strategic plan, corporate culture, technological might, and teamwork. Having output from these camps, it is vital to learn the basics of the impact of their ability. Many scholars have shown innovation success results from roles played by technology applications and treat possession of technological might as a core factor of discovering new might. Firms must also exploit other capabilities like smooth management that utilize efficiency earned from technology machinery to achieve innovation success. Technological Innovation management capacity under managerial capabilities alters this success in a huge way that is capturing the attention of most researchers today. Besides, firms are required to select technology and adapt to new ones continuously. This way, a firm will create new goods and services that satisfy changing customers' needs and grow drastically hence improving its performance. Guinness Nigeria is a high growth supposed to utilize technological innovation to influence the business success (growth). Factors influencing this success include technology, competitive edge, product research and development, product life-cycle, customer, and market change (Romano, 1990). Organizational performance, technology choice, and technology innovation have a positive guiding interrelationship. Strategic technological innovation is the key factor that drives the process and business advancement since the majority of the activity is attached to it.

Research Problem

Business advancement is very challenging for most leaders of an organization. Yet, it is the most important element towards surviving competition and remaining strong against competitors when scrambling the emerging markets (Ernst et al., 2015). Studies have shown that fifty percent of projects in the development of new products fail when launched in a new market, thus causing a significant problem to the affected company (Heirati & O'Cass, 2016). The overall challenge in this context is that when a firm fails to develop a

new product in a dynamic market, it faces the danger of being wiped out of the global economy. Specifically, the real problem results from a firm leader's incapacity to devise a strategic plan that will bear successful business advancement driven by technological innovation. A look at Guinness Nigeria indicates that the company has done less to innovate in terms of modern technology in the brewing sector. The addition of a PET Line is the only noticeable technological advancement effort made way back in 2018. The company has tried to fight off competition to deliver low-cost products that have seen increased demand in Nigeria. Guinness launched the brands to 2019 to venture and penetrate the low-cost consumer market segment with Baileys, Gold, and Orjin Herbal Gin.

A study (Li & Chen 2012) argues that business advancement involves the integration of many processes to come up with a final product addressing the idea generation, concept development (design of prototypes, business analysis and test marketing for potential products), and eventually the successful launch of products. Guinness Nigeria plagued with technological hurdles in the innovation, research, and development of new products. The slow response to market requirements and dynamic consumer preferences has shifted competitive advantage and customer market share to existing and emerging competitors in Nigeria. Most of the problems as concurred by various studies (Lily Julienti & Hartini, 2010) stem from lack of proper leadership, high level of bureaucracy, lack of creativity, inferior idea, and knowledge management. Remarkable changes in the beer industry in Nigeria over the last two decades show heightened competition from new entrances of forceful rivals. The market environment has become very competitive necessitating rebuilding, benchmarking, re-structuring, and strategizing innovation competencies to improve performance.

Managers and scholars view innovation as a basic component that firms use to remain competitive and acquire long-term success in their respective industries. This is simply because innovative organizations can cope and adapt quicker with rapidly changing surrounding safely compared to firms that retain traditional means of operations. Therefore, all firms ought to be innovative and integrate it into their corporate strategic plans. This is critical in developing new products that fulfill customer demands and retain

a good reputation in the market. Through such practices, Guinness Nigeria can develop a sustainable competitive advantage against its main rivals. Focusing more on quality products rather than internal efficiency helps as the market gradually shifts from the technological innovation model push to a market-based model. That is why they must hurry to learn to change customers' demands and develop complex goods and services that generate a unique solution for their needs and create superb customer support services (Shepard and Ahmed, 2000).

The relevance of business advancement and product innovation as the key driver toward attaining a firm's competitive advantage and economic growth through enhancement of its performance in the market lacks full appreciation in Guinness Nigeria. This paper analyzes a successful product innovation case in Guinness Nigeria. It analyzes it using the proposed case study research format that was conducted via field interviews and surveying using questionnaires to the company's management and other staff close to the related departments. Specifically, the firm's operation involved the manufacturing of packages, equipment, plants, and processes in beer brewing. This study's main focus dwells on the firm's development and the launch of new products that aim to meet the current market demand. Through a presentation of the case study that possesses eminent success, this research paper is instrumental in outlining strengths and weakness experienced to technological innovation and how they affect business advancement processes carried out in the firm from idea generation to the commercialization of the new products in the market and purchase of patent. This paper also provides useful results in analyzing how technological innovation affects and guides the business advancement process.

Research questions

This research work: 'The effects of technological innovation on business advancement in Guinness Nigeria" investigates how the firm's technological innovation affects business advancement processes. The study also focuses on how innovation may affect the development of business advancement and the subsequent impact on organization performance as well as Guinness's competitive strengths. In attaining these objectives, the following research questions will guide the study;

1. To what extent does technological innovation affect business advancement?

2. To what extent does leadership affect technological innovation?

3. How do variations that incorporate innovation tendencies cause different innovation management impacts on business advancement performance?

4. How do industry and corporate statuses impact innovation management business advancement performance?

5. Can the presence of Innovative Business advancement provide a means of generating sustained competitive advantage?

Definitions of the terms

Technological innovation: is a new or improved product or process whose technological characteristics are significantly different from before. Implemented technological product innovations are new products (product innovations) or processes in application (process innovations) that have been brought to market. The product or process is considered to be an innovation if it achieves specified advantages for the enterprise concerned; these need not be new from the point of view of other companies or the market.

Business advancement: is the process of planning for future growth by identifying new opportunities, forming partnerships, and adding value to a company. It involves understanding the target audience, market opportunities, and effective outreach channels to drive success. Business development may involve objectives around sales growth, business expansion, strategic partnerships, and increased profitability. The process impacts every department, including sales, marketing, manufacturing, human resources, accounting, finance, business advancement, and vendor management.

CHAPTER II

LITERATURE REVIEW

Introduction

This chapter of the research will examine relevant existing literature on the relationship between technological innovation and business advancement. The literature review has been structured in the following sections; the first section covers the conceptual review; the second section covers the theoretical framework on technological innovation and business advancement and the third section comprises the empirical review on the relationship between technological innovation and business advancement.

Conceptual Review

This segment of the chapter summarizes concepts employed in the report. These include technological innovation, product innovation, competitive advantage, and business advancement.

Technological Innovation

Innovation is defined as the speed, general research, and development significance that incorporates a compact base of technological science, ability to create new technology that replaces the current one and power to apply it in satisfying the developing and changing marketing market. Innovation has various phases that are evaluated in literature as discussed; management innovation, cultural innovation, market innovation, and technical innovation. The variable affecting a firms' innovation tendency is mainly involves decision-making, senior leadership in a firm like Guinness, and the support accorded by top tier management towards any efforts involving innovation and business advancement. Furthermore, industrial and firm variables related to innovation review variables composed of characteristics of the industry, business operation scale, and the technical leadership of a corporate. Additionally, the performance of BUSINESS ADVANCEMENT evaluation includes entry time of the developed new product, quality,

the percentage of share it possesses in the market, the rate of success it has in the market, and promotion cost during launching into the market. These are factors visible and applicable by Guinness in its 2019 launch of three new products. The factors interplay to bring success in the development of new products to accommodate the dynamic consumer preferences and shifts in market segments towards certain products. Innovation is seen as a success factor for businesses and an element for understanding what customers want and their satisfaction (Reguia, 2014). Innovation is described as a driving force behind today's many successful businesses (Dereli, 2015). Over time, studies have shown that innovations play significant roles in the development of new products. For instance, it is having been argued for products development to strive in any dynamic business environment, innovations must play a central role (Chaochote, Chuang, Daneshgar, and Sindakis,2011; Badawy,2011). Our case study recognizes that Guinness Nigeria faced stiff competition and market penetration challenges before the 2019 innovative business advancement. The introduction of low-cost consumer products and new brands into the market that diversified customer options are among the innovative processes and business advancement efforts that improved the company’s performance in Nigeria. The company reported a fifteen-percentage annual growth in sales in the year.

Business advancement

Business advancement is described as the collection of activities beginning with both the perception of a market opportunity and ending with the manufacture, sale, and delivery of a product (Beauregard et al., 2016). Business advancement evolution and innovations, therefore, include new manufacturing techniques in the approaches of processing.

Also, product innovations reflect the image of the company, and the company's overall success depends on the success of the product by fulfilling the needs and desires of consumers through the development of new. This is due to the act that in recent times the quality of business advancement by any organization offers the opportunity to build more on the brand image of the company. Organizations that developed successful products that met the needs and expectations of the customers always stand in the pathway to being a leader in the industry.

Therefore, in linking innovations to business advancement, it is important to identify the role technology plays towards business advancement and the factors affecting technological innovations. For example, Bilgili et al. (2011) described the factors that affect the development of new goods which include rapid growth and technological development, improved marketing environment, and competition. The three dimensions of business advancement and R&D programs are innovation (incremental-radical), technology (low-high), and market (newexisting). Identifying the dimensions of business advancement and research and development will help organizations especially Guinness Plc to innovate and develop new products or improve on existing product brands as this will help their products compete more in a changing business world.

Albers et al. (2016) also talk about a fourth dimension, called the industry's nature. Many studies suggest, according to Hu & Aziz (2016), different types of theoretical frameworks for the process of business advancement. These include testing proposals, initial product releases, company, or technological evaluations (Hu & Aziz, 2016). To design and develop a product, the concentration on the later stages of business advancement is suggested (Hu & Aziz, 2016). Hu & Aziz (2016) also states that a large amount of information and knowledge is needed for modern business advancement. business advancement is a progressively utilized term in new research by Bilgili et al. (2011); Woschke and Haase (2016).

Drivers of development incorporate the size of the association, open advancement practices, the nation of beginning, interest in R&D, hierarchical culture (Tellis,2013). It has been derived (Damanpour,1992) that ranked size is identified with the usage parts of developments as opposed to the commencements of advancements in associations. The perfect culture of advancement would incorporate the eagerness to tear apart existing product, adjusted promoting, and innovation ideation, explicit time spent on inventive action, grasp hazard and spotlight on the future; pioneers of enhancing firm need to guarantee that these social qualities rise through fitting motivations, strengthening of trailblazers and support of inside business sectors (Tellis,2013).

Kotler and Armstrong, (2010), opined that all together for any organization to develop new products, it must comprehend its buyers, markets, convey better an incentive than

clients. Moreover, it must do solid new-product arranging and set up a deliberate new product improvement process for finding and developing new products. The significant eight phases in new-products advancement are thought age; thought screening, idea improvement, and testing; promoting procedure advancement; business examination, item advancement; test showcasing, and commercialization.

Furthermore, another reason for business advancement is the propensity of clients to benefit from new advancements on new items which specialists guarantee to give new highlights or capacities. Products whose development is made by joining innovation and client criticism or viewpoints undoubtedly have the most up to date innovation and thus acquaint new quality and focal points with meet client's wants (Cooper and Edgett,2009).

Product Innovation

Product innovation is widely referenced in the literature (Avermaete, 2003; Lee, Wu, and Pao, 2014) and as a measure of product innovation. Christofi, Vrontis, and Leonidou (2014) define product innovation an integration of both continuous and cross-functional processes. The processes examine innovation through various competencies within an organization. Business advancement is intertwined with innovation to enable businesses to transfigure potential opportunities into viable products in the market. Guinness Nigeria is a good example of a company that has faced product innovation hurdles until competition forced it to review its research and development initiatives. Mei-Chih and Mathews (2009) indicate in their study that product innovation performance is measured by patent grants, licensing revenues, the use of product-based goals, and process-based goals (Nee, Kang, & Opper, 2010), as well as quality control.

Product innovation performance (PIP) indicators are used to measure the failure or the success of product innovation. It represents the economic, financial, and non-financial outcomes of a company’s innovation efforts through measures of performance widely recognized in the literature (Löfsten, 2014) such as profitability and growth of sales.

Classification of Technological Innovation.

Innovation plays a key role in the highly competitive global market (Badawy,2011), is correlated with the success of the organization in terms of sales and growth, and is seen as an aspect of the competitive advantage strategy of the businesses (Thornhill, 2006, Carbone, 2011). Based on their innovation work in several countries, the OECD (2005, 2009) has drawn up a list of types of innovation commonly referred to in the current literature which divides innovation into two main categories: (1) technological innovation and (2) non-technical innovation.

Similarly, under non-technological innovation, two forms of innovation exist, namely marketing innovation and organizational innovation. The current study focuses on product innovation that is a type of technological innovation as product innovation plays an important role in enhancing the quality of life and boosting the financial and marking efficiency of a business (Hoonsopon and Ruenrom, 2012). "Extreme product innovation" and "incremental product innovation" are the most widely used forms of product innovation (Atuahene-Gima,2005, Hoonsopon, and Ruenrom, 2012).

Radical innovation is generally characterized by two distinct perspectives: (1) the consumer perspective; and (2) the technical perspective. Radical product innovation's business perspective refers to the extent to which the influence of that innovation has on the consumer (O'Connor and DeMartino, 2006, Groenewegen and de Lagen, 2012). Radical innovation has such an impact on the consumer that it makes the current goods redundant or unnecessary and may even threaten to kill the existing industry (O'Sullivan and Dooley, 2008), and may even generate new industries (Schoenmakers and Duysters, 2010). For example, existing and emerging competition from competitors such as Nigerian Breweries, Brooklyn Brewery, and Deschutes Brewery in the beer industry have radically challenged the industry and affected how NDP radically changed a market. The radical innovation has pushed some companies out of the market or being redundant for example Pabod breweries. It has also challenged others such as Bature and Consolidated Breweries among others to look into their production processes and improve on the different brands of products they are bringing into the marketplace.

Organization Profile: Guinness Nigeria

A brief introduction to the organization interviewed and an overview of their products and work is made available as discussed below.

Description

Guinness Nigeria Plc is a public limited liability company. It is listed on the Nigerian Stock Exchange and incorporated on 29 April 1950 as a trading company importing Guinness Stout from Dublin. The Company has ventured into manufacturing operations and its principal activities include brewing, packaging, marketing, and selling of Guinness products.

History

The Guinness products were distributed in Nigeria in the 1940s and 1950s by United Africa Corporation (UAC) and soon became a significant export market for the brand. In 1961, arrangements were placed in motion between Arthur Guinness Son and Co and UAC to build a brewery in Ikeja, Lagos. The first factory in Arthur Guinness outside the British Isles was established by Taylor Woodrow. The original plant had an annual output of 75 million bottles or 150,000 barrels of beer. The plant region had a 15 million bottle bin size and an office block constructed by Godwin and Hopwood (Guinness in Nigeria,1963). In 1962, Guinness Nigeria, an affiliate of Diageo Plc of the United Kingdom, was integrated into the building of a brewery in Ikeja, in the south of Lagos. The brewery became the first Guinness operation outside of Ireland and Great Britain. Several breweries have been established over time: the Benin City Brasserie in 1973 and the Ogba Brasserie in 1963.

Products

Foreign Extra Stout, Guinness Extra Smooth, Malta Guinness, Malta Guinness Herbs Lite, Harp Lager, Smirnoff Ice, Satzenbrau Lager, Dubic Malt, Snapp, Master’s Choice, Orijin Spirit Mixed Drink, Orijin Bitters, Smirnoff Ice Double Black with Guarana, Guinness Africa Special, Orijin Zero, Tappers, and Royal Kingdom Lager.

To be specific Guinness Nigeria manufactures the following beer brands: Foreign Extra Stout (1962), 7.5% ABV (varies), Harp Lager Beer (1974), 5.15% ABV, Guinness Extra Smooth (2005) 6% ABV, Satzenbrau (November 2006), Harp Lime (2012) – discontinued. Armstrong Black Lager – discontinued Dubic Extra Lager (April 2012) 5% ABV, The RTD (ready-to-drink) products include Gordon's Spark (2001) – discontinued, Smirnoff Ice (September 2006)5.5% ABV, SNAPP (September 2012) 5% ABV, Orijin (August 2013) 6%ABV] (Guinness Nigeria Launched, 2014). The popular Malta (soft drink) drink range includes Malta Guinness (1990), Malta Guinness Low Sugar (May 2012) ("New Malta Guinness, 2014).

Competition

Competition is a major factor affecting all the brewers across the board regardless of size, age, distribution, and reputation. The competition involves many inputs from different sectors. For instance, apart from competing only with rival beer producers, the industry has stiff rivalry from other companies that make different kinds of drinks that substitute beer consumptions and offers. Therefore, these producers need to study the concept of competitive advantage to understand the best means to capture the opportunities in the emerging markets. Countrywide competitiveness relies on production levels that depend on national policies, environmental factors, and institutions. However, it is clear that this notion does not associate competitive advantage with market developments to reflect that when a market matures, the companies must adjust their strategy to remain relevant and achieve a competitive advantage.

A Case Analysis of Guinness Nigeria

The image of the beer industry in Nigeria has been transformed and rocked by the growth of craft beer. People are changing their negative perceptions towards small scale brewers. Initially, they believed that small brewers operated in pubs only since they sell dark beer with overloaded flavors. There is so much potential in this brewery industry that was revealed lately by using new creative techniques and genius decisions made by brewers such as Guinness when marketing their products. Many wonder whether the beer industry can sustain its competitive advantage, considering that the industry has developed

virtually from nothing to something over time. There have been many uncertainties in the beer market associated with the high number of brewers who create stiff competition and the potent in the niche market. The phrase competitive advantage is undergoing increasing scrutiny based on its relevance in the current market.

Although a significant number of questions, its applicability, the competitive advantage remains a critical concept that explains the industrial evolution and movement. Many large firms from all parts of the world have tested their framework regularly. Lumpkin and Dess (1996) in their suggestion, push for cooperation to consider the two-point of view of process and product simultaneously to define innovation activity and make integration of both results and process. Innovation activity should focus on implications from technology and management because it consists of technological innovation inside equipment, process, and product.

One sure way to evaluate the effect of innovation on the market is by assessing the degree of consumer value the invention has over existing goods. On the other hand, revolutionary product innovation's development viewpoint applies to the degree to which the development varies from current technology (Schoenmakers and Duysters, 2010). Extreme innovation is characterized by technology that varies greatly from current technology and can build new technical structures (Schoenmakers and Duysters, 2010). Because the latest technology is so different from the current technology, the technology is often called discontinuity (Abetti, 2000, Herrmann et al., 2007).

In applying this to Guinness Nigeria ever since their introduction of products such as Foreign Extra Stout (1962), 7.5% ABV (varies), Harp Lager Beer (1974), 5.15% ABV, Guinness Extra Smooth (2005) 6% ABV, Satzenbrau (November 2006), Harp Lime (2012) – discontinued.

Armstrong Black Lager – discontinued Dubic Extra Lager (April 2012) 5% ABV. The RTD (ready-to-drink) products include Gordon's Spark (2001) – discontinued, Smirnoff Ice (September 2006)5.5% ABV, SNAPP (September 2012) 5% ABV, Orijin (August 2013) 6%ABV] (Guinness Nigeria Launched, 2014). The popular Malta (soft drink) drink range includes Malta Guinness (1990), Malta Guinness Low Sugar (May 2012) ("New

Malta Guinness, 2014). The company has not been able to adapt to the changing nature and needs of the people.

Their inability to developed more products has led to switching to some of the other brands of products not from the company. Guinness Nigeria had not radically transformed its NDP and they were lagging with respect to the development of new products.

There are several definitions for incremental business advancement, but they generally refer to minor changes in the product or technology with limited impact on the technological system and low incremental customer benefits that distinguish it from radical innovation (Schoenmakers and Duysters,2010). Most of the innovations are incremental innovations and are the main sources of productivity growth (Schoenmakers and Duysters,2010). Incremental innovations use less effort and resources, are less ambitious in scope, are less risky, and generally more successful than radical innovation (Zakic et al., 2008). For instance, over time the Guinness Nigeria Plc has had incremental innovations towards achieving some product brands over the years even though there is more opportunity to develop more products in a radical way.

On the other hand, incremental innovations tend to have lower impacts on growth (O'Sullivan and Dooley, 2008). Many manufacturing companies rely entirely on continuous improvement and use techniques such as "Complete Quality Management," "Lean Manufacturing" and "Continuous Improvement" to bring certain small changes to the enterprise (O'Sullivan and Dooley, 2008). According to Slater, Jakki & Sengupta (2014), they argued that innovative firms typically have a few radical innovations and several incremental innovations during the same planning period. The present study does not distinguish between radical and incremental product innovation. This is due to the fact that in Nigeria, today, radical innovations across different sectors and industries have varying challenges which will take several decades to achieve. Also, in most organizations, they have not even wittiness incremental innovations for years in their existence.

The progress of manufacturing the technology, quick dynamics of the company's business surroundings, and shortened life cycle of a product will eventually force Guinness Nigeria

to put more effort into developing more innovative technology so that it can meet the rising demand from the customer and attain the performance requirements of new products. This study has examined several factors doing a series of activities in the management of innovation, then determining and analysing results from the influence of such activity to the new product. The paper considers two variables for the tendency to innovate and corporate status when describing the connection between BUSINESS ADVANCEMENT and innovation management. Formerly, it was owned by the factor if influence for the outer strategy. The latter has a relationship with the firm's interior. This research paper intended to place its focus on the management of innovation for Guinness Nigeria since the Nigerian brewing sector is making a gradual entrance to the age in which the competitive advantage of a firm is determined by the level of technological innovativeness and competence. This argument brings academic and practical meaning. The research has also made the following findings:

1. business advancement performance has significant contribution during mighty management of innovation are put in place

2. business advancement performance contribute a significant input when there is High tendency to innovate

3. Innovation performance contributes significantly to Business advancement

Innovation and Corporate Development

The challenge of developing new goods should not be the responsibility of a single department alone (Ulrich and Eppinger, 1995; Dovey and White, 2005). It ought to be the absolute initiative of the organization. Strong management resources must be given for any business advancement project to be effective. New products continue to interrupt old habits that managers of well-established goods sometimes try to maintain subtly. Thus, someone with the greatest level of support and the power to do things needs to be responsible for developing new goods. Business advancement is guided by market needs. The majority of new product ideas emerge from scientific discoveries and new technologies. As a consequence, Guinness Nigeria ought to appoint experts to research the technical landscape in search of new ways to meet the needs of consumers.

The economic success of a business is dependent on its ability to identify the desires of its consumers and to quickly develop solutions to satisfy them. Marketing thus enables the recognition of the customer's needs (Iwu,2010). Successful product production necessitates goods that are produced and profitably marketed, which do not automatically need to be pushed forward because the advantages of product success cannot be instantly measured in terms of monetary interest or metric. In this context, the quality of any business advancement will be judged based on the following vector parameters as noted (Iwu,2010).

Product Quality:

Product quality: Tests the good level of the product on the grounds of development effort, customer satisfaction, robustness, and durability of the product to be adequate to gain market share and still be competitive for customers to pay for it (Iwu 2010).

Product Cost deals with the cost of producing a product or providing a service, such as capital and toll costs, as well as the unit cost of production of each product. Essentially, it provides an estimated or forecast profit on sales or service offerings to potential customers at a specific price (Iwu,2010).

Product Expense:

That deals with the expense of manufacturing the goods or delivering the operation, such as the cost of operating equipment and tools, as well as the total cost of the output of each company. Essentially, it offers an actual or expected return on product or service products to prospective consumers at a fixed price (Iwu,2010).

Development Time:

This explains the degree to which the project integrates resources to complete the development of new goods. It also makes use of the company's exposure to competitiveness in its market and its degree of technological development in a timely manner, in order to receive economic returns in the attempt to pay the team (Iwu,2010).

Development Cost.

It informs us about the sum of money needed to produce the drug, which should be adequate to create the new goods, as the production expense is a part of the profit-generating contribution of the new products (Iwu,2010).

Development Capability

In the light of fast-moving market changes and a growing trajectory in technological innovation, the company's management capability needs to be measured to assess whether the team is capable of implementing and delivering a future business advancement project. This is known to be a potential tool that companies can use to develop new technologies more efficiently and successfully to ensure constant improvement and improvements in their business growth (Iwu,2010).

Determinants of Successful Product Innovation Development

Substantial activities are summed up as variables or characteristics that define successful product ideas that businesses are innovating; and allowing them to support corporations mitigate or eliminate threats to company ventures, especially those including the production of innovative goods. According to Cooper (1999), these seven activities have been established as seven essential success factors that define the efficiency of product innovation (Pitta, 2008), summarized as follows:

History up-front viability: The task of defining the object of interest is to describe whether and how it needs to be created and to explain its production by its degree of content or meaning (Pitta, 2008).

Seek Consumer Feedback: It is important to analyze the target market of the company in such a manner that the need and appeal of the potential goods will be accepted or suit into the markets. The firm should also be active in consulting customers to provide feedback in the production process of the goods, especially those without technical sophistication (Pitta, 2008).

Development of product positioning: The production of innovative goods will be successful enough to provide consumers with superior value in such a way that their

features are exclusive, rendering them distinct from all similar products on the market (Pitta, 2008). The purpose of product advancement is then to establish a clear comparative edge and market place for innovative goods, which must, of course, be desirable in order to meet the requirements of the customer and in which must always be most advantageous in order to meet the needs of the consumer.

Early Development of Easy and Stable Model: The design of the goods will be created in its nature so that it does not cost so much, because it is not only original, just a test. Some businesses seem to spend needless capital, design activities, and time to make something appear original (Pitta, 2008). As a consequence, it results in a loss of money, e.g. in development or in dynamic product design.

Theoretical Review: Dynamic Capability Innovation Theory

The importance of dynamic capability innovation theory to the harnessing technological innovation for business advancement can never be overemphasized. To address the failure of resourcebased theory, the principle of dynamic capability innovation has been incorporated alongside the principle of organizational reinforcement (Bardhan,2007). This is because managers especially Guinness Nigeria Plc need to continuously change resource and capability provisions within the organization to respond to the business environment. Dynamic capabilities are characterized as the company's capacity to incorporate, develop, and reconfigure internal and external competencies to meet rapidly changing environments (Akkermans, H. & Renga,2001).

"Dynamic capabilities consequently represent the capacity of the firms especially Guinness plc to gain different and inventive ways of competitive advantage in terms of path-dependence and market situations"(Teece et al, 1997). Furthermore, the theory is important to this study as superior corporate success is not attributed to dynamic capabilities as such, but resource allocations arising from the usage of dynamic capabilities (Lin,2003). Dynamic capabilities are therefore essential, but not adequate for competitive advantage and organizations especially Guinness Nigeria plc has to differentiate between dynamic capabilities and their outcomes (Eisenhardt & Martin,2000).

In fact, in the sense of volatile markets in hi-tech industries, a resource-based approach has developed a complex framework that reflects on the skills that a company will acquire to strategy volatility and maintain a competitive edge (Lundvall,2010). Firms, therefore, need to have a diverse capacity to predict these changes by incorporating, constructing, and reconfiguring internal and external competencies to meet a rapidly changing environment. In addition, Schoonhoven & Cua (2001) claimed that the company's finances are a fundamental basis for creativity. That is, how the competitive advantage within the company is gained and how this benefit can be maintained over time (Nonaka,1994).

In this background, companies are hypothesized as a pool of resources that are heterogeneously spreading across the business and where disparities in resources exist over time. Nevertheless, where corporations have advantages that are unique, uncommon, difficult to replicate, and substitutable, they may adopt value-added techniques that avoid imitation by other firms and therefore, create a competitive edge for product innovation. Overall, the dynamic capability theory is chosen as the theoretical paradigm in which this analysis is focused on. The basis that the theory reflects on the company's need to integrate, construct, and reconfigure internal and external competencies to meet increasingly evolving environments are important to this study. "Dynamic skills, therefore, represent the capacity of the enterprise to gain different creative ways of competitive advantage based on the direction of dependency and market place" (Teece et al, 1997).

Empirical Review

In this section of the literature review, it forms the basis to which this study is been done. There is limited literature focusing on the effect of technological innovations on business advancement in the breweries and other bottling companies in Nigeria.

Several researchers over time have made significant efforts to evaluate the impact of technological innovation on business advancement. The sample was deliberately chosen from the SMEs organizations registry and directories which consisted of 100 small medium-sized enterprises engaged in industrial activities with fewer than 300 employees.

The study data were obtained by questionnaire and schedule of interviews with a group of 100 small and mediumsized manufacturing companies. The results revealed that among these companies, the key sources of information for innovation were customers; equipment and machinery suppliers; seminars, training, and conferences; market research, and business organizations. The study concluded that contact with vendors, consumers, public institutions, and business organizations would provide necessary insights into the learning process that could not be easily given by the organization. This study, therefore, offers a gap to the current study as there are several challenges identified in this study which Guinness plc and other breweries firms in Nigeria lack. Such issues undermine the success of technological innovation and its effect on business advancement.

In a similar study, Eneji, Nnandy, Gukat, and Odey (2018) estimated the effect of technology innovation on sustainable entrepreneurship development in Nigeria. A survey questionnaire was used in the analysis with sampled stakeholders in Central Nigeria. This demonstrates that the adoption and mastering of technologies in Nigeria need more than importation. There has been a shortage of impressive attempts to establish innovative technologies. The assessment of the results was carried out using a basic percentage statistical methodology. The degree of technological advancement in Nigeria is small and entrepreneurship is high. This is attributed to fiscal, financial, socio-cultural, and environmental factors as identified by the researchers. The multiple regression techniques are conducted using secondary evidence. The result indicates that the diffusion of indigenous technology would have a pervasive, but distinct, effect on Nigeria's entrepreneurship across the agriculture, manufacturing, and service sectors, including telecommunications. The education and private sectors in Nigeria will play a leading role in the incubation, invention, introduction, and transition of indigenous technology. It is concluded that innovation and entrepreneurship will improve jobs in Nigeria. Nonetheless, the structural environment and the capacity to promote creativity are poor. Nigeria requires to establish a coherent national strategy for research, technology, and innovation through professional education and training.

Furthermore, Oyewale, Adeyemo, and Ogunleye (2013) identified technological innovation as an essential tool for the development of entrepreneurship in Nigeria.

Technology advancement in the form of internet connectivity, telephone (mainlines and mobile), business access to websites, and population growth was defined as a research gap and problem solved and used as proxy variables for their websites. Entrepreneurs and population growth were defined as a research challenge and problem solved and used for their study as proxy variables. To pick a total of 12 entrepreneurs from Lagos State who constituted our sample size, a simple random sampling technique was used. The report used the questionnaire as a research tool. Using regression analysis, the collected data are analyzed. The results showed that a significant relationship exists in Nigeria between technological innovation and the growth of entrepreneurship. Therefore, it is recommended that the government create a favorable or encouraging atmosphere for entrepreneurship and consumer goods to boost the economy in Nigeria.

Also, Onu, Olabode, and Fakunmoju (2015) conducted research to determine the effect of IT expenditure on the production quality of the employee. The study subject consisted of seventy sachet and table water manufacturing employees, Lagos, Nigeria. Style of management, technical expenditure, the performance of employees was used as proxy variables, survey development data for the analysis survey plan information for the investigation was gathered through a well-organized questionnaire conveyed to the laborers of the sachet and table water organizations. f- test, t-test, regression, and correlation investigation was utilized as a technique for information examination. The findings of the investigation indicated that there exists a solid positive relationship and critical impact between total yield, innovation use, workplace, and the board style and that the mechanical utilization underway procedures have the most noteworthy commitment to support total yield execution of representatives in sachet and table water fabricating organizations. From the outcome, it very well may be derived that the administration style decides its utilization. The vast majority of the respondents conceded to the declaration that the old-style the executive's style decides returns of IT utilization in the assembling firms.

From the findings made, the growth of information technology (IT) has contributed to concern in exploring the role of IT in the production of new goods (business advancement). IT or technological innovations has been used to promote the development

of ideas and product research, as well as business advancement tasks such as workflow and portfolio management. However, new work shows that there is a difference in the quality and utilization of Information. Given the role of IT in generating market interest through the creation of innovative goods and services, the present study aims to recognize variables that have an effect on the usage of IT. In addition, anecdotal evidence and empirical studies indicate that the usage of business advancement IT tools can shorten time on the market.

In the same way, Nazila, Gholamhossein, Hamida, and Mina (2017) examined the business advancement in the pharmaceutical firms: Evidence from a conventional market. The examination distinguishes basic achievement elements of business advancement dependent on the important writing and master conclusions in the Iranian pharmaceutical industry, at that point organizes them utilizing the procedure of numerous criteria basic leadership (MCDM) through investigating 50 filled polls organized dependent on the AHP (Analytical Hierarchy Process) approach. In spite of the fact that the business advancement achievement factors appear the equivalent in both conventional and bio-nonexclusive pharmaceutical ventures, the fundamental factors and related sub-factors show the distinctive significance in these two enterprises. In any case, this examination uncovers that the "company capabilities" is the most significant factor influencing new item advancement accomplishment in both the pharmaceutical nonexclusive and bio conventional industry.

Arkadiusz (2017) examined the imaginative business in Poland against European nations. The examination tended to an inquiry with respect to the range and degree of the inventive enterprise of Polish organizations in contrast with other European nations. Inner R and D exercises, cost decrease, giving most assets to development, creative exercises compared with the interest of inventive organizations as key intermediary factors utilized. The information utilized in the observational part has been gotten from both Eurostat information and possesses reviews. The investigation led electronically on a delegate test of 455 organizations in the second 50% of 2016. Meetings were utilized as an information instrument; the examination received a verifiable methodology as a factual strategy. The consequences of the examination show the explanations behind SME SR's low

development action, just as the reasons for SME's low enthusiasm to utilize the analyzed budgetary instruments of ingenuity support from the state. The low proficiency of the inspected types of money related help of SME advancement from the state is distinguished, which is because of low mindfulness particularly of start-up SME, the little volume of chose finances that just mostly spread the genuine expenses of SME for the improvement of development. Such issues incorporate the wasteful interruption of assets chose for this reason and the nonattendance of input on the viability of their utilization.

Shengbin and Bo-Yu (2011) examined the effect of an organization's innovation determination on its development achievement and authoritative execution. The mechanical ability empowers an organization to increase the value of items and procedures, and its effect on development achievement has been analyzed. The model is experimentally tried utilizing the information of 120 Chinese organizations gained by meetings and studies. Relapse examination was utilized as a technique for information investigation; the outcomes show that an organization's innovation choice has no immediate effect on advancement achievement; innovation determination has a noteworthy positive effect on mechanical ability and innovation the executives capacity, which, thusly, have a critical positive effect on development achievement; development achievement has a hugely positive effect on authoritative execution.

Serdar and Gloria (2010) analyzed how data innovation (IT) influences new product adequacy. Using the post-survey approach, the research utilizes data from a selection of the representatives of the Product Creation & Management Organization to analyze the influence of project harm, the presence of a leader, flexibility, creative environment, IT technology, and IT convergence on the level of IT use. Such data are often used to analyze the effect of IT use on business pace and market efficiency. The findings suggest that the vulnerability of the initiative, the presence of a leader, and the convergence have a significant effect on the degree of IT use for business advancement. The application of IT has a strong and important effect on the success of the latest product on the market. Ironically, and counter to common opinion, the use of IT has little effect on the development of the business. A significant consequence of this study is that the usage of IT affects efficiency, but not the way managers anticipate it. Furthermore, the application

of IT does not appear to hinder the development of the business but instead has a beneficial effect on the success of the latest product on the market. This finding shows that the use of IT in business advancement brings companies much more interest than commonly believed, which offers reasons to encourage stronger involvement in IT for product marketing activities. The consequences of the analysis are that when IT is incorporated into the business advancement cycle and advocates for IT solutions remain, the odds are that IT will not be implemented and the advantages will not be understood.

From the different viewpoints on technological innovation and the development of new technologies remain technically as well as an empirically unresolved issue. The effect of the reviews is that there is no definitive consensus between researchers on the nature of the partnership between technological innovations and the development of new products; this could present a major challenge for decision-making among policymakers.

However, observational data and analytical findings indicate that the usage of business advancement IT software will reduce time on the project, boost product efficiency, and maximize profitability. Nevertheless, the empiric nature of this effect is largely non-existent. For instance, this result is similar to the work of Nazila, Gholamhossein, Hamida, and Mina (2017), Eneji, Nnandy, Gukat and Odey (2018), Oyewale, Adeyemo and Ogunleye (2013), and Onu, Olabode, and Fakunmoju (2015) all identify the role technological innovations play in the success of different organizations. They also identified various challenges and apply different estimation techniques as well as bring different submissions and recommendations. These approaches adopted by these researchers, therefore, will be used as a basis of compression with previous studies against the findings that will emanate from this study.

Conclusion: Summary of Gaps

The concept of technological innovation and business advancement has been studied with varying definitions and analysis of how the two relate. This paper reviews innovation and business advancement as a cross-functional process. The analysis made indicates that organizational strategies and objectives can differ or originate from multiple functional areas of the business. I have reviewed extant literature concerning innovation and business

advancement which is a long term process whose decisions are real-time to facilitate decision making and other dynamic adjustments to operations and performance as well.

The literature reviewed on product innovation, strategies, and business advancement process draws the following conclusions. The review and analysis suggest that product innovation is crucial to the performance of any firm more so the one in our study. Secondly, innovation strategies adopted by firms have improved and worked hand in hand with business advancement towards positive results and performance. Lastly, business advancement and innovation are integrated into overall organizational activities which facilitate new technology paradigms that have become part of the business advancement and innovative lifecycle management. The future stands bright for entities utilizing big product data and digital infrastructures. The integration of business advancement and innovation seizes the digital opportunity to define long-term strategies that leverage digital enablers in aligning organizational strategies with corporate vision and goal.

Specifically, the research questions critical to this research include;

1. To what extend does technological innovation affect business advancement?

2. To what extent does leadership affect technological innovation?

3. How do variations incorporate innovation tendencies cause different innovation management impacts on business advancement performance?

4. How do industry and corporate statuses impact innovation management business advancement performance?

5. Can the presence of Innovative Business advancement provide a means of generating sustained competitive advantage?

CHAPTER III

RESEARCH METHODOLOGY

Population and Sampling

Essentially, any research population would include all employees of the concerned entity in the various departments applicable in relation to the study. The population of this study would consist of the members of staff of Guinness Nigeria which consist of 1332 members of staff (Human Resource Department of Guinness Nigeria, 2018). The population helps to gain insight and knowledge into the technological innovation and product development of the organization and how they go about it. It as well as offers the researcher idea of the sample to be drawn from the targeted population for empirical analysis. The investigator expected these surveys would reveal whether the firm is conscious of the potential that they could be promoting towards the advancement of organizational product development. The researcher also thought this survey would test the study theory and optimistically shed attention on the constructive actions of these organizations.

The sample size is crucial in selecting a representation of the entire population as it is nearly impossible to gather feedback from all employees. The process is simplified and becomes more convenient and economical for the researcher. To derive the sample size, this study employed the Taro Yamane technique to evaluate the sample size because the technique provides a more representative sample from a given population set with correct sample size estimates for the large sample size. This is because the Taro Yamane sample size calculation uses a scientific method of arriving at a well-represented sample for analysis. The sample size determination using this technique plays a vital role in this research since it makes use of survey data in seeking responses from the questionnaire it is useful to get a represented sample size from the population.

Also, to be able to get a good sample for Guinness Nigeria members of staff and management for this analysis it is important to not guess or use sample size calculation that cannot be verifiable as it will affect the overall outcomes and policy to be recommended in this study. According to Asika (2012) well-defined a sample as

exactly a portion of the population; a sample is a subset of a population that is explicitly strained to make population inferences. A sample is a lesser group or sub-group from the accessible population (Mugenda and Mugenda, 1999). Therefore, using this technique in sample size determination help in getting feedback that decisions concerning the objective of this study can be concluded.

$$n = \frac{N}{1 + N(e)2}$$

Where: N = Population e = Level of significance/sampling error (0.05)

1 = A constant value Therefore, $n = \frac{1\ 332}{1+ 1332\ (0.05)2}$

1332 = 1 + 3.33n n = 1332 /4.33 = 307.62

≈ 308 sample size

Thus, three hundred and eight employees made of staff in all management and operation levels including senior, executive, and junior staff. In the questionnaire, these we classified as top-level management, middle-level management, and working-level employees. It is normal for the response rate to be below 100%, thus the big sample size would cushion any non-response.

Research Measurement tool

Research frameworks include quantitative and cross-sectional studies. These frameworks consist of three sections, each containing 19 items.

Demographic information

Several demographic variables are assessed in the initial part of the survey. Participants were inquired about their gender, age, years of experience, and staff level. The demographic questions have four items.

Technological Innovation

The TI utilized in this investigation was developed by Trimi, S., & Berbegal-Mirabent, J. (2012). The scale consists of 7 items, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). In order to ensure reliability and meet the criteria for acceptable research, Cronbach's alpha should be no less than 0.7, as indicated by Hair, Black, Babin, and Anderson (2014). The calculated Cronbach's alpha value is 0.817, which is deemed to be reliable.

Business advancement

In the study conducted by Trimi, S., & Berbegal-Mirabent, J. (2012), a total of 8 items were created for the BA scale. Employees provided data that was analyzed using a Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The collected information was assessed utilizing a five-point Likert scale, with responses ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The reliability of the data was determined to be satisfactory, with a Cronbach's alpha coefficient of 0.720. Moreover, Cronbach's alpha value for the present research, which included 15 items, was calculated as 0.858, further confirming a dependable measure.

Table 1 The Cronbach's Alpha for Research Variables

Variable Name	Number of Items	Cronbach's alpha
TI	7	0.817
BA	8	0.720
Total	**15**	**0.858**

TI: Technological Innovation; BA: Business Advancement

Data Analysis Procedures

In order to reach reliable results to support the study's hypotheses and objectives, the methods used in the statistical analysis vary in complexity and tolerance. To facilitate dealing with the data via software applications, the data was checked and tabulated, as well as some statistical experts were consulted for the study and data processing. The researcher tested the internal consistency of the measurement tool using Cronbach's alpha. Data collected from the questionnaire was analyzed with the Statistical Package for Social Sciences (SPSS) version 25.

- The Cronbach's alpha is used to assess internal consistency to ensure the validity of the measurement instrument.

Standard deviations and standard errors of mean are used to analyze the responses to the survey and clarify the relative significance of variables.

- There are frequencies and percentages.

- Simple regressions can be used to determine the level of effect and association between variables.

- Process Macro version 4.1 can be used to show the direct and indirect impact of the proposed model of the study.

Ethical Consideration

Before beginning the study, the researcher will seek ethical approval, and the survey will undergo a series of validity checks to enhance its reliability and ensure that it conforms to sound research principles. Furthermore, the information will only be accessible to those individuals specified or granted privileges by the research establishment.

CHAPTER IV

RESEARCH RESULTS

Descriptive Statistics

The objective of this study is to examine how OC influences LS and OP within companies in Guinness Nigeria. To accomplish this objective, the researcher distributed a total of (350) questionnaires, out of which (308) were deemed valid for statistical analysis. The researcher utilized the method of assessing the questionnaire paragraphs' approval levels based on the guidelines established by Idek et al. (2014). The approval rating for each paragraph is categorized as strongly disagree if the average mean falls within the range of 1 – 1.79, disagree if it ranges from 1.8 – 2.59, neither agree nor disagree if it falls between 2.6 – 3.39, agree if it ranges from 3.4 – 4.19, and strongly agree if the average mean falls within the range of 4.2 – 5.

Technological Innovation

The data presented in Table 2 illustrates the average scores for the TI and its corresponding sub-dimensions. The mean scores for TI items varied between 2.92 and 3.74, showcasing a moderate range. Additionally, the standard deviation values indicated that there was minimal deviation from the mean scores across the items.

Table 2 The Mean Scores for the TI Items

Code	Means	STD	Degree of Approval
TI 1	3.74	.911	Agree
TI 2	3.20	.950	Natural
TI 3	2.92	.736	Natural
TI 4	3.69	1.063	Agree

TI 5	3.35	1.019	Natural
TI 6	3.39	.946	Natural
TI 7	3.58	1.056	Agree

Business Advancement

The data presented in Table 3 illustrates the average scores for the BA items. The respondents' average scores for BA items vary from 2.21 to 2.98. Additionally, the standard deviation indicates that there is not a significant deviation from the mean average across the items. Consequently, the overall mean score for BA among respondents was calculated to be 2.66. These scores suggest that employees perceive the organizational culture within their organization as being authentic and genuine.

Table 3 The Mean Scores for the BA Items

Code	**Means**	**STD**	**Degree of Approval**
OC1	2.82	1.184	Natural
OC2	2.98	1.175	Natural
OC3	2.24	1.035	Disagree
OC4	2.21	1.057	Disagree
OC5	2.42	1.043	Disagree
OC6	2.67	1.183	Natural
OC7	2.73	1.207	Natural
OC8	2.93	1.097	Natural

OC Mean Score	**2.66**	**Natural**

Demographic Characteristics of Respondents

The research has captured the demographic characteristics of respondents, including gender, age, educational level, and years of experience. Gender was categorized into male and female. Age was divided into seven categories, ranging from less than 25 years to over 50 years. Educational level was measured in three categories: diploma or below, undergraduate, and postgraduate or above. Finally, years of experience were categorized into six groups.

Gender

The participants were divided into two groups based on gender: male and female. According to the data collected from companies in Guinness Nigeria, 68% of the respondents were male, while 32% were female. This distribution reflects the traditional gender roles in Guinness Nigeria, where women typically focused on family responsibilities while men were the primary breadwinners. However, there has been a shift in recent years, with more women choosing to remain in the workforce even after getting married due to the increasing cost of living and the low wages earned by their partners. Table 4 provides an overview of the gender distribution within the sample.

Table 4 Sample Distribution by Gender

Variables	**Frequency**	**Percent**
Gender		
Male	211	67.7
Female	97	32.3
Total	308	100.0

Age

The data from companies in Guinness Nigeria revealed that respondents belonged to various age groups, as indicated in Table 5. The largest proportion of respondents, at 30%, fell within the 30-34 age bracket.

Table 5 Sample Distribution by Age

Variables	Frequency	Percent
Age		
From 25 - 29	62	20.7
From 30 - 34	117	29.7
From 35 - 39	72	24.0
From 40 - 44	31	10.3
From 45 - 49	26	8.7
More than 50s	20	6.7
Total	308	100.0

Years of Experience

The classification of the respondents' companies was determined based on six distinct categories. Within the Guinness Nigeria surveyed, 35% of the respondents had between 5 to 9 years of experience. Table 6 provides a summary of the distribution of the sample according to Years of Experience.

Table 6 Sample Distribution by Years of Experience

Variables	Frequency	Percent

Years of Experience		
From 1 - 4 years	64	21.3
From 5 – 9 years	112	34.7
From 10 - 14 years	67	22.3
From 15 – 19 years	32	10.7
From 20 – 24 years	6	2.0
25 or More years	27	9.0
Total	308	100.0

Staff Level

The classification of the respondents' companies was determined based on three distinct categories. Within the Guinness Nigeria survey, 35% of the respondents in middle level. Table 7 provides a summary of the distribution of the sample according to Staff Level.

Table 7 Sample Distribution by Staff Level

Variables	**Frequency**	**Percent**
Staff Level		
Junior level	94	21.3
Middle level	147	34.7
Top-level	67	22.3
Total	308	100.0

Hypotheses Testing

The link between Technological Innovation and Business Advancement

Hypothesis H1 suggests that TI has a positive influence on BA. The results from the linear regression analysis in Table 8 indicate that the path estimates between TI and BA were statistically significant ($F(1,298) = 81.636$, $p < 0.05$, $R2 = 0.215$). Furthermore, the model coefficient reveals that TI had a positive and statistically significant effect on BA ($T(298) = 9.035$, $\beta = .198$, $p < 0.05$). The 95% confidence interval shows that zero does not fall between the lower and upper bounds (LLCI= 0.155, ULCI= 0.241), leading to the conclusion that the effect of TI on BA is significantly different from zero. As a result, hypothesis H1 is supported.

Table 8 Regression analysis of TI on BA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					F Change	df1	df2	Sig. F Change
1	.464[a]	.215	.212	8.918	81.636	1	298	.000

a. Predictors: (Constant), TI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6493.209	1	6493.209	81.636	.000[b]
	Residual	23702.578	298	79.539		
	Total	30195.787	299			

a. Dependent Variable: BA

b. Predictors: (Constant), TI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	60.388	1.485		40.664	.000	57.466	63.311
	TI	.198	.022	.464	9.035	.000	.155	.241

a. Dependent Variable: BA

The link between Technological Innovation and quality of Business Advancement

Hypothesis H2 suggests that TI has a positive influence on QBA. The results from the linear regression analysis in Table 9 indicate that the relationship between TI and QBA is statistically significant (F (1,298) = H2, p< 0.05, R2= 0.203). Furthermore, the model coefficient reveals that TI has a positive and significant impact on QBA (T (298) =8.705, $\beta = 0.109$, $p < 0.05$). By examining the 95% confidence interval, if the value zero falls within the interval, the hypothesis is rejected; if it falls outside the interval, the hypothesis is accepted. In this case, the lower and upper bounds of the 95% confidence interval in Table 9 (LLCI= 0.084, ULCI= 0.133) do not encompass zero, leading the author to conclude that the effect of TI on QBA is indeed significantly different from zero. Consequently, hypotheses H2 are all accepted based on the findings presented in the regression analysis.

Table 9 Regression analysis of TI on QBA

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					F Change	df1	df2	Sig. F Change
1	.450[a]	.203	.200	5.076	c	1	298	.000

a. Predictors: (Constant), LS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1952.908	1	1952.908	75.780	.000[b]
	Residual	7679.678	298	25.771		
	Total	9632.587	299			

a. Dependent Variable: OC

b. Predictors: (Constant), LS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	30.205	.845		35.732	.000	28.541	31.868

	LS	.109	.012	.450	8.705	.000	.084	.133
a. Dependent Variable: OC								

CHAPTER V

Discussion and Conclusion

Discussion

This research aims to test the impact of technology on the business advancement process in Guinness Nigeria to achieve the main goal, the research studied several variables and their relationship. These variables are; technological innovation, leadership and culture, competitive advantage, and organizational performance. These variables formulated the null hypothesis in this research work. The data collected and its analysis formed the basis rejection of two of the null hypotheses and acceptance of one hypothesis. The next section will discuss the results fully by linking them with previous literatures. The remaining sections will discuss the practical implications briefly and the limitation associated with this research work. This chapter also deals with the discussions, and summary of major findings, on the study effect of technological innovation on product development using Guinness Nigeria Plc. as the case study. In conjunction with the findings, this section aims to summarize the role of technology in innovation as it relates to Guinness Nigeria, recommendations offered as a way to improve productivity and suggestions in how the case study upon the development of innovation and productivity can be further studied.

Overall, the majority of the respondents were aware of the importance and challenges affecting technology innovations and business advancement in organizations. They also identified the roles of technological innovations in new products in organizations. Such roles as identified by innovations in an organization. The respondents are successful product development necessitates the use of technologies. Likewise, technological innovations enhance the development of new quality products in an emerging market. For instance, due to the increasing level of competition witnessed in the breweries industry, these have forced Guinness Nigeria plc. To look in word on how best they can innovate and bring new products to the market in recent times. These have made Guinness Nigeria manufacture the following beer brands over time. These products include Foreign Extra Stout (1962), 7.5% ABV (varies), Harp Lager Beer (1974), 5.15% ABV, Guinness Extra Smooth (2005) 6% ABV, Satzenbrau (November 2006), Harp Lime (2012) –

discontinued. Armstrong Black Lager – discontinued Dubic Extra Lager (April 2012) 5% ABV, the RTD (ready-to-drink) products include Gordon's Spark (2001) – discontinued, Smirnoff Ice (September 2006)5.5% ABV, SNAPP (September 2012) 5% ABV, Orijin (August 2013) 6%ABV] (Guinness Nigeria Launched, 2014).

The popular Malta (soft drink) drink range includes Malta Guinness (1990), Malta Guinness Low Sugar (May 2012) ("New Malta Guinness, 2014). The results of the respondent's opinions showed that through technological innovations, firm ability to develop quality products and compete with their rival firms improves alongside their competitive advantage. Regardless of the fact that there is an increase in awareness recorded, most of the respondents who participated in the research showed that there were factors affecting technological innovations and business advancements in organizations. Factors such as the inability to invent and commercialize inventions affect business advancement in an organization. Inadequate and low IT literacy limits the capacity of the organization to adopt technological innovations and business advancement among others identified. The factors identified such as firms continue to deliver products that fail because of the problem of harnessing technological innovations with business advancement and lack of experience on technology usage hinders employees from accepting the adoption technological innovations towards business advancement among others could also lead to an increase in the costs of productions and cost-effectiveness of organizations.

This result is similar to the work of Nazila, Gholamhossein, Hamida, and Mina (2017) who determined business advancement in the pharmaceutical industry evidenced by a generic market. The study identified critical success factors of business advancement based on the relevant pieces of literature and expert opinions in the Iranian pharmaceutical industry. although the business advancement success factors seem the same in both generic and bio-generic pharmaceutical industries, the underlying factors and related sub-factors show different importance in these two industries. Nevertheless, their study revealed that the organization's capabilities″ is the most important factor affecting business advancement success in both the pharmaceutical generic and bio-generic industry. For

instance, an organization that can develop more products using the technological innovations available always remained in the cutting edge of leadership in the industry.

The regression analysis result indicated that there is a significant relationship between technological innovations' impacts on business advancement in organizations. The result is in agreement with the work of Eneji, Nnandy, Gukat, and Odey (2018) who evaluated the impact of technology innovation on sustainable entrepreneurship development in Nigeria. Their results show that technology absorption and mastery in Nigeria require more than importation. There has been the absence of remarkable indigenous efforts to evolve an indigenous technology. Therefore, the Nigerian government and different organizations in their capacity must embrace local adoption and usage of indigenous made tech in developing products and rendering services rather than relying more on the importation of technology and manpower skills to solving the issues of product development in Nigeria. This will help local and able Nigerians to look inward on how best to solve and develop products and services that affect them and serve their daily needs as well as help the economy to prosper and create more jobs for the citizens.

This study, therefore, fills in the gap to the contribution to knowledge by proffering solutions that the educational and private sectors in Nigeria should play a leading role in indigenous technology incubation, innovation, adoption, and transfer. Innovation and entrepreneurship will increase employment in Nigeria. We as a nation must in all our capacity invest more on the quality of education and empower the private individuals with necessary technological skills and funds to embark on product development as it is critical in the survival of our economy and the diversification of the economy from over-dependence on the oil proceeds over time. Similarly, our results and line of thoughts are in agreement with the work of Oyewale, Adeyemo, and Ogunleye (2013) who showed that there is a significant relationship between technological innovation and entrepreneurship development in Nigeria. Technology advancement in the form of internet connectivity, telephone (mainlines and mobile), business access to websites, and population growth was defined as a research gap and problem solved and used as proxy variables for their websites. In their study, they pick a total of 12 entrepreneurs from Lagos State who constituted our sample size, a simple random sampling technique was used.

Using regression analysis, evidence from their literature shows a significant relationship between technological innovation and the growth of entrepreneurship.

Also, Onu, Olabode, and Fakunmoju (2015) who researched to determine the effect of information technology investment on employee's output performance. The findings of the study showed that there exist a strong positive relationship and significant effect between aggregate output, technology usage, work environment, and management style and that the technological usage in production processes has the highest contribution to boost aggregate output performance of employees in sachet and table water manufacturing companies. These findings overall provide supports for answering our research questions formulated. Hence, our study is therefore justified and back up with empirical findings in answering identifying the key challenges of technological innovations adoptions on business advancement. Also, it identified the effects of technological innovations on business advancement. Base on the findings made, there is a need for organizations to adopt technological innovations towards the development of new products as it has a significant impact on the cost and profitability level of the organizations.

The study was carried out to evaluate the effect of technological innovation on product development using Guinness Nigeria Plc. as the case study. Applicable statistical methods such as descriptive and inferential statistics using frequency counts and simple percentages were used to analyze the research questions and the demographic characteristics of respondents while regression analysis and correlation tests were used to analyze the hypotheses formulated. The regression analysis results indicated that there is a significant relationship between technological innovations' impacts on business advancement in organizations.

Evidence emanating from the analysis indicates that technological innovation has the capacity to influence the emergence and development of new products in various dimensions. Business advancement emerges when firms pay more attention to innovations as it helps them to be in a better position to survive, grow, and prosper. Technological innovations from the feedback gotten from the respondents provide better access and techniques to develop new products from product development to market launch. It also helps to increase outputs at minimal production cost. Finally, the respondents

acknowledge that technological innovation is the main driving force for business advancement in organizations and management decisions.

The applications of technological innovations to new products in Guinness Nigeria could bring about new brands of drinks in the market as well as product diversification in the industry as some of the firms leading in the industry are presently out to compete with their counterpart.

The result of the analysis likewise showed that there is a significant relationship between technological innovations and the quality of business advancement in organizations. This means that through technological innovation adoption in an organization, for instance, Guinness Nigeria, technological innovations can enhance the development of new quality products in an emerging market. It also provides faster methods of products developments as evidence from the study show that the methods of product development depend on the role technological innovation plays on business advancement in organizations.

Hence, successful product development necessitates products that are advanced and sold profitably through innovations in technology. Through technological innovation, the firms' ability to develop quality products and compete with their rival firms and improve their competitive advantage over time. Consequently, there is a need to place more emphasis on the organization to adopt technological innovations to the development of their products due to the roles identified in this study regardless of other challenges viewed from different respondents. This will help the organization to gain a larger market share, improves their organizational goals in diverse ways such as profits, turnover from their assets, management decision, employee productivities, and the attraction of investors as well as increase their clients' base both in the short run and long run in the business.

Practical Implications

The research on the impact of technology on business advancement process in Guinness Nigeria Plc. Proposed several practical implications in the form of recommendations. Firstly, the research emphasis role of the top managers shaping the organizational culture. Hence managers should emulate the best leadership style because it now evident that progressive management stimulates positive growth and development of an organizational

culture that supports innovations, creativity, entrepreneurship, and teamwork, and thus the company enhances its performance. Secondly, this research predicts that firms are going to rely heavily on the power of their organization's cultural strength in the near future when pursuing significant business performance and develop a sustainable competitive advantage. Furthermore, leaders are likely to spend much of the capital towards the development of a powerful culture that is difficult to find and imperfectly inimitable to retain long-lasting competitive advantage that will support their existence in hostile business surroundings.

Recommendations

From the findings made through the study, so many challenges have been exposed, and here are some recommendations that might proffer a solution to these challenges:

i. It is recommended that the government should create a friendly or enabling environment for technological innovations and business advancement to strive. This will help consumer goods to increase and boost the Nigerian economy.

ii. The government and organizations should review and expand its skill acquisition program by creating additional skill acquisition centers in addition to the already existing ones to boost skill acquisition and entrepreneurial capabilities of the youths and employees in organizations.

iii. Firms ought to have very much branded new products and services alongside long run trust, with clear objectives.

iv. Firms should attempt to develop new products and know when a client needs changing when products come into the market to cope with such situations.

v. It is significant to check and accept product implementation requirements and strategy specifics together with customer's recognition before venturing into business advancement through technological innovations. This will help to guide against most failed products and services resulting from rapid changes in technological innovation across the globe.

These recommendations are, however, in support of the work of Eneji, Nnandy, Gukat, and Odey (2018) who as well suggested that Nigeria requires establishing a coherent national strategy for research, technology, and innovation through professional education and training. Likewise, with the work of Oyewale, Adeyemo, and Ogunleye (2013) who were of the opinion that the government should create a favorable or encouraging atmosphere for entrepreneurship and consumer goods to boost the economy in Nigeria.

Also, this recommendation corroborates with the work of Serdar and Gloria (2010) who noted that when IT is incorporated into the product development cycle and advocates for IT solutions remain, the odds are that IT will not be implemented and the advantages will not be understood.

Suggested Areas for Further Studies

The direction for future research regarding this study should be to consider an extension of the research. This can be done by considering the expansion and incorporations of either similar firms in the same industry or different industries not covered in this study.

Such expansion or direction for future studies will help in finding more vital information that may be omitted from this study and will contribute to the pool of literature already existing in this field of study.

There is a need for future research to extend the list of factors affecting technological innovations and business advancement which include “Inadequate and low IT literacy limits the capacity of the organization to adopt technological innovations and business advancement.”

“Lack of experience in technology usage hinders employees from accepting the adoption of technological innovations towards business advancement.” “Inability to invent and commercialize inventions affects business advancement in an organization” “Technical risks involved in industrial research and development for products processed in a laboratory limits development of a new product” “Organizational culture and ethics often make workers more conservative in accepting new technological innovations towards

business advancement" "Firms continue to deliver products that fail because of the problem of harnessing technological innovations with BUSINESS ADVANCEMENT"

By identifying other challenges not mention in this study will bring the development of knowledge in this area of interest as well as offer a new direction for future researchers to embark on new research in the field of interest.

This can be done through a comparative and subjective approach to research and compare the evidence of the findings obtained using the ones done in this study to determine the differences that may be obtained in the results with future findings. This is because my study only conducted research on one firm in the industry and this, however, limits the scope of the study. In doing this, future researchers will be able to identify organizational challenges that are similar or diverse among similar firms in the industry as well as reconcile such difference that exists.

There are some limitations to this research that should be discussed. Although I do not think this is a cause for concern, future research can consider focusing the study on each group of the activities. This could also bring new information and different approach carried out in this study which can bring about consensus to any divergent findings to be made in the nearest future. Even though differences may arise from this study in the nearest future, I do hope this study can serve as a blueprint to any other findings emanating from this study.

Hence, several different research directions could provide additional useful information both to firms finding critical success factors and measuring product development success as well as to academics performing research in this area.

Overall, a strong innovation culture has proved to maintain the life of an organization as support by the evidence in the findings. This refers to how workers interact, their roles, and duty performance which inadvertently influences the performance of that particular firm. The vitality of technological innovation is amplified by the urge to promote organizational efficiency and effectiveness. Collectively, these factors alter the amount of data obtained as the larger the sample collected for analysis, the high the chances for

developing more accurate and robust findings that enhances the validity and reliability of this research.

Limitation

In reference to chapter three of this dissertation, the main limitations associated with this research work include; first, is the adoption of an exploratory method due to the constrained research carried out on technological innovation and business advancement in Guinness Nigeria. Second, is that the location of the respondent detached the investigator from the participants. Therefore, face to face administration of the questionnaire was impossible. The remaining option was to use email as the alternative means of reaching out and data- gathering data required for the analysis. Finally, the time restriction and insufficient finance affected the deepness of this research.

Conclusion

The findings of this study present useful insights for improving the quality of products and new products developed through the adoption of technological innovation. My findings from the respondents have been able to provide answers to the fascinating questions that prompted me to embark on this study. Evidence identified on the effect of technological innovation on product development and challenges affecting technological innovations and business advancement were cleared in this study. The study concluded that technological innovation will enhance the quality of products at least cost advantage and increases the organizational turnover and profits of the firm over time. This typically will lead to significant growth in the overall performance of organizations over time.

Also, the roles of technological innovations on business advancement in a collaborative effort among employees and management facilitate the transformation of organizations to be on the cutting edge of leadership in the industry. The analysis of the above-mentioned findings suggests that there are some common agenda between the important factors or challenges affecting the adoption of technological innovations on business advancement. Technological innovations are adopted in organizations to designed quality products. Respondent's opinions identified certain factors such as explosive technology changes, especially the microcomputer, Increasing biotechnology, materials, and other

technologies limits organizations' capabilities towards business advancement, news of any innovation is rapidly dispersed when competitors respond quickly has adverse effects on organizational business advancement and technological change.

Other factors identified include inadequate and low IT literacy levels limiting the capacity of the organization in adopting technological innovations to business advancement, and the inability to create and commercialize inventions using the latest technological innovations affecting business advancement in an organization. Organizations can implement the raising literacy level in this field by deliberately investing more in their manpower capacity through training, workshop, and conferences. This will help in the radical change the organization desire to achieve in their product line diversification because skilled worker tends to perform outstanding results than an employee with lesser technological knowledge. Consequently, there is a need to emphasize more on the factors identified in this study and implement the strategies proffered.

REFERENCE

Abraham, J. and Barker, K. (2015) 'Exploring gender difference in motivation, engagement and enrolment behaviour of senior secondary physics students in New South Wales', Research in Science Education, 45(1), pp.59-73.

Akkermans, H. (2001) 'Renga: a systems approach to facilitating inter-organizational network development', System Dynamics Review: The Journal of the System Dynamics Society, 17(3), pp.179-193.

Albers, A., Gladysz, B., Heitger, N. and Wilmsen, M. (2016) 'Categories of product innovations: A prospective categorization framework for innovation projects in early development phases based on empirical data', Procedia CIRP, 50, pp.135-140.

An imperative tool for entrepreneurship development in Nigeria. Australian Journal of Business and Management Research, 3(8), 41-47.

Anderson, P. and Tushman, M.L. (1990) 'Technological discontinuities and dominant designs: A cyclical model of technological change', Administrative science quarterly, pp.604-633.

Asika. N. (2012) 'Research methodology in the behavioral sciences. Lagos, Nigeria: Learn Africa plc.

Avermaete, T., Viaene, J., Morgan, E. J., & Crawford, N. (2003). Determinants of innovation in small food firms. European Journal of Innovation Management, 6, 8–17.

Badawy, M.K. (2011) 'Is open innovation a field of study or a communication barrier to theory development?": A perspective', Technovation, 1(31), pp.65-67.

Bardhan, I.R. (2007) 'Toward a theory to study the use of collaborative product commerce for product development', Information Technology and Management, 8(2), pp.167-184.

Beauregard, Y., Polotski, V., Bhuiyan, N. and Thomson, V. (2017) 'Optimal utilization level for lean product development in a multitasking context', International Journal of Production Research, 55(3), pp.795-818.

Bettencourt, L.A. and Ulwick, A.W. (2008) 'The customer-centered innovation map', Harvard Business Review, 86(5), p.109.

Bhuiyan, N. (2011) 'A framework for successful new product development', Journal of Industrial Engineering and Management (JIEM), 4(4), pp.746-770.

Bidgoli, H. (2010) 'The handbook of technology management, supply chain management, marketing and advertising in', Global Management Journals, 2(1), pp.15-17.

Bilgili, B., Erciş, A. and Ünal, S. (2011) 'Kano model application in new product development and customer satisfaction: Adaptation of traditional art of tile making to jewelries', ProcediaSocial and Behavioral Sciences, 24, pp.829-846.

Billah, U.I. (2012) 'Reasons for failure of new products in the consumer goods industry', Chairman Board of Editors Editor, 7(2), p.119.

Blau, G.E., Pekny, J.F., Varma, V.A. and Bunch, P.R. (2004) 'Managing a portfolio of interdependent new product candidates in the pharmaceutical industry', Journal of Product Innovation Management, 21(4), pp.227-245.

Blecker, F., Gerhard, H. L. and Edwards, K. (2006) 'Customer interaction and customer integration', Proceedings of the Hamburg Inter Wolfgang Kersten, Thorsten Blecker and Christian M. Ringle (Eds.)

Bodlaji, M. (2010) 'The impact of a responsive and proactive market orientation on market orientation on innovation and business performance', Economic and Business Review, 4(2), pp.241-261.

Brettel, M., Heinemann, F., Engelen, A. and Neubauer, S. (2011) 'Cross-functional integration of R&D: marketing, and manufacturing in radical and incremental

product innovations and its effects on project effectiveness and efficiency', Journal of Product Innovation Management, 28(2), pp.251-269.

Burgelman, R.A., Maidique, M.A. and Wheelwright, S.C. (1996) 'Strategic management of technology and innovation', (Vol. 2). Chicago: Irwin.

Carbone, T.A. (2011) 'Critical success factors in the front-end of high technology industry new product development', The University of Alabama in Huntsville.

Casanoves, M., González, Á., Salvadó, Z., Haro, J. and Novo, M. (2015) 'Knowledge and attitudes towards biotechnology of elementary education preservice teachers: The first Spanish experience', International Journal of Science Education, 37(17), pp.2923-2941.

Chaochotechuang, P., Daneshgar, F. and Sindakis, S., 2015. Innovation Strategies of New Product Development (NPD). International Journal of Knowledge and Systems Science, 6(2), pp.57-75.

Chen, C.C. and Chuang, M.C. (2008) 'Integrating the Kano model into a robust design approach to enhance customer satisfaction with product design', International Journal of Production Economics, 12(2) pp.667-681.

Chen, J., Guo, Y. and Zhu, H. (2012) 'Can me-too products prevail? Performance of new product development and sources of idea generation in China: An emerging market', R&D Management, 42(3), pp.273-288.

Christofi, M., Vrontis, D., & Leonidou, E. (2014). Product innovation and cause-related marketing success: A conceptual framework and a research agenda. Marketing Intelligence & Planning, 32, 174–189

Chudson, W. A. (1971) 'The international transfer of commercial technology to developing countries', UNITAR Research Reports, No. 13 New York.

Cohen, W. and Levinthal, D. (1990) 'Absorptive capacity: A new perspective on learning and innovation', Administrative Science Quarterly, 35 (2), pp.128-152.

Cooper, R. (1999) ‘Winning at new products accelerating the process from Idea to launch’, New York, Basic Books Perseus Publishing House.

Cooper, R.G. (2011b) ‘Perspective: The innovation dilemma how to innovate when the market is mature’, Journal of Product Innovation Management, 28(7), pp.2–27.

Cooper, R.G. and Edgett, S.J. (2008) ‘Maximizing productivity in product innovation’, Research-Technology Management, 51(2), pp.1-13.

Creswell, J.W., 2007. The new era of mixed methods.

Cua, K.O., McKone, K.E. and Schroeder, R.G. (2001) ‘Relationships between implementation of TQM, JIT, and TPM and manufacturing performance’, Journal of Operations Management, 19(6), pp.675-694.

Dabholkar, V. and Krishnan, R.T. (2013) ‘8 Steps to Innovation: Going from Jugaad to Excellence’, Collins Business.

Damanpour, F. (1992) ‘Organizational size and innovation’, Organizational Studies, 13(3), pp.12-13.

Damanpour, F. (1992) ‘Organizational size and innovation’, Organization studies, 13(3), pp.375402.

Danneels, E. (2002) ‘The dynamics of product innovation and firm competences’, Strategic Management Journal, 23(2), pp.1095–1121.

D'aveni, R.A. and Gunther, R.E. (1995) ‘Hypercompetitive rivalries’, Competing in highly dynamic environments, Free Pr.

Denise, B. and Antonio, D. P. (2018) ‘Special Issue Challenges and Opportunities in Management of Technology and Innovation’, School of Management and Innovation Research Center (NITEC), 8(2), Pp. 16-17. https://doi.org/10.3390/admsci8020016 .

Dereli, D. (2015) 'Innovation Management in Global Competition and Competitive Advantage: Procedia', Social and Behavioral Sciences, 195, pp. 1365-1370.

Developments: Guinness in Nigeria (1963) 'West African Builder and Architect', 57. ISSN 0043-2970. OCLC 32562858.

Dierickx, I. and Cool, K. (1989) 'Asset stock accumulation and sustainability of competitive advantage', Management Science Journal, 35(12), pp.1504–1514.

Dobre C., Dragomir A. and Preda, G. (2009) 'Consumer innovativeness: A marketing approach', Management and Marketing, 4(2), pp.19-34.

Dovey K, and White R. (2005) 'Learning about learning in knowledge-intense organizations', Learning Organizational Journal, 12(3), pp.15.

Drucker, P. (1954) 'The practice of management', New York: Harper and Row Publishers.

Eisenhardt, K.M. and Martin, J.A. (2000) 'Dynamic capabilities: What are they?', Strategic Management Journal, 21(10), pp.1105-1121.

Ejimokun, B. P. (2012) 'An appraisal of effects of national health insurance scheme (NHIS) on members of staff of Ekiti State University Teaching Hospital (EKSUTH)', Unpublished work.

Fichman, R. and Nambisan, S. (2009) 'Deriving business value from IT applications in product development: A complementarities-based model', Annals of Information Systems, 5(2), pp.19-48.

Govindarajan, V. and Christ, T. (2010) 'The other side of innovation: Solving the execution challenge', Harvard Business Review Press.

Govindarajan,V. and Chris, T. (2012) 'Reverse innovation: Create far from home, win everywhere', Harvard Business Press.

Grant, R.M. and Baden-Fuller, C. (2004) 'A knowledge accessing theory of strategic alliances', Journal of Management Studies, 41(1), pp.61-84.

Gregory, A.M. and Parsa, H.G. (2013) ‘Kano's Model: An Integrative Review of Theory and Applications to the Field of Hospitality and Tourism’, Journal of Hospitality Marketing & Management, 2(1), pp.25-46.

Guinness Nigeria Launches Its Latest Blend of Herbs and Fruits Drink Orijin In Port Harcourt".

Gupta, A., Pawar, K.S. and Smart, P. (2007) ‘New product development in the pharmaceutical and telecommunication industries: a comparative study’, International Journal of Production Economics, 106(1), pp.41-60.

Gurtner, S. and Reinhardt, R. (2016) ‘Ambidextrous idea generation-antecedents and outcomes’, Journal of Product Innovation Management, 33, pp.34-54.

Helfat, C.E. and Peteraf, M.A. (2003) ‘The dynamic resource-based view: capability lifecycles’, Strategic Management Journal, 24(10), pp.997-1010.

Herstatt, C., Stockstrom, C., Tschirky, H. and Nagahira, A. (2005) ‘Management of technology and innovation in Japan’, Springer.

http://www-935.ibm.com/services/de/bcs/pdf/2006/pharma_2010.pdf [Accessed 28th July 2020]. Pohl, M. (2006) ‘Customer involvement in new service development: term paper’, GRIN Publish and Find Knowledge.

Hu, Y. and Aziz, E-S, S. (2016) ‘Creativity-based design innovation environment in support of robust product development’, International Journal on Interactive Design and Manufacturing (IJIDeM). 10(2), pp.335–353.

INNOVATION: A CASE STUDY APPROACH. Journal of Management Studies, 27(1), pp.75-95.

Iwu, C.G. (2010) ‘Impact of product development and innovation on market share in Africa’, Journal of Business Management, 4(13), pp.2659-2667.

Jha, K.S. and Krishnan, T. (2013) 'Local innovation: The key to globalization', IIMB Management Review, 25(4), pp.1-8.

Johnson, R.B., and Onwuegbuzie, A.J., 2004. Mixed methods research: A research paradigm whose time has come. Educational researcher, 33(7), pp.14-26.

Kahn, K. B., Barczak, G., Nicholas, J., Ledwith, A. and Perks, H. (2012) 'An examination of new product development best practice', Journal of Product Innovation Management, 29(2), pp.14.

Kerlinger, F. N. (1973) 'Foundation of behavioral science. New York: Holt, Renehard and

Khanna, I. (2012) 'Drug discovery in pharmaceutical industry: productivity challenges and trends', Drug Discovery Today, 17(2), pp,108-110.

Kleis, L., Chwelos, P., Ramirez, R. V., and Cockburn, I. (2012) 'Information technology and intangible output: The impact of IT investment on innovation productivity', Information Systems Research, 23(1), pp.42-59.

Koski, H. and Kretschmer,T. (2007) 'New product development and firm value in mobile handset production', New Jersey: Prentice Hall.

Kotler, P. and Armstrong, G. (2010) 'Principles of Marketing 13th edition Pearson Education, Inc', Upper Saddle River New Jersey USA, ISBN-13, pp.978-984.

Kuswantoro. (2012) 'Impact of Distribution Channel Innovation on the Performance of Small and Medium Enterprises', International Business and Management, 15(1), pp.50-60.

Lambertini, L. and Mantovani, A., 2010. Process and product innovation: A differential game approach to product life cycle. International Journal of Economic Theory, 6(2), pp.227-252.

Li, P. C., and Chen, Y. C. (2012). How does social orientation influence R&D-marketing collaboration? Asia Pacific Journal of Management, 29, 151–168.

Liao, Y., Yang, C. and Li, W. (2015) 'Extension innovation design of product family based on Kano requirement model', Procedia Computer Science, Vol 55, pp.268 - 277.

Lily Julienti Abu Bakar, & Hartini Ahmad. (2010). Assessing the relationship between firm resources and product innovation performance: A resource-based view. Business Process Management Journal, 16(3), 420–435.

Lin, B.W. (2003) 'Technology transfer as technological learning: A source of competitive advantage for firms with limited R&D resources', R&D Management, 33(3), pp.327-341. Löfsten, H. (2014). Product innovation processes and the trade-off between product innovation performance and business performance. European Journal of Innovation Management, 17(1), 61–84.

Lumpkin, G. and Dess, G., 1996. Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance. The Academy of Management Review, 21(1), p.135.

Lundvall, B-Å. (2010) 'National systems of innovation', Toward a theory of innovation and interactive learning, (Anthem Press, London).

Mansour, N. (2015) 'Science teachers' views and stereotypes of religion, scientists and scientific research: A call for scientist–science teacher partnerships to promote inquiry-based learning', International Journal of Science Education, 37(11), pp.1767–1794.

Mehralian, G., Nazari.J. A., Rasekh, H. R. and Hosseini, S. (2016) 'TOPSIS approach to prioritize critical success factors of TQM: evidence from the pharmaceutical industry', TQM J, 28(2), pp.235-49.

Mei-Chih Hu, & Mathews, J. A. (2009). Estimating the innovation effects of university-industry government linkages: The case of Taiwan. Journal of Management & Organization, 15(2), 138– 154.

Mohr, J.J. and Sarin, S. (2008) 'Drucker's insights on market orientation and innovation: implications for emerging areas in high-technology marketing', Journal of the Academy of Marketing Science, 37(1), p.85.

Mugenda, O.M. (1999) Research methods: Quantitative and qualitative approaches. African Centre for Technology Studies.

Nachmias, F (1996) Research methods in the social sciences Oaks: Sage publications

Nambisan, S. and Baron, R. (2010) 'Different roles, different strokes: Organizing virtual customer environments to promote two types of customer contributions', Organization Science, 21(2), pp.554-572.

Narayanan, V.K. and O'Connor, G.C. (2010) 'Encyclopedia of technology and innovation management',John Wiley and Sons.

Neadle, S. (2016) 'Risk management considerations and strategies in product development in lifecycle risk management for healthcare products: From research through disposal', Davis Healthcare International Publishers.

Nee, V., Kang, J., & Opper, S. (2010). A Theory of Innovation: Market Transition, Property Rights, and Innovative Activity. Journal of Institutional and Theoretical Economics JITE, 166(August), 397– 425

New Malta Guinness Low Sugar Launches in Nigeria". Retrieved 4 March 2014.

Nonaka, I. (1994) 'A Dynamic theory of organizational knowledge creation', Organization Science, 5(1), pp.14-37.

NSE Listed Companies". Archived from the original on July 31, 2012. Retrieved August 31, 2012.

OECD (2005) 'Oslo Manual', Guidelines for Collecting and Interpreting Innovation Data.

OECD (2009) 'Working party on innovation and technology policy-new forms of innovation: challenges for policy making. OECD, Headquarters, Paris.

Ogula, P. A. (2005) Research methods, Nairobi: CUEA Publications.

Oliveira, S., Alves, J. and Boer, H., 2017. Innovation in the Product Development Process and Performance of firm: An Experience of Value co-creation Based on Incorporation of Technological Innovations by the 3D Modeling and Additive Manufacturing. Procedia CIRP, 62, pp.452-457.

Olu (January 1969) 'How Guinness Came into Being', The People, 26.

Orodho, A.J. (2003) 'Essentials of educational and social science research methods', Nairobi Masola Publishers, pp.23-45.

O'Sullivan, D. and Dooley, L. (2008) 'Applying Innovation', Sage Publications.

Oyewale, I. O., Adeyemo, S. A., & Ogunleye, P. O. (2013). Technological innovation:

Pavlou, P. and Sawy, O. (2010) 'The "third hand": IT-enabled competitive advantage in turbulence through improvisational capabilities', Information Systems Research, 21(3), pp.443471.

Pharma. (2010) Threshold of innovation, IBM Global Business Services. Available at:

Quinlan, C., Babin, B., Carr, J.C., Griffin, M. and Zikmund, W.G. (2019) Business Research Methods. 2nd edn. Andover: Cengage Learning.

Reguia, C. (2014) 'Product innovation and the competitive advantage', European Scientific Journal, Vol.1, pp.1857- 7881.

Romano, C., 1990. IDENTIFYING FACTORS WHICH INFLUENCE PRODUCT

Rosiello, A., Dimitri, N. and Fiorini, F. (2013) 'A new approach to assess drug development performance', Drug discovery today, 18(9-10), pp.420-427.

Sarin, S. and Mohr, J. J. (2008) 'An introduction to the special issue on marketing of hightechnology products, services and innovations', Industrial Marketing Management, 37, pp.626628.

Sarin, S. and O'Connor, G.C. (2009) 'First among equals: The effect of team leader characteristics on the internal dynamics of cross-functional product development teams', Journal of Product Innovation Management, 26(2), pp.188-205.

Saunders, M., Lewis, P. and Thornhill, A. (2009) Research Methods for Business Students, (5thEd.). Harlow, Pearson Education.

Schmookler, J. (1966) Invention and economic growth. Harvard University Press, Boston. Schoenmakers, W. and Duysters, G., 2010. The technological origins of radical inventions. Research Policy, 39(8), pp.1051-1059.

Schultz, C., Salomo, S. and Talke, K. (2013) 'Measuring new product portfolio innovativeness: How differences in scale width and evaluator perspectives affect its relationship with performance', Journal of Product Innovation Management, 30(2), pp.93–109.

Schumpeter, J. (1934) The Theory of Economic Development, Harvard University Press.

Schumpeter, J.A. (1934) 'The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle', Transactions Publishers. New Brunswick, USA.

Shumpeter, J.A. (1942) 'Capitalism, socialism and democracy', Harper & Row, New York, p.83.

Slater, S.F., Mohr, J.J. and Sengupta, S. (2014) 'Radical product innovation capability: Literature review, synthesis, and illustrative research propositions', Journal of Product Innovation Management, 31(3), pp.552-566.

Teece, D. J. (2007) 'The Diffusion of an Administrative Innovation', Management Science, 26,(5), pp.464-470.

Teece, D.J., Pisano, G. and Shuen, A. (1997) 'Dynamic capabilities and strategic management', Strategic Management Journal, 18(7) pp.509–533.

Tellis, G.J. (2013) Unrelenting innovation: How to create a culture for market dominance (Vol. 178). John Wiley & Sons.

Tollin, K. (2008) 'Mindsets in marketing for product innovation: An explorative analysis of chief marketing executives' ideas and beliefs about how to increase their firms' innovation capability', Journal of Strategic Marketing, 16(5), pp.7-12

Trimi, S., & Berbegal-Mirabent, J. (2012). Business model innovation in entrepreneurship. International Entrepreneurship and Management Journal, 8(4), 449–465. doi:10.1007/s11365-012-0234-3.

Trott, P. (2011) Innovation management and new product development: Fifth edition, Prentice Hall Europe.

Ulrich K.T, and Eppinger S.D. (1995) Product design and development. New York, McGraw-Hill.

Ulrich, K.T. & Eppinger, S.D. (2011) Product Design and Development. McGraw-Hill. Woschke, T. and Haase, H. (2016) 'Enhancing new product development capabilities of small- and medium-sized enterprises through managerial innovations', The Journal of High Technology Management Research, Vol. 27, pp.53–64.

Winston.

Yang, W.T., Lin, Y.R., She, H.C. and Huang, K.Y. (2015) 'The effects of prior-knowledge and online learning approaches on students' inquiry and argumentation abilities', International Journal of Science Education, 37(10), pp.1564-1589.

Yen, D.A., Barnes, B.R. and Wang, C.L. (2011) 'The measurement of guanxi: Introducing the GRX scale', Industrial Marketing Management, 40(1), pp.97-108.

Zikmund, W.G. and Babin, B.J. (2000) Exploring Marketing Research', 7th. Thompson, Southwestern.

Appendix X

Questionnaire

Near East University

Faculty of Economics and Administrative Science

Department of Business Administration

Dear Responder,

This questionnaire aims to complete a study conducted by the researcher under the title, **Harnessing Technological Innovation for Business Advancement.** Please fill out this questionnaire that is designed to conduct the study. All data will be used for scientific research purposes and will be treated with strict confidentiality.

Thank you for your cooperation

Researcher

Please answer the questions by placing a (X) next to the answer that suits you.

1. Gender

Male ☐ Female ☐

2. Age

Less Than 25 ☐ From 25 - 2☐ From 30 - 34 ☐ From 35 - 39 ☐

From 40 - 44 ☐ From 45 - 49 ☐ More than 50s ☐

3. Years of Experience

Less than 5 years ☐ From 5 – 9 years ☐ From 10-14years ☐ 15–19years ☐

20 or More years ☐

Staff Level:

Junior level ☐ Middle-level ☐ Top level ☐

Please answer the questions by placing an (X) next to the answer you think is appropriate for you.

#	Items	Strongly disagree 1	Disagree 2	Neither agree/ nor disagree 3	Agree 4	Strongly agree 5
	Technological Innovations	(Trimi, S., & Berbegal-Mirabent, J. (2012))				
1.	Inadequate and low IT literacy limits the capacity of the organization to adopt technological innovations and business advancement.					
2.	Lack of experience in technology usage hinders employees from accepting the adoption of technological innovations toward business advancement					
3.	The ability to invent and commercialize inventions affects business advancement in an organization.					
4.	Technical risks involved in industrial research and development for products processed in a laboratory limits the development of a new product.					
5.	Organizational culture and ethics often make workers more conservative in accepting new technological innovations toward business advancement.					
6.	Firms continue to deliver products that fail because of the problem of harnessing technological innovations with NPD.					

7.	Business advancement indicates that firms pay more attention to innovations so that they are in a better position to survive, grow, and prosper.					
	Business Advancement	(Trimi, S., & Berbegal-Mirabent, J. (2012))				
8.	Technological innovations provide better access and techniques for developing new products from business advancement to market launch.					
9.	Technological innovation increases outputs at minimal production cost.					
10.	Technological innovations give new possibilities for new product distribution with relatively lower costs					
11.	Technological innovation is the main driving force for business advancement in organizations and management decisions					
12.	Technological innovations enhance the development of new quality products in an emerging market.					
13.	The methods of business advancement depend on the role technological innovation plays in business advancement in organizations.					
14.	Successful business advancement necessitates products that are advanced and sold profitably through innovations in technology.					

15.	Through technological innovation, the firm's ability to develop quality products and compete with their rival firms, improving					

TURNITIN SIMILARITY REPORT

HARNESSING TECHNOLOGICAL INNOVATION FOR BUSINESS ADVANCEMENT

by Godia Alaku Ezkiel

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ETHICAL COMMITTEE APPROVAL

NEAR EAST UNIVERSITY

SCIENTIFIC RESEARCH ETHICS COMMITTEE

07.01.2025

Dear Godia Alaku Ezekiel

Your application titled "**The Role of Leader Effectiveness in the Relationship Between Crisis Management and Sustainable Performance of Employees: A Case of Nigerian Tourism Sector'"** with the application number NEU/SS/2024/1934 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Prof. Dr. Aşkın KİRAZ

The Coordinator of the Scientific Research Ethics Committee