INFLUENCE OF ENVIRONMENTAL TURBULENCE ON FIRM PERFORMANCE: A CASE OF EAST AFRICAN BREWERIES LIMITED

BY

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UNITED STATES INTERNATIONAL UNIVERSITY – AFRICA

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STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University- Africa for academic credit.

Signed: __________________________ Date: _________________________

Joan Kamau (ID No.651186)

This research project has been presented for examination with my approval as the appointed supervisor.

Signed: __________________________ Date: _________________________

Dr. Joyce Ndegwa

Signed: __________________________ Date: _________________________

Dean, Chandaria School of Business
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ABSTRACT

The modern business environment is complex, dynamic, rapidly-evolving, and subject companies to increasing pressures. Companies must adopt strategies that allow them to attain high levels of performance and maintain competitive advantage in the face of environmental turbulence. This study examines the level of environmental turbulence and the effectiveness of individual-firm responses, and subsequently their effect on performance.

The study sought to investigate the influence of environmental turbulence on firm performance, with specific focus on the East African Breweries Limited (EABL). The specific objectives of the study were to investigate the effect of market turbulence, technological turbulence, and competitive intensity on the performance of EABL.

A descriptive research design was adopted for the study. The target population for the study were 201 managers. These managers had been trained under the “Amazing People Manager” Program implemented by EABL. The researcher used simple random to compute a sample size of 133 senior managers. A questionnaire was developed, standardized, piloted, validated, refined and administered at the places of work. Data collected was analyzed using SPSS. Descriptive analysis summarized responses into frequencies, percentages, means and standard deviations. The researcher used inferential statistics, specifically correlation analysis and simple regression analysis, to determine the relationship between market turbulence, technological turbulence, competitive intensity, and financial performance. The presentation of findings was done using figures and tables, accompanied by narrative interpreting the findings.

On market turbulence and performance, the results indicate that there was a negative and insignificant relationship between market complexity and performance. In the same vein, there was a negative and insignificant relationship between customer preferences and performance. On the contrary, the results indicates a positive and significant relationship between product differentiation and the performance of the firm.

On technological turbulence and performance, the findings showed that technological orientation has a negative relationship with performance, but the relationship was not significant. Similarly, there was also a negative and insignificant relationship between technological capability and the firm’s level of performance. The results, however,
revealed a positive relationship between technological innovation and organizational performance.

The high level of competitive rivalry had a negative effect on performance, even though it was not significant. Competitive strategies was also not a significant driver of performance. On the other hand, market leadership which is enjoyed by EABL was found to be a positive driver of performance.

The study recommends that, due to the high levels of market turbulence as characterized by government regulations, taxations, and domestic and international market competitive pressures; the company should lobby the government to establish a stable regulatory and tax regime, while cautiously managing its expansion in both the domestic and international market. The study recommends that to tackle the high technological turbulence, the company must continuously update its strategic orientation in the face of new changes, while upgrading its capabilities with changes in technology. Finally, owing to competitive rivalries, the company should continue to assert its market dominance, further increase its market share, in systems that preserve its position as the number one in quality manufacturing systems, quality products, and superior product offerings.
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ABBREVIATION AND ACRONYMS

CRM : Customer Relationship Management
EABL : East African Breweries Limited
R&D : Research and Development
SEM : Structural Equation Modeling
SMBA : Small and Medium Business Administration
SME : Small and Medium Enterprises
SPSS : Statistical Package for Social Sciences
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Companies all around the world are operating in a rapidly evolving and challenging environment characterized by shorter product life cycles, rapidly growing technological advancements, and customer demands that are becoming increasingly complex, customized and diverse. These pressures demand that companies must innovatively manage and deploy their resources to ensure survival and long-term sustainability in the face of various environmental factors that threaten the very survival of the business (Abbas & Hassan, 2017). Over the last two decades, the concept of “environmental turbulence” has grown to become a critical way of analyzing disruptions in the competitive environment. Higher environmental turbulence can reduce the innovation in individual firms because it increases uncertainty and threatens the success of investments in innovative developments. However, it is important to note that different factors in the environment affect different businesses differently hence the need to investigate the varied influences in the industry (Njeru, 2013).

A turbulent business environment is characterized by constant changes in product preferences and customer demand, wide range of customer needs and demands, and the probability of customers to seek new products frequently. Kohli and Jaworski (1990) proposed that the concept of environmental turbulence has three components, and they are market turbulence, technological turbulence, and competitive intensity. These dimensions simultaneously assess the changes that companies must encounter to deliver satisfactory services or products to customers, and how they with new competitive situations (Kohli & Jaworski, 1990). Market turbulence, just as technological turbulence, is concerned with the rate of change in the market and the technology, while the competitive intensity is the rate of change of activities undertaken by the firm’s competitors (van Welij, 2016).

Market turbulence, as a component of environmental turbulence, was originally conceptualized as changes in buyer preferences, wide-ranging needs and wants, and ongoing buyer entry and exit from the market place and the constant emphasis on offering new products in the market (Kohli & Jaworski, 1993). In research, market turbulence measures the rate of change in the composition of customers and their preferences, the
dynamism in the customer base, as well the evolution of market forces changing customer composition (van Welij, 2016). It evaluates the perceptions of market complexity and market uncertainty and captures the instability of the needs, preferences, and expectations of customers (Jassmy, Banacu, & Bhaya, 2017).

Technological turbulence refers to the rate of technological changes in the manufacture and delivery of products to customers. It relates to the technological changes in the entire process of production such as the alteration of inputs and outputs to achieve better product and service quality as well as how the output of the process is delivered to the customer (Ottesen & Grønhaug, 2004). When the level of technological turbulence is high, a firm must adapt to continually develop new technology and achieve competence in the latest technologies if it is to successfully generate new products and innovate its processes (Rakim & Zainuddin, 2017). This means that in a highly technologically turbulent environment, companies are heavily dependent on technological innovation capabilities which enable them to exploit new technology opportunities and improve performance (Rakim & Zainuddin, 2017). Higher levels of environmental turbulence also means that firms will pursue innovation as a way of responding to the rapid changes in the competitive environment.

Competitive intensity refers to the level of competition that a firm faces in the industry where they are operating. Higher levels of competitive intensity are associated with hostility between firms. However, when a firm has the willingness and ability of competitors to modify their marketing mix decisions to gain competitive advantage, it can improve performance by raising the effectiveness of market responsiveness when a company is competing against aggressive rivals (Obiwuru, Oluwalaiye, & Okwu, 2011). In cases, where there is weak competitive intensity between forms, the responses of firms to competition is slow and not aggressive. When competitive intensity is strong, companies are more likely to be engaged in risk-taking and may pursue proactive responses in response to the competition (Tutar, Nart, & Bngol, 2015).

Firm performance is relates to the primary function of a firm, which is to maximize shareholder value through the generation of profits, continued growth, and expansion in the market share. The profitability of a firm is measured by looking at the returns the company generates for its shareholders. The growth of a firm is determined by looking at the increase in firm size, and is associated with increased cash generation and profitability
level. Firm size is an indicator of how best a firm can exploit economies of scale to increase profits. On the other hand, market value refers to external assessment and the expectation of future performance, and it is correlated with historical profitability and growth, while also incorporating future expectations in market changes and competitive moves (Santos & Brito, 2012).

There are studies that have investigated the link between environmental turbulence and the performance of firms, globally, regionally, and locally. Van Welij (2016) analyzed the effects of changes in market turbulence on the innovation performance of firms in Germany and Netherlands, and found that there was a weak positive but insignificant relationship (van Welij, 2016). Wong (2014) carried out a study in China and found out that environmental turbulence has a strong effect on entrepreneurial orientation, but the effect on new product success was established as negative and not significant (Wong, 2014). A study by Protano and Mahmood (2014) focused in the Indonesian market and established that environmental turbulence plays a moderating role in the interaction between entrepreneurial management and the performance of firm. At low levels of environmental turbulence, entrepreneurial management had positive effect on financial performance, but at greater environmental turbulence, the impact was negative (Pratono & Mahmood, 2014).

Abbas and Hassan (2017) studied how environmental turbulence moderates the relationship between innovation and business performance in Pakistan. The components of environmental turbulence were conceptualized as: technological turbulence (which relates to the rate of change of technology, technological novelty, adaptation rate), market turbulence (which relates to customer preferences, customer composition, regulatory agencies), and competitive intensity (which is concerned with the level of competition, industry conditions, and competitive density), and found out that there was a statistically significant effect in the relationship (Abbas & Hassan, 2017).

Hamad (2016) also found out a significant influence of technological turbulence on competitive intensity among Jordanian Mobile telecommunication firms. On the contrary, not all studies around the world have observed positive associations between environmental turbulence and financial performance. In Iraq, Jassmy, Banacu, and Bhaya (2017) showed that market instability and competitive intensity had no significant influence on organizational commitment and financial performance. Another study in
Indonesia failed to find a positive relation between environmental turbulence and competitive advantage, indicating that various environmental contexts influences the interactions between these variables (Sihotang, Kartini, Rufaidah, & Sustina, 2016).

Njeru (2013) demonstrated that external environmental turbulence had a moderating effect on the relationship between market orientation and performance, and directly influenced financial performance and moderated in Kenya, while Awuor (2014) reported that the external factors responsible for turbulence and its effect on bank performance include unstable political climate, government regulations, interest rates, increased change in customer tastes, abrupt changes in ICT, and the threat of entry into the banking industry, political and legal factors.

Ndabako, Bello and Shiyanbade-Oliyasu (2018) studied the moderating effect of environmental turbulence on the relationship between total quality management and organizational performance in the Nigerian banking sector. Of the three components, only one component: technological turbulence, was included in the study, with the researchers noting there was minimal focus on technological turbulence when compared with the focus on the other two components. The researchers established that organizations that leverage on information and communication technologies stand a better chance at improving financial performance and increasing market share (Ndabako, Bello, & Shiyanbade-Iliyasu, 2018). In Tanzania, the perceived environmental turbulence components, namely, perceived technological turbulence and perceived market turbulence were found to influence positively the market orientation of service firms whereas the perceived competitive intensity influences negatively the market orientation of service firms (Mwiru, 2017).

East African Breweries Limited (EABL) is the largest alcohol beverage company in East Africa. The main operations are in Kenya, which contributes 80% in revenue; Uganda, which contributes 17% in revenue, and Tanzania, which contributes 2% in terms of revenue. EABL also earns from exports to Rwanda, Burundi and South Sudan. In the Kenyan beer market, EABL is dominant and controls over 90%, with Keroche Industries, controlling 2% of the formal beer market. EABL has subsidiaries, including, Kenya Breweries Limited, Uganda Breweries Limited, Serengeti Breweries Limited, United Distillers Vintners, East African Maltings Limited, and East African Breweries International, among others (EABL, 2019).
With a dominant network of breweries, distilleries, support industries and distribution channels across East Africa, the performance of EABL is influenced by changes in markets, technologies, and competition, and routinely carries out assessments to study the market and understand consumer needs and wants so as to achieve consumer satisfaction, loyalty, and retention, while also generating profitability, growth, and market value. However, despite its dominant position, according to the half-year FY2018, EABL achieved a positive growth in sales volumes, of +4%, but there was a decrease in net sales, -0.3%, gross profit, -4%, and operating profit of -3%, when compared to the same period FY2017 (EABL, Half year results FY2018, 2018). Currently, the company’s competitive strategy is to strengthen and accelerate the performance of premium brands, increased innovation to satisfy new customer needs, while continually lowering the cost of production and investing in growth. However, with uncertainty in the regulatory environment characterized by frequent regulatory changes, such as tax revisions, entry of foreign firms, technological changes, and recurring political crisis, the company has to constantly manage these environmental pressures to achieve competitive advantage and financial performance.

1.2 Problem Statement

There is an increase in environmental turbulence across markets and this influences performance in different industries. At the heart of environmental turbulence is assumption that the rates of change is associated with changes in the market structure, technological advancement, and competitive pressures. However, it is becoming increasingly difficult to determine the degree of influence, even though it is crucial for managers to understand all the factors affecting performance and implement strategic responses to changes internally and externally in the environment where the company is operating.

A diverse set of studies exist on the relationship between external turbulence and firm performance. While many studies abound, a critical analysis of literature shows that there is minimal research focusing on the alcoholic manufacturing sector. Mwangi (2012) focused on the building and construction firms in Nairobi, Mwaniki (2015) on the Kenya Red Cross Society, and Surrow (2014) and Awuor (2014) on the banking sector. Awuor (2014) recommended that while environmental turbulence has significant effects on performance in the banking sector, there is need for research covering other sectors. Njeru
(2013) noted that overall, studies on the effect of environmental turbulence in Kenya are still few and far in between. In the same vein, Joensuu-Salo et al (2018) reiterated that previous research suggests that the effect of market orientation on business performance is positive across contexts characterized by varying levels of market turbulence, technological turbulence and competitive intensity, but noted that more research is needed to understand the relationships in other economic sectors (Joensuu-Salo, Sorama, Viljamaa, & Varamaki, 2018).

In the face of a turbulent operating environment in Kenya, following a drawn-out electioneering period and regulatory uncertainty, the domestic alcoholic beverages market continues to struggle to achieve volume growth, with only moderate results reported so far. At the same time, as a response to competitive pressures, local companies are increasing their capability to address growth in demand and changing customer tastes and preferences (Euromonitor International, 2018).

1.3 General Objective

The general objective was to investigate the effect of environmental turbulence on the organizational performance, with specific focus on the East African Breweries Limited.

1.4 Specific Objectives

1.4.1 To investigate the influence of market turbulence on the performance of East African Breweries Limited.

1.4.2 To determine the influence of technological turbulence on the performance of East African Breweries Limited.

1.4.3 To establish the influence of competitive intensity on the performance of East African Breweries Limited.

1.5 Significance of the Study

The study is beneficial to policy makers in Kenya, the Management at EABL, and to researchers interested in the relationship between business environment and corporate performance.
1.5.1 Policy makers

The findings of this study are important to policymakers, particularly those involved in policies relating to technology adoption in the country as well as market regulations. This study reports on how changes in technology, market, and competition in the Kenyan market affects the performance of the country’s biggest alcoholic beverages manufacturer. This information can be exploited in developing policies that seek to create a conducive business environment for local manufacturers.

1.5.2 Top management

The observations and relationships reported apply mainly to EABL. Managers at EABL can utilize the findings in assessing their strategic responses to technological changes, market structure realignments, and competitive pressures, and how they can be executed in order to counter adverse developments in the operating environment.

1.5.3 Researchers and Academics

An in depth analysis of existing literature showed that there was a paucity of studies on environmental turbulence and firm performance in Kenya, with the few studies existing not focusing on the alcohol manufacturing sector. This study therefore bridged the gap in literature by examining the empirical relationship between environmental turbulence and performance in the alcohol beverages industry. Researchers in the field can exploit these findings in bridging not only the gaps in empirical literature, but also informing the research gaps that can be tackled by further investigation by researchers and academics.

1.6 Scope of the Study

The study was limited in scope to studying three components of environmental turbulence, namely; market turbulence, competitive intensity, and technological turbulence. These components were the independent variables, with firm performance being the dependent variable. The scope was also limited to one company: EABL, with responses collected from management personnel who had been trained under the “Amazing People Manager” Program, using questionnaires between January and March 2019.
1.7 Definitions of Terms

1.7.1 Technology Turbulence

Technology turbulence is defined by Ottesen and Grønhaug (2004) as the rate of change of the procedures for altering the inputs in production and distributing the outputs of production to customers.

1.7.2 Market Turbulence

Market turbulence is defined by Hult et al (2004) as the speedily changing buyer first choices, extensive wants and needs, ongoing buyer exit and entry from the market place and continuous emphasis on offering new products.

1.7.3 Competition Intensity

Competitive intensity, also called competitive turbulence, is the extent at which other organizations change their competitive approaches, including the introduction and development of technological innovations (Pratono & Mahmood, 2014).

1.7.4 Firm Performance

According to Lin, Peng, and Kao (2008) this refers to the extent to which a firm has met its internal objectives, particularly those relating to financial goals. Accounting ratios is the most common method of measuring financial performance (Namada, Aosa, Awino, and Wainaina, 2014).

1.8 Chapter Summary

This chapter focused on background of the study, it also presents the statement of the problem which identifies the problems of market changes, technological advances, and competitive pressures. Based on the background of the study and the statement of the problem, the section also lists the general objectives and specific objectives, justifies the significance of the study, outlines the operational definitions, and illustrates the scope of the study.

Chapter two is the literature review and captured both the review of theories as well as empirical literature. The section is informed by the research objectives and also includes a conceptual framework. Chapter three is concerned with how the research is done, what
tools are used to collect data and how the data is analyzed. The results are presented in chapter four, together with their interpretations. The last chapter, recaps the entire study by providing a summary of the entire paper, the discussions of the results presented in chapter four, conclusions that arise from the results and the recommendations that can be drawn from the findings to inform practice and further research.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter describes a critical literature review of existing studies. The emphasis of the review is on the theories that can be used to explain the relationship between environmental turbulence and financial performance. The review captures research that has been done on each of the dimensions of environmental turbulence and their association with the performance of firms. Finally, the review presents the conceptual framework underpinning the study.

2.2 Market Turbulence and Firm Performance

2.2.1 Market Complexity

Hamad (2016) noted that environmental turbulence manifests as environmental complexity which is observed through environmental dynamism and environmental uncertainty. Environmental dynamism can be defined as the speed and unexpectedness of changes in technology, market structures, market competition, customer demands, government regulations, and new products introduced by competitors in the market. Market complexity therefore refers to the macrofactors in the operating environment, including the rise of complex adaptive systems that organizations are using to collect information in their environment in order to adapt and thrive (Hamad, 2016).

Anderson, Meloni, and Swinnen (2018) looked at emerging trends in the global alcohol markets. The study focused on the evolution of consumption patterns, regulations and industrial organizations. The researchers reported that over the past two decades, there has been a significant change in the consumption of beer, wine and spirits. At the same time globalization and growth have led to considerable developments in national alcohol consumption patterns, with the industrial revolution contributing to excess consumption by stimulating demand and lowering the cost of alcohol. In addition to that, there has also been increased concentration in certain alcohol industries such as brewing. In the midst of all these, governments continue to extensively regulate alcohol markets through taxation and protectionist policies that protect local manufacturers from foreign players. The researchers also found out that while several factors have contributed to changes in
alcohol consumption patterns, the key ones include trade costs, taxes, regulations, consumer preferences, incomes, and availability of non-alcoholic beverages and stimulants (Anderson, Meloni, & Swinnen, 2018).

On the other hand, Madsen, Pedersen, and Lund-Thomsen (2012) investigated mergers and acquisitions how they are changing the landscape of the alcohol industry. The researchers reported that the industry structure is transforming due to aggressive policies by the biggest breweries in the world. An example the researchers gave is that of Interbrew acquiring Anheuser-Busch hence giving it a 20% global market share. Another example is the merger of Miller Brewing and South African Breweries. The result was an increase in combined market share to 9.5%. These aggressive policies have increased the complexity of the market through the creation of dominating brewing groups with the ability to dramatically alter the competitive environment in the global brewing industry. Currently, these dominant brewing groups hold up to 60% of the global market share. The study found out that through mergers and acquisitions, 4 large brewing groups that comprise of 200 large brewing companies have altered the competitive environment (Madsen, Pedersen, & Lund-Thomsen, 2012).

In Pakistan, Abbas and Hassan (2017) researched on how environmental turbulence moderates the business innovation - business performance relationship. The study used data from the tourism sector, and collected data from 382 respondents in Pakistan. The captured data was subjected to Structural Equation Modeling (SEM). The outcomes revealed that Market Turbulence did not moderate the relationship between Customer Relationship Management effectiveness (CRMe), business innovation and business performance (Abbas & Hassan, 2017).

Bodlaj and Čater (2017) investigated the effect of environmental turbulence on innovation and innovativeness in SMEs, and consequently the business performance of Slovenian SMEs. A sample of 373 companies in Slovenia were targeted. The companies had 10 to 249 employees. These companies were drawn from various industries. Data was collected using internet survey. The information collected was subjected to structural equation modeling analysis. Results showed market turbulence to directly affect SMEs performance.
Jaassmy, Banacu, and Bhaya (2017) looked at the relationships between financial performance and market turbulence. The target were the banks in Al-Qadissya governorate. The study sampled 170 managers. Self-administered structured questionnaire was used to collect data. The findings indicated that market turbulence had no significant association with financial performance (Jaassmy, Banacu, & Bhaya, 2017).

Abduh, Saleh, & Tawe (2016) studied the link between price adaptations of export SMEs and market turbulence in Indonesia. The research design was a library/desktop research. Data was obtained from relevant books, journals, legislations and mass media. The study found that there was a relationship between the two and noted that SMEs can respond to the market turbulence problem by improving their management and capital base, as well as engaging in partnership program, development center of industry, and the empowerment program.

Welij (2016) looked at how market turbulence influences innovation performance. The study hypothesized that market turbulence exerts positive relationship on sourcing balance, and a negative effect on innovation performance. Using sample drawn from German and Netherlands companies, the results demonstrated a weak relationship between market turbulence and sourcing balance. There was no relationship between market turbulence, and the dependent variable: innovation performance (Welij, 2016).

### 2.2.2 Customer Preferences

Early studies such as Smith and Skalnik (1995) investigated changing consumption of alcoholic beverages in USA and European countries, so as to understand the extent to which global convergence was influencing transformations in various consumer behavior dimensions, and how these changes influenced consumption patterns. The data consisted of data on alcoholic beverages stretching for 40 years. The researchers found out that the changing preferences were associated with the blurring of traditional cultural boundaries and increased number of choices of the various types of alcoholic beverages (Smith & Skalnik, 1995).

Abdullah, Abdurahman, and Hamali (2011) was interested on changing customer preferences in the foodservice industry. The researchers noted that the foodservice industry management has experienced growth in markets resulting from rapid urbanization and the rising influence of the tourism industry. In addition to this, changes
were also linked to the ever-changing customer preferences. To deal with this scenario, managers must implement strategies that positively build their competitive advantage. The study used exploratory and confirmatory factor analysis and established that the dimensions of customer preferences such as price, quality service, branding and tangibles had an effect on competitive advantage and financial performance (Abdullah, Abdurahman, & Hamali, 2011).

Ali (2014) studied the factors influencing the marketing of alcoholic beverages in Kenya. The study was a case analysis of East African Breweries Ltd. The study found out that the company can predict market environment by continuous scanning of the social, political, economic, ecological, legal, cultural and technological events. Management must establish the right climate, evaluate competitiveness, while also enhancing the capacity to satisfy customer needs and preferences and generate long term customer value (Ali, 2014). Correia, Teixeira, and Rebelo (2018) investigated the link between market orientation and performance of SMEs. The study sought to determine the extent to which various degrees of competitive intensity and market turbulence affect financial performance. 87 companies were sampled, and a questionnaire used to collect responses, which were then analyzed using linear regression. The results demonstrate that market turbulence was a strong determinant of firm performance.

Chena, Wang, Huangc and Shene (2016) looked at the interplay between market turbulence and service-based organization market-linking capabilities determine the association between new product development and service innovation. Secondary data was obtained from 170 service-based firms. Results indicate that a combination of high market turbulence and high market-linking capabilities had a positive effect on new product development performance among service based firms.

Sihotang et al (2016) looked at the interlinkages between environmental turbulence, entrepreneurial orientation, and business performance. The focus was on e-commerce retail businesses in West Java, where 50 managers of online e-commerce businesses selling computer, electronics and office supplies; fashion products; sport apparel, health beauty products; home and garden; kids toys; and automotive parts, were drawn. The outcome of analysis revealed that environmental turbulence did not have any significant effect on firm performance (Sihotang, Kartini, Rufaidah, & Sustina, 2016). In a different study, Kalyar, Sabir, and Shafique (2013) examined the role of cultural competitiveness
and market turbulence in Pakistan. The study hypothesized that market turbulence positively impacted on the cycle time performance. 91 respondents from manufacturing firms reported that businesses can benefit from building cultural competitiveness to tackle the challenges caused by market turbulence.

Ghorbani and Fakhimi (2013) examined the influence of marketing strategies and technology on the performance of innovation in regard to a firm’s project management among Home appliances manufacturing companies in Esfahan Province. The researched aimed at measuring the interlinkage between market turbulence and innovative performance. The population includes 84 managers. These managers were either senior personnel or drawn from the technical, marketing, and R&D functionalities. Analysis showed that market turbulence has a positive and strong influence on innovative performance.

Kalyar, Sabir, and Shafique (2013) assessed what role cultural competitiveness plays in market turbulence, and how the interaction can improve cycle time performance in Pakistan. 200 supply chain professionals were selected as respondents. They originated from the pharmaceutical, textile, leather, chemical, and FMCG sectors participated in the study. Pearson’s correlation was used to test associations and hierarchical regression to compute relationships. The findings revealed a positive impact of market turbulence on cycle time performance.

2.2.3 Product Differentiation

Matraves and Rondi (2005) observed that differentiation strategies can affect the level of firm performance. The only fixed cost in homogenous product industries is the production cost, hence they can exploit economies of scale such that when the market size increases so does the industry profits. In these firms, price competition has an effect on the entry of other players. However, as market sizes increase, competition also reduces. On the other hand, in horizontally differentiated industries, market size increase has a positive effect as it creates profitable opportunities that can be tapped by new entrants since competition becomes more localized. Depending on the strategic direction, firms can exploit product differentiation strategies as a way of increasing market share and surviving competition (Matraves & Rondi, 2005).
A study carried out by Mutunga and Minja (2014) focused on competitive strategies by beverage manufacturing companies in Kenya, by looking at cost leadership and product differentiation strategies. Using a descriptive study design, an analysis of 138 food and beverage manufacturers, showed that the use of the dual strategies, cost leadership and product differentiation, was prevalent in firms, with more than half of the firms surveyed implementing these strategies. Product differentiation is a critical diversification strategy that can be executed in very competitive environments. Findings revealed that both cost leadership and product differentiation exerted a positive and significant influence on the performance of companies (Mutunga & Minja, 2014).

Odipo (2016) analyzed market turbulence and competitiveness in the alcoholic beverages industry in Kenya. The author noted that to survive the stiff competition, firms must adopt competitive strategies to achieve desired levels of growth and expansion. The study investigated the effectiveness of competitive strategies in the sector, the choice of competitive strategies, and the frequency of reviewing and updating competitive strategies, such as product differentiation. Results indicate that product differentiation has a positive effect on performance and competitive advantage (Odipo, 2016).

Ngandu (2014) evaluated the hospitality industry to understand the competitive strategies utilized by the firms operating in Thika town. The study investigated cost leadership and product differentiation. The study established that differentiation strategies were the strongest determinants of firm performance, with focus having a positive influence on firm performance. The results cement the understanding that differentiation positively and significantly affects firm performance (Ngandu, 2014). Mwanzia (2015) looked into the relationship between differentiation strategies and market share of tea export firms in Kenya, drawing data from 72 firms. The researcher found out 67% used differentiation strategies. The results showed that value addition was the most important competitive strategy. Differentiation strategies were found to have a positive influence on increasing market share and generating competitive advantage (Mwanzia, 2015).

Another study by Adimo (2018) examined the competitive strategies used by Sameer Africa Limited. The researcher was interested in determining if there was a positive and significant relationship between differentiation strategy and organization performance. Findings show that product differentiation had a positive and significant effect on organizational performance. The study concluded that integrating product differentiation
strategies through specific product attributes relevant to competitors and variety of products to match the need of various customers would result to improved performance (Adimo, 2018).

2.3 Technological Turbulence and Firm Performance

2.3.1 Technology Orientation

According to Rezadadeh, Karami and Karami (2016), technological orientation refers to a strategic decision on the adoption and utilization of technology to withstand competitive pressures in a market. It relates to the philosophy a firm adopts to guide how it intends to apply and develop new technologies and products to interact with the market through the active development and incorporation of new technologies in product development. It is concerned with a firm achieving superior technological capability relative to its competitors, because competitors are drawn to those firms that produce goods and services which are technologically superior. As a result, firms must continually update and upgrade their technological resources to improve competitive advantage through new product development. Therefore, technology orientation is necessary for a firm’s success (Rezazadeh, Karami, & Karami, 2016).

Karami (2012) noted that technology-oriented companies possess the ability to acquire significant technological capability for developing new products. The researcher found out that technical efficiency and flexibility enables companies to cope with highly competitive technological environments, and that technological orientation enables companies to recognize strategic opportunities, subsequently helping it to generate competitive advantage and improve firm performance (Karami, 2012).

A study carried out by Saqib, Baluch & Udin (2017) showed that technology-oriented firms not only have the ability to acquire significant technological background for use in new product development, but they are also able to build new technical solutions to meet the needs of customers. Technology is an enabler and equalizer, and makes it possible for diverse kinds of businesses to innovate and ultimately to succeed in a challenging landscape. Mobile technology, machine learning, artificial intelligence and cloud computing, data analytics, business intelligence, enterprise resource management software, social media etc are some of the many technological innovations that have been linked to firm performance (Saqib, Baluch, & Udin, 2017).
In a study by Naala, Nordin, and Omar (2017), the researchers reported that there is a positive link between technology orientation and firm performance. The survey captured data from 266 firms in Nigeria. The findings of the survey demonstrated that the essential prerequisites for driving firm performance depend on well-designed, developed, and implemented technology which are crucial in developing new ideas (Naala, Nordin, & Omar, 2017).

### 2.3.2 Technological Capabilities

Wilden et al (2013) observed that there is a difference between dynamic capabilities of a firm and its operational capabilities. While operational capabilities are necessary for the performance of the day-to-day operations of a firm, dynamic capabilities are crucial as they support the constant renewal of operational capabilities in order to achieve long-term competitive advantage. To his end, dynamic capabilities therefore relate to the firm’s ability to integrate, build, and reconfigure internal and external competencies so as to address changing environments, and by extension create competitive advantage in the long run. Dynamic capabilities can be organizational or managerial processes, or they can be technological processes enabling the exploration of new opportunities (Wilden, Gudergan, Nielsen, & Lings, 2013).

Latip, Salleh, Habidin, and Sapengin (2014) investigated the effect of technological capability on inter-firm relationships within the supply chain. Using a quantitative design, and questionnaires to collect data from manufacturing companies listed in the Malaysian Manufacturers directory, and employing structural equation modelling in analysis, the study found evidence supporting keeping long term inter-firm relationships. Results reveal that technological capability enhanced new product development and created competitive advantage for firms in long-term inter-firm relationships. On the contrary, technological capability was also associated with creating power imbalance leading to a deterioration of long-term relationships between firms (Latip, Salleh, Habidin, & Sapengin, 2014).

Mukasa (2014) presented findings indicating that production strategies are most useful when they are able to fulfill their function in manufacturing sectors in developing countries to a small extent. The researcher noted that as opposed to exploiting new technologies to improve global competition, production strategies are often used as tools for enhancing the image of the firm, a trend which limits the potential of technological
capabilities in achieving reduced production costs and increased customer value. The researcher studied the effect of production strategy on technological growth in the Ugandan manufacturing sector, and found out that poor or lack of comprehensive production strategies had a significant effect on industry performance. Nonetheless, firms with strong production strategies had a higher likelihood of investing in advanced manufacturing technologies and achieving competitive advantage (Mukasa, 2014).

Reichert and Zawislak (2014) looked at how technological capability affects firm performance among 133 Brazilian companies. The results showed that a majority of the firms existed in the low and medium-low technology industry segments, and subsequently did not exhibit a strong and positive association between technological capability and firm performance. Further, low technological intensity industries performed above average in economic performance indicators, even though their investments in technological capability was below average (Reichert & Zawislak, 2014).

Drawing from the resource-based theory, which postulates that the types of resources and capabilities resident in a firm can determine competitive advantage, Oghojafor, Kuye, Ogukoya, and Shobayo (2014) investigated the effect of technological capabilities and competitive strategies on manufacturing industry performance in Nigeria. Multiple regression analysis was used. Results indicated no significant effect of the type of differentiation on performance. However, cost leadership had a positive and significant impact on organizational performance. In the same vein, the study also established that technological capabilities have a positive influence on the performance of manufacturing companies in the country (Oghojafor, Kuye, Ogukoya, & Shobayo, 2014).

Rasiah and Rasheed (2013) assessed how differences in firm size in export intensity relate to technological capabilities among manufacturing firms in Sri Lanka. The results show that there were various in the sizes of firms in export intensity and their technological capabilities. After controlling for age, the results show that large firms were more likely to be export intensive when compared with SMEs in the clothing industry. However, this was not replicated in the analysis of the food and beverage industry. In the same vein, it was established that large firms had better human resource capability than SMEs in the rubber industry, and also possessed superior process technology in the food and beverage industry. SMEs had higher adaptive capabilities when compared to large firms in the clothing and food and beverage industries. Flexibility to support changes in demand were
important in explaining the higher adaptive engineering capabilities reported in SMEs as opposed to large firms in the clothing and food and beverage industries. These variations explain why generalizations should not disregard industry specific differences (Rasiah & Rasheed, 2013).

In the same vein, in South Korea, Kim (2017) assessed the factors influencing the internationalization of SME, and investigated how the entrepreneurs’ international orientation, technology capabilities of the organization, staff human capital, and the external environment may explain the extent to which an SME is able to internationalize. The study showed significant effect of technological turbulence on internationalization of SMEs. Zandhessami, Parvinchi, and Molaei (2012) reported technological innovation capability is a critical factor in improving a firm’s competitive capability particularly in the modern knowledge-based economy. This implies that it is possible to generate sustained competitive advantage by consistent and strategic investment and development of core technological capabilities (Zandhessami, Parvinchi, & Molaei, 2012).

Rezazadeh, Karami, and Karami (2016) investigated the relationships between technology orientation, dynamic capabilities and SMEs Performance in Iran, with a view of establishing how technology orientation affects the performance, via its dynamic capabilities. From the responses collected from the 154 SMEs randomly selected from Science Parks, results revealed that SMEs cope with increasing levels of technology turbulence through increased allocation of more resources to R&D, and this investment ultimately exerts a positive effect performance. Vicente, Seabra, Abrantes and Teixeira (2015) investigated how technology turbulence affects the management dynamic capability to enhance export markets performance. The findings indicated that technological turbulence is a precursor of a firm’s management dynamic capability which consequently has a large impact on the development of organizations operational capabilities for innovation, specifically, technological capability, innovation strategy, and innovativeness.

2.3.3 Technological Innovation

Singh, Khamba, and Nanda (2016) researched various technological innovation influencers in small manufacturing companies. The study introduced a technological innovation framework that could be used to evaluate the performance of technological influencers and their effect on creating and sustaining competitive advantage among
Using a survey of 155 firms, and employing multiple regression analysis, the study established that entrepreneurial capability, technology infrastructure capability and government initiatives are the most important technology innovation influencers small firms (Singh, Khamba, & Nanda, 2016).

Ndabako, Bello, and Shiyanbade-Iliyasu (2018) developed a conceptual framework showing the moderating role of technological turbulence on the relationship between total quality management and firm performance. The researchers noted that when technological turbulence moderates the relationship between total quality management and firm performance. They noted that the Nigerian banking industry can leverage on opportunities around its external environment in terms of changes in technology as a way of generating competitive advantage and improving performance (Ndabako, Bello, & Shiyanbade-Iliyasu, 2018).

Mwiru (2017) assessed the effect of perceived environmental turbulence on market orientation. The population was service firms in Tanzania and a sample of 178 firms was selected for the survey. Structural equation modeling was employed in data analysis. The findings showed that perceived technological turbulence and perceived market turbulence influence positively the market orientation of service firms whereas the perceived competitive intensity influences negatively the market orientation of service firms. The study did not test the effect of competitive intensity on organizational performance (Mwiru, 2017).

Bodlaj and Čater (2017) focused on the influence of technological turbulence on the perceived importance of innovation and innovativeness, and consequently the business performance of Slovenian SMEs. The researchers selected 373 Slovenian companies for the study, with each company having between 10 to 249 employees, and coming from various industries. Using internet survey to collect data and structural equation modeling to analyze it, the findings showed that technological turbulence increased perceived importance of innovation on improving the performance of SMEs.

Another researcher, Pratano (2016) investigated the influence of technological turbulence on strategic orientation and organization performance. The researcher also used structural equation modelling statistics to compute the mediating effect of technological turbulence, from data collected from 390 small and medium enterprises (SMEs) operating in
Indonesia. The results demonstrated that there is a significant effect of technological turbulence on strategic orientation and financial performance of SMEs.

Hamad (2016) investigated the link between environmental turbulence and nonfinancial performance of Orange, Ummiah and Zain, which are mobile telecommunication companies in Jordan. The researchers used multiple regression analysis. Results showed a significant effect of technological turbulence on nonfinancial performance. Additionally, competitive intensity also has a positive effect on firm effectiveness, hence the necessity of environmental screening and management in the face of rapid technological changes.

Perez-Nordtvedt, Mukherjee, and Kedia (2015) investigated the effect of technology turbulence and how it allowed businesses to explore under what condition cross-border learning may be fully realized. The findings revealed that the level of technological turbulence weakened the positive and significant effect of learning effectiveness on the organization performance. The study concluded that although technological turbulence may lead to increased pressure to acquire knowledge necessary for responding to environment changes and increased uncertainty.

Ahn, Minshall, and Mortara (2015) researched on open innovation and how it affects organization performance in SMEs innovation. A total of 306 Small and Medium Business Administration (SMBA) firms in Korea were selected. Market turbulence was used as a control variable. Analysis yielded insights indicating that market turbulence had a significant association with performance, and that when the market is hostile and overly competitive, it exerts a negative effect on organization performance.

Abdalla and Persson (2014) investigated the role played by environmental uncertainty in enhancing innovativeness and performance of SMEs in Sweden. The respondents comprised were 250 Swedish SMEs. Results show that technology turbulence had a strong and significant influence on firm innovativeness and overall performance of SMEs. Abdallah and Persson (2014) looked at the link between performance and innovativeness and the indirect relationship between performance and environmental uncertainty. The population targeted was 250 organizations, and each organization had 10-250 employees, and had been in the market for at least 4 years. 50 SMEs were sampled for the research study. The regression analysis revealed that there is a positive effect of technological turbulence and innovativeness which then positively drive performance.
According to Kumar, Jones and Leone (2011), technological turbulence reduces the impact of market orientation on performance of the organization because rapid changes in technology, research and development-driven innovation then becomes more significant to an organization’s performance than the customer-focused innovation that is as a result of market orientation. Higher levels of technology turbulence are associated with the reduction in the effect of market orientation on profit and sales growth. In a market with high technology turbulence, the features of services and products are mostly determined by innovation both outside and within the industry (Kumar, Jones, Venkatesan, & Leone, 2011). Technological turbulence affects market orientation positively and moderates the relationship between market orientation and organizational performance. Using a sample size of 162, analysis showed that there is a significant moderating effect of technological on the association between supplier market orientation and customer satisfaction (Terawatanavong et al., 2011).

2.4 Competition Intensity and Firm Performance

2.4.1 Competitive Rivalry

Harrison, Michael, Hoskisson, and Ireland (2008) noted that the intensity of competitive rivalry is the degree to which companies operating in one industry pressure each other as a way of limiting each other’s profit potential. High levels of competitive rivalry can negatively affect growth in market share and profitability, while also transforming the industry structure. High levels of rivalry often manifest as aggressive targeting of markets and the implementation of aggressive pricing strategies. In cases where an industry has firms are of equal size or control the same market share, the competitive rivalry is low. Such a market will also feature undifferentiated products. When Porter’s intensity of rivalry is low, it means that there is a small number of firms in the industry, there is a clear market leader, fast industry growth, low fixed costs, highly differentiated products, prevalent brand loyalty, high consumer switching costs, no excess product capacity, lack of strategic diversity among competitors, and exit barriers are low. In a scenario where the intensity is high, the opposite understanding of relationships applies (Harrison, Michael, Hoskisson, & Ireland, 2008).

Odipo (2016) investigated the beverages industry in Kenya, and observed that the competition was high and the industry was turbulent, in a way that directly affected the survival of firms and the strategic sustainability of responses to changing business
environment. The study noted that the alcoholic beverages industry had undergone diverse transformations, mainly as a result of globalization, privatization, and liberalization. In the current scenario, competitive rivalry arose from the strive to meet the ever changing customer needs and demands in an environment of scarce resources. However, while these companies strive to strategize to change direction and transform themselves to achieve sustainable growth and profitability, the industry is still characterized by dismal performance (Odipo, 2016).

Kaunyangi (2014) researched competitive rivalry among telecommunication firms operating in Kenya. The researcher noted that the telecommunication industry in the country is oligopolistic due to the presence of few dominant players and that the market prices are not determined by the cost of production, but by individual players’ reaction to other competitors. Data was collected from the major telecommunications companies in the country: Orange Kenya, Airtel, Yu and Safaricom. The findings revealed that competitive rivalry has a significant effect on firm performance (Kaunyangi, 2014).

Ng’ang’a, Lagat, and Kieti (2016) investigated how competitive intensity mediates the association between performance and customer orientation of hotels in Kenya. The study used an exploratory research design. Sampling was directed by cluster and simple random sampling techniques. The sample size was 330 participants and questionnaires to collect data from 330 participants, and regression statistics to analyze data, the results revealed that competitive intensity has a significant mediating on the association between hotel performance and customer orientation.

In Taiwan, Tsai and Yang (2013) looked at the interaction between business performance and organization innovativeness and the mediating influence of competitive intensity and market turbulence. The sample for the study consisted of 154 companies, all engaged in technology intensive manufacturing activities. The researchers employed hierarchical moderated regression analysis to analyze the data. The findings show that the performance influence of organization innovativeness was pronounced in high market turbulence cases and less pronounced in markets with low turbulence. The study concluded that market turbulence influences the strength and direction of the effect of innovativeness on performance.
Sung (2011) investigated competitive rivalry among Korean cable television markets. The findings showed that there was inter-modal competition between Korean cable television markets and direct broadcast satellite, and this was associated with market performance in the cable industry before the introduction of internet protocol television. Results showed that the inter-modal competition leads to reduced cable prices and operator profits, and subsequent reduction in the cable’s subscriptions and profitability. On the other hand, the competition leads to rapid growth in internet protocol television subscriptions, which is a substitute of cable television (Sung, 2011).

Mas-Ruiz and Ruiz-Moreno (2011) looked into rivalry functions within strategic groups and how it affects performance, where strategic groups were categorized according to the size of member firms. The researchers examined how group-level effects such as market power, efficiency, differentiation, and multimarket contact affect performance. The study found out that strategic groups among smaller firms increase rivalry and decrease performance, while strategic groups among larger firms decrease rivalry and increase performance. Nonetheless, empirical analyses showed that strategic groups increased the level of competitive rivalry and reduced firm performance (Mas-Ruiz & Ruiz-Moreno, 2011).

In another study, Gibb and Haar (2010) investigated the association between innovativeness, risk taking, competitive rivalry and performance. The researchers observed that entrepreneurial firms are typically engaged in risk-taking and innovativeness to survive in highly competitive environments. The firms in this study were operating in New Zealand. The results indicate a positive link between innovativeness and performance irrespective of the level of competitive rivalry in the market. However, the effect of low innovativeness on performance was affected by the level of competitive rivalry (Gibb & Haar, 2010).

2.4.2 Competitive Strategies

Joensuu-Salo et al (2018) investigated how internationalization affects the firms competitive ability, survival and growth. In the modern business environment, digitization is the cause of most of the transformations going on and is intimately tied to entrepreneurial activities and practices. At the same time, internalization requires that firms must develop marketing abilities. The researchers were interested in examining the interplay market orientation, marketing capability, and digitization affected the firms
competitive ability among a sample of 101 SMEs in Finland. Results indicated that marketing capability plays a moderating role on the relationship between market orientation and firm performance. Market orientation and marketing capability are important for successful operations and profitability in foreign markets in the case of internalized firms. However, digitalization has no effect on firm performance with internationalized firms (Joensuu-Salo, Sorama, Viljamaa, & Varamaki, 2018).

Correia, Teixeira and Rebelo (2018) investigated the association between marketing activities and market orientation, and SMEs performance. The research examined the impact of competitive intensity and market turbulence on financial performance. Data was collected from 87 firms. Analysis was done using linear regression methods. From the results, competitive intensity influences financial performance. Ceptureanu (2016) researched the effect of competitive intensity on an organization’s strategic position. The study explored the determinants of competitive intensity and how they affect measures of performance such as profitability and market share growth and distribution. Findings demonstrated a positive and significant influence of competition intensity on strategic position of firms.

Protano and Mahmoud (2014) assessed the influence of four entrepreneurial management variables, i.e. strategic orientation, organization culture, organization structure, and reward system, and a set of environmental turbulence variables as predictors of firm performance, among SMEs. Analysis of data yielded findings noting that environmental turbulence is a moderating variable in the relationship between entrepreneurial management and firm performance. In cases where environmental turbulence is low, entrepreneurial management has positive impact on firm performance, but the direction changes. Entrepreneurial management has negative impact on firm performance during high environmental turbulence. Additionally, environmental turbulence is significantly associated with firm performance (Pratono & Mahmood, 2014).

Awuor (2014) examined the external competitive environment that Ecobank Kenya Limited operates in and how the bank responds to the turbulence in the industry. The study focused on the external environment, strategic responses employed by the bank against challenges in the external environment, and the adoption of best practices. The findings reported that the external environmental factors that cause turbulence and affect bank performance were unstable political climate, government regulations, liberalization
of the financial sector – interest rate determined by market forces, increased change in customer tastes, abrupt changes in ICT, threat of entry into the banking industry, political and legal factors. Further, there was a strong relationship between bank competition and new products (Auwor, 2014).

On the other hand, Njeru (2013) studied the relationship between market orientation and performance. The researcher looked at how external environmental factors affects firm characteristics that lead to firm performance. From analyzing responses from 104 tour firms, the researchers showed that market orientation has an effect on performance. External environmental factors mediated the relationship between market orientation, marketing practices, and firm performance, and also had a direct effect on effect on performance and (Njeru, 2013).

O’Cass and Weerawardena (2010) assessed the influence of marketing-related capabilities and competitive intensity as determinants of superior brand performance. This study advocated that organizations that perceived the environment of their industry as a turbulent one developed stronger marketing and market capabilities. This market learning assists firms’ build superior marketing capabilities which lead to higher brand performance. The information was collected from senior management of commercial organizations and the results suggested that there was a relationship between competitive intensity which influence marketing capability and market learning activity.

Şengül, Alpkan, and Eren (2015) investigated the relationship between globalization and operational performance among SMEs, with specific interest on the factors affected/improved the operational performance of SMEs as they adapt to globalization. The focus of the study was the Turkish Electric Industry, and 110 firms participated in the study which collected data using questionnaires and analyzed using factor analysis and regression analysis. The insights obtained after analysis indicate that competitive intensity significantly influenced the operational performance of SMEs.

Nthigah, Iravo, and Kihoro (2014) explored the influence of competition intensity on strategic response of multinational corporations: a study of multinational corporations in Kenya. The aim of the research was to determine if the selection of a strategic response by multinational corporations depended on the competition intensity in a sector. The study was able to administer 141 questionnaires to multinational corporations. The findings revealed that competition intensity had a significant influence multinational
corporations’ response. The study concluded that strategic choices of multinational corporations were determined by the intensity of competition in a sector.

Wang, Jou, Chang, and (2014) studied listed companies in the United States, United Kingdom, Germany, and France over the 2002 to 2008 period to determine if industry competition has any effect on firm performance. Overall, the findings revealed that industry competition had a positive and significant association with form performance. Tsai and Yang (2013) also assessed the interaction between business performance and organization innovativeness, and evaluated whether business performance mediated the relationship between competitive intensity and market turbulence. The researcher drew a sample of 154 companies involved in technology intensive manufacturing. Regression analysis noted the firm innovativeness was high when competitive turbulence was high and low when competitive turbulence was low.

Ang (2008) studied 1004 firms and 378 collaborations drawn from the manufacturing sector in Singapore. The study was interested in knowing how collaboration and competitive intensity affect organizational growth, when the technological environment is taken into account. Findings revealed that firms facing low or high levels of competitive intensity collaborated less frequently when compared with firms that were facing moderate levels of competitive intensity. In essence, higher growth was associated with the firms facing moderate competitive intensity.

Medvedev and Zemplinerová (2005) investigated how competition was affecting the performance of manufacturing firms in Czech. It examined if the effect if import and domestic competition on performance of manufacturing firms. The scope of the study covered the 1998 to 2002 period, with data drawn from secondary sources, and subjected to time series analysis. The results demonstrated a strong and increasing non-linear (waning) relationship between performance of domestic competition and manufacturing industries.

### 2.4.3 Market Leadership

According to Simon (2009) market leadership is a primary objective of a firm because every company has an aspiration of becoming a leader in a market or a market segment. Firms also include market leadership descriptions in their marketing messages. However, a more reliable indicator of market leadership, is the market share, where the firm with
the market share in an industry or industry segment is the market leader. Market share can be presented in terms of volume or value. Market share can be used as an indicator of consumer preference for one product over other products, so that firms with bigger market shares have greater sales, use less effort to sell and can exert a stronger barrier to entry for other competitors. Bigger market share also means that expansion of the market benefits the market leader compared to other firms with smaller market shares. Apart from market share; market leadership also constitutes technology leadership, quality leadership, market awareness, breadth of product range, corporate reputation, revenue, tradition, presence in numerous countries, sales volumes, and specialization in segments (Simon, 2009).

McElheran (2010) reported that there is a link between market leadership and the extent of adoption of new technologies, and this is how technology adoption can generate and maintain competitive advantage. The relationship can be explained by the fact that market leadership enables companies to exploit business process innovations incrementally rather than radically. Further, adoption of technology has higher success rates in larger and successful firms, more than smaller firms. Further, to maintain market leadership, these firms are less likely to be laggards, or fall behind in the adoption of business process innovations (McElheran, 2010).

Market leadership, as measured by market share, has also spawned many studies to try to understand the market share-profitability relationship. In a study carried out by Genchev (2012), findings showed that in the banking sector, there was a statistically significant and positive relationship between market share and profitability (Genchev, 2012). However, other studies did not report a positive relationship, with researchers such as Yonnopoulos (2010) reporting that there is no support for a significant and positive relationship between market share and profitability. The researchers noted that studies on market share as a contributing factor towards higher profitability has been exaggerated as a result of uncertainty and dynamism in the business environment (Yonnopoulos, 2010).

In a study by Licite and Lukss (2017) on the factors influencing performance of the breweries sector in Latvia, the researcher noted that while Europe is the second largest producer of beer worldwide, the quantity of beer sold in Latvia has not significantly increased over the past decade. There was an observed increase in craft beers, coupled with their increased popularity in Western Europe, and these beers are originating from
a few small breweries. Further, the analysis showed an increase in the number of small breweries in Latvia, but the output did not exceed 50,000 decalitres per year. This increase was linked to the fact that small breweries are influencing drinking traditions in the country and that the leadership position of the breweries influenced their performance (Licite & Lukss, 2017).

2.5 Chapter Summary

This chapter presented the review of literature on the relationship between environmental turbulence (competitive intensity, market turbulence, and technology turbulence) and organization performance. The literature was sourced from journals and research reports from internet sources. The next chapter of the study presented the research methodology for this research.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

The chapter presented the research methodology that was used to investigate the research objectives presented in the introductory chapter. It details the research design, population and sampling techniques, the instruments used to collect the data and the strategies for instrument administration, and finally the methods used to analyze the data. The methodology specifically identifies the approach selected, defines it, and justifies its suitability for investigating the research questions.

3.2 Research Design

Research design is basically the blueprint that guides the researcher conducting the study. The blueprint allows the researcher to control factors that may interfere with the reliability and validity of the results (Korrapati, 2016). In this study, a descriptive research method was selected because this design provides the picture of a situation as it happens in nature without manipulation. It allowed the researcher to observe and collect data from respondents in a natural environment, which is the office space, in this study (Barua, 2013). It is also useful for investigating the kind of research questions posed in this study. It also enables the researcher to collect in-depth information using quantitative tools that can capture the opinions of managers on environmental turbulence and company performance (Korrapati, 2016).

3.3 Population and Sampling Design

3.3.1 Population

A population describes the universe of interest to a research investigating a particular subject. It may comprise of people or organizations or things that can be described as a group of units that have something in common (Kombo & Tromp, 2006). In the present study, the population was drawn from EABL, specifically the 201 managers that were trained under the “Amazing People Manager”, which was a programme implemented by EABL to enhance performance. (EABL, 2018). The managers were the appropriate population to target for information on the various issues related to environmental turbulence, strategies adopted by EABL to enhance performance.
3.3.2  Sampling Design and Sample Size

3.3.2.1 Sampling Frame
A sampling frame is a list of all population units from which the sample of a study is drawn (Cooper & Schindler, 2006). The sampling frame is the list of 201 managers trained under EABL’s Amazing People Manager programme, which was designed to transform all line managers and equip them with the pivotal focus necessary to drive high performance culture and enhance EABL brand. The EABL Human Resource department provided the list of these managers to the researcher (EABL, 2018).

3.3.2.2 Sampling Technique
Simple random sampling was used to select the respondents. In simple random sampling, each manager in the population had an equal chance of being selected, hence the sampling design was justified because it gave every unit in the population an equal chance of selection. Further, the choice also helped the researcher to eliminate sampling bias while ensuring that the sample selected was representative of the population of interest (Kombo & Tromp, 2006).

3.3.2.3 Sample Size
A sample size is the number of respondents selected for the study (Korrapati, 2016). In this case, it is the number of managers selected from the entire population of targeted managers at EABL. A sample size formula proposed by Yamane (1967) was used in computing the sample size.

The formula was:
\[ n = \frac{N}{1 + N \left(e^2\right)} \]

Replacing for the values:
\[ n = \frac{201}{1 + 201 \left(0.05\right)^2} \]
\[ n = \frac{201}{1.5} \]
\[ n = 133 \]

Where;
n = sample size
N = study population
e = tolerance at the preferred level of confidence, take \( \alpha = 0.05 \) at 95% confidence level.

The number of line managers that participated in the study were 133.
3.4 Data Collection Methods

The study collected both primary data and secondary data. The primary data was collected using structured, standardized and validated questionnaire. The questionnaire contained five sections. The first section contained questions on general information. The second section contained questions on market turbulence. The third section contained questions on technological turbulence. The fourth section contained questions on competitive intensity. The fifth section contained questions on the performance of the company. For all the questions covering the independent and dependent variables, the responses were ranked using a 5-point Likert scale: 1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly agree. The choice of questionnaires was justified because they are easier to administer, are less expensive, and eliminate ambiguities.

The secondary data which covered measures of financial performance as reported in audited annual statements of financial performance covering five years (2014-2018) were collected using secondary data collection sheet. The indicators of financial interest that were measured were Return on Equity (ROE); defines as the net income as a percentage of shareholder’s equity, and Return on Assets (ROA); defined as net income as a percentage of total assets.

3.5 Research Procedures

The questionnaire was administered to the selected managers at their offices. The questionnaires were self-administered, in that the researcher identified the respondents, asked for to give consent, and those who gave explicit consent were handed a questionnaire to complete. In general, the respondents took at least 10-15 minutes to effectively complete the questionnaire. Completed questionnaires were handed back to researcher. In cases where a respondent was unable to complete the questionnaire due to work constraints among other things, the researcher gave an extension of 7 days. The questionnaires would then be picked by the researcher. To increase response rate, the researcher made SMS reminded to those who did not complete their questionnaires on the first day of administration.

To ensure that the questionnaire was standardized and validated, it was subjected to both validity and reliability tests. Validity tests determined whether the findings are what they appear to be about. The questionnaire was subjected to peer review to ensure that it
accurately measured what it was intended to measure. Reliability tests determined the ability to yield consistent findings, observations, or conclusions when it is used by other researchers. Cronbach Alpha method was used to determine whether the questionnaire met the acceptable coefficient of 0.7 (Nunnally, 1978). The findings from both validity and reliability tests were used to refine the questionnaire before actual data collection.

3.6 Data Analysis Methods

All the questionnaires completed by respondents were stored in safe storage before proceeding to data analysis. The questionnaires were inspected to ensure that only those that have been fully completed proceed to analysis. The responses in the questionnaires were coded and entered in an Excel sheet, then the data entry was cleaned for incompleteness and inconsistencies. The cleaned data sheet was uploaded into the Statistical Package for the Social Sciences (SPSS) Version 23.

The responses were analyzed for both descriptive and inferential statistics. The descriptive statistics included frequencies, percentages, means and standard deviations. The descriptive statistics were computed because they helped in summarizing the data, the results of which was presented in tables, charts, and graphs. The relationship between independent variables and dependent variables was determined using inferential statistics. Pearson correlations was used in establishing the association between the independent variables: market turbulence, technology turbulence, competitive intensity, and the dependent variable: firm performance. To determine whether the relationship between independent and dependent variables, and test the hypothesis, linear regression was used.

The regression model used was as follows:

\[ y = \beta_0 + \beta_1 X_1 + \epsilon \]

Where:

\( Y = \text{Firm performance} \)

\( \beta_0 = \text{Constant Term} \)

\( \beta_1 = \text{Beta coefficients} \)

\( X_1 = \text{Market turbulence} \)
$X_2 = $ Technological turbulence

$X_3 = $ Competitive intensity

$\varepsilon = $ error term (residual term that includes the net effect of other factors not in the model and measurement errors in the dependent and independent variables)

### 3.7 Chapter Summary

The chapter focuses on the methods adopted in the study, including the research design, how the data is collected, and how data is analyzed. The research design adopted in the study was a descriptive approach. The population selected for this study were managers of EABL and simple random sampling used to generate the sample size. Simple random sampling generated a sample size of 133 managers. Structured questionnaires were administered to the management personnel and the responses analyzed using both descriptive and inferential statistical techniques. The next chapter presents the findings and interpretations of the study.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

The chapter presents the results obtained after data analysis. It captures the findings relating to the generation information such as the response rate, the age, gender, and educational level of respondents as well as the number of years they have worked with EABL. It also presents the descriptive and inferential statistical analysis covering the effect of market turbulence, technological turbulence, and competitive intensity on firm performance.

4.2 General Information

4.2.1 Response Rate

Questionnaires were administered to 133 managers sampled for the study. Out of these, 81 were completed, collected, and proceeded to the analysis phase, representing a 61% response rate, which was judged as good, adequate, and satisfactory for analysis. According to Babbie (2007) a review of published social research literature suggests that a response rate of 50% is considered adequate for analysis and reporting; a response rate of 60% is good; and a response of 70% is very good. Fincham (2008), in a study on what should be accepted in peer-reviewed journals noted that response rates approximating 60% or higher should be the goal of researchers and the expectation of journal editors.

4.2.2 Age

The findings show that a majority of the managers were aged between 35 and 54 years, with 39.5% aged between 35 and 44 years and 44.4% aged between 45 and 54 years. 14% of the managers were aged between 25 and 34 years and only a small fraction, 1.2%, were aged above 55 years. These findings show that a majority of employees are within the productive age group.
4.2.3 Gender

There was a disproportionate gender representation among the managers who participated in the study. A majority of the managers were male, 70.4%, with only 29.6% being female managers. These studies indicate lack of equal gender representation in the managers who participated in the company’s “Amazing People Manager” programme. However, a similar assertion cannot be made for the gender representation in the entire workforce in the company since that is beyond the scope of the current study.

4.2.4 Educational Level

Predictably, all the managers had a bachelor degree and above. There were no managers with college certificate or lower educational achievements as the highest level of education. A majority of the managers had a bachelor degree, 71.6%, with 28.4% of the managers having higher levels of educational achievement such as Masters and PhDs. The findings indicate the sample had the requisite academic qualifications and
professional understanding, not only to perform their duties, but to accurately respond to the questions in the survey.

![Educational Level Chart]

**Figure 4.3: Educational Level**

**4.2.5 Duration with the Company**

More than half of the managers (54.3%) have been with the company for 4-8 years. 19.8% stated that they have been with the firm for less than 3 years. The same number had been with the firm for 9-13 years, and a further 4.9% had worked with the company for more than 14 years. Longer duration with the company, as showed in the results, imply that the respondents have acquired internal knowledge, skills, and competencies which are necessary for satisfactory job performance. The experience gained in the company also makes them respondents for the complex questions on environmental turbulence and financial performance.

![Duration with the Company Chart]

**Figure 4.4: Duration with the Company**
4.2.6 Financial Performance

An analysis of the financial performance of EABL, from Annual Statements of financial performance shows that in general, the performance has moderately declined over the past five years, as shown by return equity (ROE) and return on assets (ROA). ROE has declined from 75.09% in 2014 to 54.84% in 2018, while ROA has declined from 19.30% in 2014 and 14.06% in 2018. The assessment was to give the general overview of the financial performance of the company, particularly the trends in performance at the time of the survey.

![Financial performance (2014-2018)](image)

**Figure 4.5: Financial Performance EABL**

4.3 Market Turbulence and Performance

Market turbulence was measured in terms of market complexity, customer preferences and product differentiation. Each of these dimensions of market turbulence was analyzed independently to generate more in depth understanding of the phenomenon. The descriptive statistics are presented for the 5-point Likert scale SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, and SA=Strongly Agree, in addition to the mean and standard deviation.

4.3.1 Market Complexity

With regard to market complexity, the findings show very high levels of agreement with the statements. There was a strong agreement with the statement that the company was exposed to high levels of government regulation (Strongly agree = 97.5%, Mean = 4.98)
and ever-changing tax regimes (Strongly agree =96.3%, Mean = 4.96). In the same vein, the respondents felt that there was a strong influence by developments in the international market (Strongly agree =95.1%, Mean = 4.95). At the same time, in terms of the complexity of market structure, the managers agreed that the industry structure was determined by oligopolies (Strongly agree =93.8%, Mean = 4.94), influenced by high prevalence of mergers and acquisitions (Strongly agree =92.6%, Mean = 4.93). There was comparatively lower level of agreement with the statement that local developments were the biggest determinant of the complexity of the market (Strongly agree =75.3%, Mean = 4.75).

Table 4.1: Market Complexity

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developments in the domestic market</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>24.7</td>
<td>75.3</td>
<td>4.75</td>
<td>0.434</td>
</tr>
<tr>
<td>Developments in the international market</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.9</td>
<td>95.1</td>
<td>4.95</td>
<td>0.218</td>
</tr>
<tr>
<td>The company is exposed to high level of government regulation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>97.5</td>
<td>4.98</td>
<td>0.156</td>
</tr>
<tr>
<td>The firm is exposed to ever changing tax regimes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>0.190</td>
</tr>
<tr>
<td>The prevalence of mergers/acquisitions is very high in the market</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.4</td>
<td>92.6</td>
<td>4.93</td>
<td>0.264</td>
</tr>
<tr>
<td>The predominant market structure is oligopoly</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.2</td>
<td>93.8</td>
<td>4.94</td>
<td>0.242</td>
</tr>
</tbody>
</table>

4.3.2 Customer Preferences

With regard to customer preferences as an indicator of market complexity, the findings show that the company had enjoyed high levels of customer loyalty (Strongly agree =96.3%, Mean = 4.96), even though the industry was characterized by rapidly changing customer preferences (Strongly agree =95.1%, Mean = 4.95), increased demand from new customers (Strongly agree =92.6%, Mean = 4.93) who have a tendency to have product-related needs that are different from those of our existing customers (Strongly agree =91.4%, Mean = 4.91) as well as the tendency of existing customers to continuously demand new products (Strongly agree =91.4%, Mean = 4.91). There was comparatively low level of agreement with the statement that customers were price sensitive (Strongly agree =87.7%, Mean = 4.88). The results are presented in Table 4.2.
Table 4.2: Customer Preferences

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our industry is characterized by rapidly changing customer preferences</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.9</td>
<td>95.1</td>
<td>4.95</td>
<td>.218</td>
</tr>
<tr>
<td>There is a high tendency for customers to look for new products</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8.6</td>
<td>91.4</td>
<td>4.91</td>
<td>.283</td>
</tr>
<tr>
<td>Our customers are very price sensitive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.3</td>
<td>87.7</td>
<td>4.88</td>
<td>.331</td>
</tr>
<tr>
<td>There’s increased demand for our products from new customers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.4</td>
<td>92.6</td>
<td>4.93</td>
<td>.264</td>
</tr>
<tr>
<td>New customers have needs different from the needs of existing customers.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8.6</td>
<td>91.4</td>
<td>4.91</td>
<td>.283</td>
</tr>
<tr>
<td>We consistently cater to the same customer base</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>.190</td>
</tr>
</tbody>
</table>

4.3.3 Product Differentiation

In relation to product differentiation as a dimension of market complexity, the managers stated that the company had introduced a new distribution channel for its products (Strongly agree =96.3%, Mean = 4.96) and that they had also revitalized an existing product through branding and packaging (Strongly agree =84.0%, Mean = 4.84). There was also a high level of agreement with the statement that the firm had introduced new brand targeting specific market segment (Strongly agree =71.6%, Mean = 4.72) and introduced new products to replace others that were being phased out (Strongly agree =66.7%, Mean = 4.65).

However, comparatively fewer managers agreed that the company had carried out product imitation by introducing a product which is already in the market but new to the company (Strongly agree =46.9%, Mean = 4.38) or that it had carried out product modification by adding new ingredients to an already existing product (Strongly agree =45.70%, Mean = 4.36).
Table 4.3: Product Differentiation

<table>
<thead>
<tr>
<th>Description</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The company introduced new brands targeting specific market segment</td>
<td></td>
<td></td>
<td></td>
<td>28.4</td>
<td>71.6</td>
<td>4.72</td>
<td>.454</td>
</tr>
<tr>
<td>The company has carried out product modification by adding new ingredients to an existing product</td>
<td>1.2</td>
<td>1.2</td>
<td>3.7</td>
<td>48.1</td>
<td>45.7</td>
<td>4.36</td>
<td>.730</td>
</tr>
<tr>
<td>The company has carried out product imitation by introducing a product which is already in the market but new to the company</td>
<td>0</td>
<td>1.2</td>
<td>6.2</td>
<td>45.7</td>
<td>46.9</td>
<td>4.38</td>
<td>.663</td>
</tr>
<tr>
<td>Through product innovation strategy, the company has introduced a new product to replace an existing one so as to satisfy a need in an entirely different way</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>32.1</td>
<td>66.7</td>
<td>4.65</td>
<td>.504</td>
</tr>
<tr>
<td>The company revitalized an existing product through branding and packaging</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16.0</td>
<td>84.0</td>
<td>4.84</td>
<td>.369</td>
</tr>
<tr>
<td>The company introduced a new distribution channel for its products</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>.190</td>
</tr>
</tbody>
</table>

4.3.4 Regressions FOR Market Turbulence and Performance

Research Objective 1.4.1 which sought to investigate the influence of market turbulence on the performance of EABL. The model incorporated the dimensions of market turbulence: market complexity, customer preferences, and product differentiation. The findings, presented in the model summary, indicate that market turbulence account only for a 7.7% change in the performance of the firm, as showed by the R Square value of 0.077. The R value is a measure of simple correlation, and an R value of 0.277 indicates weak correlation between the variables.

Table 4.4: Regression Model 1 Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.277a</td>
<td>.077</td>
<td>.041</td>
<td>.0537</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Product differentiation, Market complexity, Customer preferences

The study sought to establish whether market turbulence has a significant influence on the performance of East African Breweries Limited. ANOVA is concerned with how well the regression equation fits the data, in other words, the extent to which the repression
equation predicts the dependent variable. The results show a not significant value of 0.102. When the p value is less than 0.05, it means that the model significantly predicts the independent variable, therefore the study reveals that even through the model is a strong predictor; it does not statistically predict organizational performance, thus: F(3,77)=2.137, =0.102.

Table 4.5: Model 1 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.018</td>
<td>3</td>
<td>.006</td>
<td>2.137</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.222</td>
<td>77</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.240</td>
<td>80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
b. Predictors: (Constant), Product differentiation, Market complexity, Customer preferences

The regression coefficients shows that market complexity has a negative and not significant influence on performance, by a beta value (β) of -0.072 and a p value of 0.207 at 95% confidence level. The beta value implies that 1 unit increase in market complexity leads to reduced performance by factor of 0.072.

In the same vein, the results show that there is a negative and significant relationship between customer preferences and performance, as indicated by a beta value of -0.112 and a p value of 0.041 at 95% confidence level. This implies that a 1 unit increase in customer preferences leads to reduced performance by a factor of 0.112.

Finally, the regression coefficient show that there was a positive and not significant relationship between product differentiation and performance, as indicated by the beta value of 0.025 and a p value of 0.407. Essentially, 1 unit increase in the number of the firm’s product offerings in the market increases performance by a factor of 0.025.

Table 4.6: Regression Model 1 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>5.765</td>
<td>.326</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market complexity</td>
<td>-0.072</td>
<td>.057</td>
<td>-.156</td>
<td>-1.273</td>
</tr>
<tr>
<td>Customer preferences</td>
<td>-0.112</td>
<td>.054</td>
<td>-.265</td>
<td>-2.082</td>
</tr>
<tr>
<td>Product differentiation</td>
<td>.025</td>
<td>.030</td>
<td>.117</td>
<td>.833</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
4.4 Technological Turbulence and Performance

Three dimensions of technological turbulence were investigated in the study: technological orientation, technological capabilities, and technological innovation, and their influence on performance established.

4.4.1 Technological Orientation

With respect to technological orientation, the study found out that the company had an aggressive technological patent strategy (Strongly agree =98.8%, Mean = 4.99), that their products were at the state-of-the-art level in the market (Strongly agree =97.5%, Mean = 4.96), and the firm had the capacity of building and marketing a technological breakthrough (Strongly agree =93.8%, Mean = 4.94) as well as a large and strong network of relationships with suppliers of technological equipment (Strongly agree =92.6%, Mean = 4.93). The results also show that the company is very proactive in developing new technologies (Strongly agree =91.4%, Mean = 4.91) and adopting up-to-date technologies (Strongly agree =88.9%, Mean = 4.89).

Table 4.7: Technological Orientation

<table>
<thead>
<tr>
<th>Description</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The firm adopted state-of-the-art technologies to drive the development of products and services</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11.1</td>
<td>88.9</td>
<td>4.89</td>
<td>0.316</td>
</tr>
<tr>
<td>Firm’s products are state of the art and lie at the top of the market</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>1.2</td>
<td>97.5</td>
<td>4.96</td>
<td>0.247</td>
</tr>
<tr>
<td>Company is proactive in adoption and development of technologies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8.6</td>
<td>91.4</td>
<td>4.91</td>
<td>0.283</td>
</tr>
<tr>
<td>Firm has the capacity of building and marketing technological breakthrough</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.2</td>
<td>93.8</td>
<td>4.94</td>
<td>0.242</td>
</tr>
<tr>
<td>Firm has built a comparatively large and strong network with suppliers through deploying technology</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.4</td>
<td>92.6</td>
<td>4.93</td>
<td>0.264</td>
</tr>
<tr>
<td>Firm is aggressive in its patent acquisition strategies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>0.111</td>
</tr>
</tbody>
</table>

4.4.2 Technological Capabilities

In relation to technological capabilities, the findings indicate that the company had implemented total quality management systems (Strongly agree =100.0%, Mean = 5.00), had adopted process technologies (Strongly agree =98.8%, Mean = 4.99). There was also a high level of interaction between departments during new product development
(Strongly agree =98.8%, Mean = 4.99), a high level of integration among departments and management hierarchy (Strongly agree =98.8%, Mean = 4.99), and a performance measurement and reward system (Strongly agree =98.8%, Mean = 4.99).

The firm has invested in above-industry-average, highly advanced and specialized manufacturing technologies (Strongly agree =96.3%, Mean = 4.96) and uses IT-based HR platform to manage employees (Strongly agree =96.3%, Mean = 4.96). Further, the firm has adopted supply chain technologies that help in integrating vendors/suppliers (Strongly agree =92.6%, Mean = 4.93). Additionally, the firm has sufficient capacity to effectively, effectively, and flexibly respond to demand changes (Strongly agree =87.7%, Mean = 4.88) and had an efficient production planning/material control system that links the different parts of the organization (Strongly agree =86.4%, Mean = 4.86).

**Table 4.8: Technological Capabilities**

<table>
<thead>
<tr>
<th>Description</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The firm has adequate production capacity which enable it to respond to demand changes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.3</td>
<td>87.7</td>
<td>4.88</td>
<td>0.331</td>
</tr>
<tr>
<td>The firm has invested in above-industry-average advanced specialized manufacturing equipment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>0.190</td>
</tr>
<tr>
<td>The company has adopted process technologies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>0.111</td>
</tr>
<tr>
<td>There is vertical integration with vendors/suppliers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.4</td>
<td>92.6</td>
<td>4.93</td>
<td>0.264</td>
</tr>
<tr>
<td>The company had adopted an IT-based Human Resource Management platform</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>0.190</td>
</tr>
<tr>
<td>The firm has integrated total quality management systems into its processes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>0.000</td>
</tr>
<tr>
<td>The company has an efficient production planning/material control system that links the different parts of the organization</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13.6</td>
<td>86.4</td>
<td>4.86</td>
<td>0.345</td>
</tr>
<tr>
<td>Technology adoption supports a high degree of departmental interactions in new product development</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>0.111</td>
</tr>
<tr>
<td>The firm has integrated a performance appraisal system in its processes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>0.111</td>
</tr>
<tr>
<td>The company enjoys a high degree of inter-departmental integration and has an efficient hierarchical structure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>0.111</td>
</tr>
</tbody>
</table>
4.4.3 Technological Innovation

The findings show that over the past three years, the firm has maintained its status as the industry’s innovative leader (Strongly agree =98.8%, Mean = 4.99), has opened new markets locally and overseas where it introduced new products (Strongly agree =96.3%, Mean = 4.96), has adopted new technologies (Strongly agree =92.6%, Mean = 4.93), introduced new production systems (Strongly agree =90.1%, Mean = 4.90) and carried out product redesigns (Strongly agree =92.6%, Mean = 4.93).

Table 4.9: Technological Innovation

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The firm adopted new technologies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.4</td>
<td>92.6</td>
<td>4.93</td>
<td>0.264</td>
</tr>
<tr>
<td>The firm redesigned existing products over the past year</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11.1</td>
<td>88.9</td>
<td>4.89</td>
<td>0.316</td>
</tr>
<tr>
<td>The firm introduced new products in the market</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>0.190</td>
</tr>
<tr>
<td>The firm introduced new manufacturing processes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.9</td>
<td>90.1</td>
<td>4.90</td>
<td>0.300</td>
</tr>
<tr>
<td>The firm has entered or opened up new domestic, regional or overseas market</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.7</td>
<td>96.3</td>
<td>4.96</td>
<td>0.190</td>
</tr>
<tr>
<td>The firm has over the years maintained its status of as an innovative market leader</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>0.111</td>
</tr>
</tbody>
</table>

4.4.4 Regressions for Technological Turbulence and Performance

Research Objective 1.4.2 sought to investigate the influence of technological turbulence on the performance of East African Breweries Limited. The regression model summary presented indicates an R Square value of 0.016, meaning that technological turbulence was only responsible for a 1.6% change in performance of the firm. This shows a weak effect of technological turbulence on firm performance. The R value of 0.126 indicates a weak correlation between the variables.

Table 4.10: Regression Model 2 Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.126a</td>
<td>.016</td>
<td>-.022</td>
<td>.0554</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Technological innovation, Technological capabilities, Technological orientation
To establish the extent of the influence, regression coefficients were computed to determine whether technological turbulence has a significant influence on the performance of East African Breweries Limited.

The ANOVA results: F(3,77)=0.414, =0.743, indicate that the regression model is a weak predictor of performance, and is not a statistically significant predictor of the dependent variable in the study.

Table 4.11: Model 2 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.004</td>
<td>3</td>
<td>.001</td>
<td>.414</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.236</td>
<td>77</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.240</td>
<td>80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
b. Predictors: (Constant), Technological innovation, Technological capabilities, Technological orientation

The regression coefficients show a negative and insignificant relationship between technological orientation and performance ($\beta=-0.046$, $p=0.444$). A unit increase in technological turbulence related to technological orientation causes a decrease in performance by a factor of 0.046.

There was a negative and not significant relationship between technological capabilities and performance ($\beta=-0.057$, $p=0.526$), implying that a unit increase in technological capabilities turbulence leads to a 0.057 factor decrease in performance.

Finally, there was a positive and not significant relationship between technological innovation and performance ($\beta=0.025$, $p=0.650$), implying that a unit increase in technological innovation turbulence leads to an increase in performance by a factor of 0.025.

Table 4.12: Regression Model 2 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>5.361</td>
<td>.633</td>
<td>8.471</td>
</tr>
<tr>
<td></td>
<td>Technological orientation</td>
<td>-.046</td>
<td>.060</td>
<td>-.770</td>
</tr>
<tr>
<td></td>
<td>Technological capabilities</td>
<td>-.057</td>
<td>.090</td>
<td>-.638</td>
</tr>
<tr>
<td></td>
<td>Technological innovation</td>
<td>.025</td>
<td>.055</td>
<td>.456</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
4.5 Competitive Intensity and Performance

Competitive intensity was measured through three dimensions: competitive rivalry, competitive strategies and market leadership. With regard to competitive rivalry, the focus was on determining the characteristics of competitive rivalry in the market and how it was affecting the performance of the firm.

4.5.1 Competitive Rivalry

In general, the descriptive findings show very high levels of competitive rivalry in the market. The findings show that there is a clear market leader and that the industry is characterized by high growth rates (Strongly agree=100.0%, Mean = 5.00). Brand loyalty is prevalent (Strongly agree=93.8%, Mean = 4.94), there are low exit barriers (Strongly agree=91.4%, Mean = 4.90), and the industry is characterized by highly differentiated products (Strongly agree=90.1%, Mean = 4.90). However, there was lack of strategic diversity among competitors (Strongly agree=91.4%, Mean = 4.89). Comparatively, there was low level of agreement that there were low fixed costs (Strongly agree=80.2, Mean = 4.80), that the industry had a small number of firms (Strongly agree=77.8%, Mean = 4.77), that the company did not have excess production capacity (Strongly agree=81.5%, Mean = 4.74), or that there are high consumer switching costs (Strongly agree=69.1%, Mean = 4.69).

Table 4.13: Competitive Rivalry

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The industry has a small number of firms</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>21.0</td>
<td>77.8</td>
<td>4.77</td>
<td>.455</td>
</tr>
<tr>
<td>There is a clear market leader</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>.000</td>
</tr>
<tr>
<td>There is fast industry growth</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>.000</td>
</tr>
<tr>
<td>There are low fixed costs</td>
<td>0</td>
<td>0</td>
<td>19.8</td>
<td>80.2</td>
<td></td>
<td>4.80</td>
<td>.401</td>
</tr>
<tr>
<td>The industry is characterized by highly differentiated products</td>
<td>0</td>
<td>0</td>
<td>9.9</td>
<td>90.1</td>
<td></td>
<td>4.90</td>
<td>.300</td>
</tr>
<tr>
<td>Brand loyalty is prevalent</td>
<td>0</td>
<td>0</td>
<td>6.2</td>
<td>93.8</td>
<td></td>
<td>4.94</td>
<td>.242</td>
</tr>
<tr>
<td>There are high consumer switching costs</td>
<td>0</td>
<td>0</td>
<td>30.9</td>
<td>69.1</td>
<td></td>
<td>4.69</td>
<td>.465</td>
</tr>
<tr>
<td>The company does not have excess production capacity</td>
<td>0</td>
<td>1.2</td>
<td>4.9</td>
<td>12.3</td>
<td>81.5</td>
<td>4.74</td>
<td>.608</td>
</tr>
<tr>
<td>There is lack of strategic diversity among competitors</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>6.2</td>
<td>91.4</td>
<td>4.89</td>
<td>.387</td>
</tr>
<tr>
<td>There are low exit barriers</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>7.4</td>
<td>91.4</td>
<td>4.90</td>
<td>.339</td>
</tr>
</tbody>
</table>
4.5.2 Competitive Strategies

The researcher examined the nature of the competitive strategies adopted by the firm relative to the competitive intensity. The findings show that the company ensured high levels of supply chain performance as a competitive strategy (Strongly agree = 100.0%, Mean = 5.00). The company was also increasingly diversifying in business areas that are not related to manufacturing and selling alcoholic beverages to remain competitive (Strongly agree = 98.8%, Mean = 4.99).

The company has also developed strategic alliances in the market (Strongly agree = 4.98, Mean = 0.156). The company continues to focus on customer service delivery (Strongly agree = 95.1%, Mean = 4.95), product differentiation (Strongly agree = 93.8%, Mean = 4.94), and has incorporated cost leadership into its competitive strategies (Strongly agree = 4.89, Mean = 4.89).

Table 4.14: Competitive Strategies

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The company employs cost leadership as a competitive strategy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11.1</td>
<td>89.9</td>
<td>4.89</td>
<td>.316</td>
</tr>
<tr>
<td>The company deploys product differentiation as a source of competitive advantage</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.2</td>
<td>93.8</td>
<td>4.94</td>
<td>.242</td>
</tr>
<tr>
<td>The company lays emphasis on customer service to remain competitive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.9</td>
<td>95.1</td>
<td>4.95</td>
<td>.218</td>
</tr>
<tr>
<td>The company has got into strategic alliances to maintain its competitive position</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>97.5</td>
<td>4.98</td>
<td>.156</td>
</tr>
<tr>
<td>The company is increasingly diversifying in business areas that are not related to manufacturing and selling alcoholic beverages to remain competitive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>.111</td>
</tr>
<tr>
<td>The company employs value chain efficiency as a competitive strategy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>0.000</td>
</tr>
</tbody>
</table>

4.5.3 Market Leadership

In relation to market leadership, the study found out that the company was the market leader in the diversity of product range (Strongly agree = 100.0%, Mean = 5.00), in market awareness (Strongly agree = 100.0%, Mean = 5.00), and was also the market leader in corporate reputation (Strongly agree = 100.0%, Mean = 5.00). The company was also a market leader in the quality of products (Strongly agree = 98.8.0%, Mean = 4.99).
market leadership was not restricted to the domestic market, rather this leadership extended to all the countries where the company had an operation (Strongly agree = 97.50%, Mean=4.98). Finally, the managers agreed that the company was a leader in adopting and using advanced technologies in manufacturing (Strongly agree = 95.1%, Mean=4.95). The findings for market leadership, as an indicator for competitive intensity, is presented in Table 4.15.

Table 4.15: Market leadership

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The firm is a market leader in the adoption and utilization of advanced technologies in manufacturing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.9</td>
<td>95.1</td>
<td>4.95</td>
<td>.218</td>
</tr>
<tr>
<td>The firm is the market leader in the quality of products</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
<td>98.8</td>
<td>4.99</td>
<td>.111</td>
</tr>
<tr>
<td>The firm is the market leader delivering the most diverse product range</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>0.000</td>
</tr>
<tr>
<td>The firm is the market leader in the markets where it has presence</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.5</td>
<td>97.5</td>
<td>4.98</td>
<td>.156</td>
</tr>
<tr>
<td>The firm is the market leader when it comes to market awareness</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>0.000</td>
</tr>
<tr>
<td>The firm is the market leader with regard to corporate reputation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>5.00</td>
<td>0.000</td>
</tr>
</tbody>
</table>

4.5.4 Regressions for Competitive Intensity and Performance

Research Objective 1.4.3 sought to investigate the influence of competitive intensity on the performance of East African Breweries Limited. The model summary for the regression analysis, showed that the level of competitive intensity was a weak determinant of performance. The findings reveal an R Square value of 0.034, indicating that competitive intensity was only responsible for a 3.4% variation in the level of organizational performance. The R value of 0.185 shows a weak correlation.

Table 4.16: Regression Model 3 Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.185a</td>
<td>.034</td>
<td>-.003</td>
<td>.0549</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Market leadership, Competitive strategies, Competitive intensity
To test the significance of the regression model, the study sought to determine whether competitive intensity has a significant influence on the performance of East African Breweries Limited. The test of the regression model revealed that it is a moderately strong predictor but a weak predictor of performance as shown by the results, \( F(3,77)=0.912, =0.439 \).

**Table 4.17: Model 3 ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regression</td>
<td>.008</td>
<td>3</td>
<td>.003</td>
<td>.912</td>
<td>.439b</td>
</tr>
<tr>
<td>Residual</td>
<td>.232</td>
<td>77</td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.240</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance  
b. Predictors: (Constant), Market leadership, Competitive strategies, Competitive intensity

Regression coefficients indicate that with the exception of market leadership, the other indicators of competitive intensity had a negative influence on performance. There was a negative and not significant relationship between competitive intensity and performance (\( \beta=-0.040, p=0.266 \)) at 95% confidence level. This shows that 1 unit increase in competitive intensity lead to a decrease in performance by a factor of 0.040.

There was a negative and not significant relationship between the competitive strategies adopted by the firm and performance (\( \beta=-0.033, p=0.523 \)), indicating a unit increase in the pursuit of the current strategies will lead to declining performance by a factor of 0.033. On the contrary, the study found a positive and not significant relationship between market leadership and performance (\( \beta=0.014, p=0.266 \)), implying that as the company continues to strengthen its position as a market leader so does its overall organizational performance. The findings are presented in Table 4.18.

**Table 4.18: Regression Model 3 Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (Constant)</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Competitive intensity</td>
<td>-0.040</td>
<td>.036</td>
<td>-.138</td>
<td>-.119</td>
</tr>
<tr>
<td>Competitive strategies</td>
<td>-.033</td>
<td>.051</td>
<td>-.079</td>
<td>-.641</td>
</tr>
<tr>
<td>Market leadership</td>
<td>.014</td>
<td>.131</td>
<td>.012</td>
<td>.107</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
4.6 Chapter Summary

This chapter presented the findings of the study. The findings present all the objectives, and presents both the descriptive and empirical findings for each study. It began with summarizing general results on biographic information before dealing with questions in all the objectives. All the findings are presented in the form of graphs, charts, or tables.
CHAPTER FIVE

5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section presents the summary of the study. In addition, it presents a comprehensive discussion of the findings reported in the study. The last sections deal with the conclusions and recommendations drawn from results of each research objective.

5.2 Summary

The objective of the study was to investigate the influence of market turbulence, technological turbulence and competitive intensity on performance. Market turbulence was operationalized as consisting of market complexity, customer preferences, and product differentiation. Technological turbulence consisted of technological orientation, technological capabilities, and technological innovation. Market intensity was operationalized as competitive rivalry, competitive strategies, and market leadership.

The study used a descriptive research method. The research design was chosen because it provided the picture of a situation as it happened in nature without manipulation. It allowed the researcher to observe and collect data from respondents in a natural environment, which is the office space, and proved useful for investigating the kind of research questions posed in this study. The study population was drawn from EABL, specifically the 201 managers that were trained under the “Amazing People Manager”, a programme implemented by EABL to enhance performance. The EABL Human Resource department provided the list of these managers to the researcher. Simple random sampling was used to select the respondents, so as to give each manager in the population an equal chance of being selected. The sample size was computed using a sampling formula, and generated a sample of 133 managers. To collect data, the researcher used both primary data and secondary data collection techniques. The primary data was collected using structured, standardized and validated questionnaire. The secondary data which covered measures of financial performance as reported in audited annual statements of financial performance covering five years (2014-2018) were collected using secondary data collection sheet. To ensure that the questionnaire was standardized and validated, it was subjected to both validity and reliability tests. The questionnaire was administered to the selected managers at their offices. The
The responses in the questionnaires were coded and entered in an Excel sheet, then the data entry was cleaned for incompleteness and inconsistencies. The cleaned data sheet was uploaded into the Statistical Package for the Social Sciences (SPSS) Version 23. Together with the secondary data, the data collected was analyzed for both descriptive and inferential statistics, and the data presented in the form of figures and tables. The relationship between independent variables and dependent variables was determined using inferential statistics; with Pearson correlations used to establish the association between the independent variables, and regressions used to determine the relationship between independent and dependent variables, and test the hypothesis, linear regression was used.

The findings show that there are high levels of market turbulence, environmental turbulence, and competitive intensity. Market complexity and customer preferences had a negative but insignificant effect on performance, while product differentiation had a positive effect on performance. Technological orientation and technological capabilities did not have a significant effect on performance, while there was a positive relationship between technological innovation and performance. Finally, there was a negative but insignificant effect between competitive rivalry and competitive strategies and performance. On the contrary, market leadership had a positive effect on performance.

5.3 Discussion

5.3.1 Market Turbulence and Performance

The descriptive statistics indicate that there is a very high level of market turbulence in the alcoholic beverages industry. The industry structure was characterized by oligopolies, high levels of government regulations, and taxation policies. The study also noted that the developments in the industry were being influenced by developments in both the domestic and international markets. There was also a high prevalence of mergers and acquisitions. These findings are corroborated by other researchers. According to Odipo
(2016), the beverages market in Kenya is highly turbulent and competitive. Anderson, Meloni, and Swinnen (2008), when investigating the main factors influencing alcohol consumption globally, reported that the main factors were government regulations, taxes and consumer preferences. Madsen, Pedersen, and Lund-Thomsen (2012) reported that changes in the beverages market can be linked to increased number of mergers and acquisitions, as a result of aggressive policies by top ranking breweries in the world.

Another aspect of market turbulence is customer preferences. In this study, descriptive statistics indicate that the market was characterized by changing customer preferences and the tendency to look for new products. While both existing and new customers had a tendency to look for new product offerings, the study shows that they were not price sensitive and exhibited high levels of brand loyalty. Abdullah, Abdurahman, and Hamali (2011) investigated changing customer preferences such as price, quality service, branding and tangibles and established that it has an effect on financial performance.

Highly turbulent markets are also characterized by introduction of new products with new features, introduction of new products targeting a market segment, replacement of products through branding and packaging, and new distribution channels to reach consumers. Matravel and Rondi (2005) noted that in homogenous product industries, when the market size increases, the industry profits also increase. On the other hand, in horizontally differentiated industries, increase in market size increases the profitability of local entrants, hence existing firms must use product differentiation to increase their market share and survive stiff competition.

Overall, the study found out that market complexity has a negative but insignificant influence on performance, and that there was a negative and significant relationship between customer preferences and performance. On the contrary, the results also showed a positive but insignificant relationship between product differentiation and performance. Matravel and Rondi (2005) reported that product differentiation is correlated to the performance of firms. This study did not find a positive relationship between market turbulence and performance. Similarly, Jassmy, Banacu, and Bhaya (2017) when investigating the effect of market turbulence on performance among banks in Saudi Arabia, found out that there was no association between market turbulence and financial performance.
5.3.2 Technological Turbulence and Performance

Firms routinely make strategic decisions on how they want to utilize technology. This decision is the essence of technological orientation. In the study, the findings show that the firm had adopted up-to-date technologies for manufacturing processes, as well as for building and maintaining a network of relationships with its suppliers. Rezazadeh, Karami, and Karami (2016) stressed that technological orientation is a crucial strategic orientation for a firm’s successes. This is because technology-oriented firms have the ability to acquire significant technologies and deploy them competitively in the development of new products (Karami, 2012), and building new technical solutions to meet the needs of customers (Saqib, Baluch, & Udin, 2017). While this study reports a negative relationship between technological orientation and performance due to high degrees of technological turbulence, Naala, Nordin, and Omar (2017) noted that if technology orientation is well-designed, developed, and implemented, it can drive positive firm performance.

In terms of technological capabilities, the results showed that the firms had invested in acquiring technologies for advanced specialized manufacturing, process technologies, supply chain technologies for integrating with suppliers, IT-HR platforms for managing human resources and also implemented a quality management system to maintain high standards of product quality. Latip, Salleh, Habidin, and Sapengin (2014) showed that technological capability enhances new product development and creates competitive advantage for firms that are in long term inter-firm relationships. However, the study also noted that technological capability can also create power imbalance and lead to a deterioration of inter-firm relationships. This study did not find a significant effect of technological capabilities on performance. Reichert and Zawislak (2014), in a study of the association between technological capability and firm performance. The focus was on Brazilian companies. The overall result showed that firms with low and medium technological capability did not show a positive relationship between technological capability and firm performance.

The study also investigated the technological innovation that the firm had developed over the past three years. In general, there were high levels of agreement with the innovativeness of the firm in adopting, using, or developing technologies necessary to withstand technological turbulence in the industry. Evidence suggests that firm exuded a
high level of innovativeness characterized by adoption of new technologies, redesign of existing products, introduction of new products in the market, and the pursuit of new markets. Singh, Khamba, and Nanda (2016) established that entrepreneurial capability, technology infrastructure capability and government initiatives are the most important technology innovation influencers in small firms. A study in Pakistan by Abbas and Hassan (2017) revealed that technological innovation is a significant moderating factor in the relationship between environmental turbulence and business performance. In the same vein, Bodlaj and Čater (2017) showed that market turbulence affects the perceived importance of innovation and innovativeness, and consequently the business performance of Slovenian SMEs.

Ndabako, Bello, and Shiyanbade-Iliyasu (2018) noted that when technological turbulence plays a supportive role on the relationship between total quality management and firm performance is stronger. As a result, companies can leverage on opportunities around its external environment in terms of changes in technology as a way of generating competitive advantage and improving performance. Ahn, Minshall, Mortara (2015) conducted a study on new classification of open innovation and its effect on organization performance in SMEs innovation and showed it was significantly associated with performance. These studies agree with present results which reported a positive association between technological innovation and performance.

### 5.3.3 Competitive Intensity and Performance

The study was interested in mapping the intensity of competition in the alcohol and beverages market. The findings revealed that the industry was characterized by small number of players, had a clear market leader, and was experiencing high growth rates. The industry was also characterized by highly differentiated products and brand loyalty. However, there was lack of strategic diversity among competitors. Odipo (2016) noted that the Kenyan beverages industry was operating in a turbulent and competitive environment, and that survival and sustainability demanded responding to competitive rivalry. Kaunyangi (2014) investigated competitive rivalry among telecommunication firms in Kenya and established that rivalry is to be expected in an oligopolistic market. According to Sung (2011) competitive rivalry leads to a reduction in prices and by extension, the level of profitability. This study found a negative association between competitive rivalry and financial performance.
Firms must develop competitive strategies to withstand competitive intensity in the market. The findings indicated that the company employed cost leadership and product differentiation strategy. Further, there was continuous focus on customer service delivery, the building of strategic alliances, and business diversification. According to Mutunga and Minja (2014) the two main competitive strategies adopted by manufacturers in the beverages industry in Kenya are cost leadership and product differentiation, and both strategies had a positive effect on performance.

Odipo (2016) also investigated the competitive strategies adopted in the alcoholic beverages sector, and found out that product differentiation was one of the major strategies. The study established that product differentiation had a positive impact on firm performance. In a study of Sameer Africa Limited, Adimo (2018) established that product differentiation had a positive effect on organizational performance. In terms of market leadership, studies such as Simon (2009) established that the most reliable indicator of market leadership is market share, which is an indirect measure of consumer preference for one product over other products. McElheran (2010) noted that there is a positive link between market leadership and the degree to which a firm adopts new technologies, and by extension generate competitive advantage. Genchev (2012) demonstrated that a statistically significant and positive relationship exists between market share and profitability (Genchev, 2012).

On the contrary, in the European market, while there has been increased mergers, there have also been an increase in the number of smaller breweries. This increase was linked to the fact that small breweries are influencing drinking traditions in the country and that the leadership position of the breweries influenced their performance (Licite & Lukss, 2017). Further, other studies did not report a positive relationship, with researchers such as Yonnopoulos (2010) reporting that there is no support for a significant and positive relationship between market share and profitability. The researchers noted that studies on market share as a contributing factor towards higher profitability has been exaggerated as a result of uncertainty and dynamism in the business environment (Yannopoulos, 2010).

The results showed that EABL was a market leader in the utilization of advanced manufacturing technologies. It was also a market leader in market share, product quality, product variety, brand awareness, as well as corporate reputation. The study showed that market leadership had a significant influence on performance. According to McElheran
the connection of market leadership and the adoption of new technologies is crucial in understanding how firms generate and maintain competitive advantage because market leadership firms to exploit business process innovations incrementally rather than radically.

5.4 Conclusions

5.4.1 Market Turbulence and Performance

The study concludes that there is a high level of market turbulence, as revealed with the high level of agreement with the indicators of three dimensions: market complexity, customer preferences and product differentiation. Further, the high level of market complexity and the rapidly changing customer preferences had a negative effect on the performance of EABL. However, the effect was not significant. On the contrary, the high level of product differentiation at EABL was found to exert a positive and significant effect on the performance of the company.

5.4.2 Technological Turbulence and Performance

From the findings, it can be concluded that technological environment shows high levels of turbulence as indicated by measures of the three dimensions: technological orientation, technological capabilities, and technological innovation. In essence, the firm had adopted technological orientation as part of its operational strategy, and has built immense technological capabilities that position it above industry average. This shows that both the technological orientation and technological capabilities are not drivers of performance. Increase in technological turbulence, in terms of the demand on technological orientation and capability was found to have a negative association with performance, even though the association was not significant. As far as technological innovation is concerned, the findings report a positive effect on performance.

5.4.3 Competitive Intensity and Performance

The industry is characterized by high levels of competitive intensity. In terms of competitive rivalry, the industry was oligopolistic and characterized by intense government regulation and ever-changing taxation obligations. Brand loyalty was also prevalent as well as highly differentiated products. However, the high level of competitive rivalry was found to have a negative effect on performance, even though it
was not significant. The company has also created competitive strategies, including cost and differentiation strategies to remain competitive. However, these competitive strategies were not a significant driver of performance. On the other hand, market leadership which is enjoyed by EABL was found to be a positive driver of performance.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Market Turbulence and Performance

The company is operating in a highly turbulent market. The main features of this turbulence are government regulations, taxations, and domestic and international market competitive pressures. The company should lobby the government to establish a stable regulatory and tax regime, while cautiously managing its expansion in both the domestic and international market.

5.5.1.2 Technological Turbulence and Performance

High levels of technological turbulence demand that the company must continuously update its strategic orientation in the face of new changes, while upgrading its capabilities with changes in technology. To continue gaining from technological innovation, the company should strengthen its production systems, supply chain systems, quality assurance systems, and IT-HRM systems.

5.5.1.3 Competitive Intensity and Performance

High levels of competitive rivalry have a negative effect on performance. The company should continue to assert its market dominance and increase its market share to gain from the high growth rates in the industry. Currently, the company enjoys market leadership. The company should continue investing in systems that preserve its position as the number one in quality manufacturing systems, quality products, and superior product offerings.

5.5.2 Recommendations for Further Studies

In this study, the conceptualization of environmental turbulence was limited to the three dimensions proposed by Kohli and Jaworski (1990, 1993), notably: market turbulence, technological turbulence and competitive intensity. Other studies can examine other
dimensions of environmental turbulence that have not been captured in this study. The scope of the study is limited to the manufacturing sector, specifically the alcoholic beverages industry. Other studies can examine the relationship between environmental turbulence and performance in other sectors.
REFERENCES


TO WHOM IT MAY CONCERN.

14th February, 2019

Dear Sir/Madam,

REF: PERMISSION TO CONDUCT RESEARCH – JOAN KAMAU
STUDENT ID. NO. 451186

The bearer of this letter is a student of United States International University (USIU) -Africa pursuing a Master of Business Administration.

As part of the program, the student is required to undertake a dissertation on the “Influence of Environmental Turbulence on Firm Performance: A Case of East African Breweries Limited” which requires her to collect data.

Please note that information provided will be treated with utmost confidentiality and will only be used for academic purposes.

Kindly assist the student get the appropriate data and should you have any queries contact the undersigned.

Yours Sincerely,

[Signature]

Prof. Amos Njuguna, 
Dean – School of Graduate Studies, Research and Extension 
Tel: 730 116 442 
Email: amnjuguna@usiu.ac.ke
APPENDIX II: NACOSTI RESEARCH AUTHORIZATION

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Ref: No NACOSTI/P/19/61854/31813

Date: 25th July, 2019

Joan Waruguru Kamau
United States International University
P.O. Box 14634 – 00800
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Influence of environmental turbulence on firm performance: A case of East African Breweries Limited” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for the period ending 23rd July, 2020.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.
THIS IS TO CERTIFY THAT:
MS. JOAN WARUGURI KAMAU
of UNITED STATES INTERNATIONAL
UNIVERSITY AFRICA, 14634-800
Nairobi, has been permitted to conduct
research in Nairobi County

on the topic: INFLUENCE OF
ENVIRONMENTAL TURBULENCE ON FIRM
PERFORMANCE: A CASE OF EAST
AFRICAN BREWINRIES LIMITED

for the period ending:
23rd July, 2020

Applicant’s
Signature

Permit No : NACOSTI/P/19/61854/31813
Date Of Issue : 25th July, 2019
Fee Received : KSh. 1000

Director General
National Commission for Science, Technology & Innovation
APPENDIX III: QUESTIONNAIRE

Title: The Influence of Environmental Turbulence on Firm Performance: A Case of East African Breweries Limited

Purpose: This is a data collection exercise for an MBA Research Project at the United States International University - Africa (USIU-Africa)

Background: A turbulent business environment is characterized by constant changes in product preferences and customer demand, wide range of customer needs and demands, and the probability of customers to seek new products frequently, in the face of changing technologies and competition. We are interested in knowing how EABL has continually responded to changes in the market, customers and products; changes in technology; and changes in competition, and how these responses have affected the performance of the company.

The sample for this study are Managers and other Senior Personnel at EABL. All information collected is purely for academic purposes. You do not need to provide personal identifiable information. Participation is also voluntary.

Thank you

Section A: Background Information

1. What is your age in years?
   18-24 years old   (   )
   25-34 years old   (   )
   35-44 years old   (   )
   45-54 years old   (   )
   Over 55 years old (   )

2. What is your gender?
   Male             (   )
   Female           (   )

3. Indicate your highest level of education
   Primary          (   )
   Secondary        (   )
   College/polytechnic (   )
Bachelor degree ( )
Postgraduate degree ( )

4. How long have you been working in this organization?

Less than 3 years ( )
4 – 8 years ( )
9 – 13 years ( )
More than 14 years ( )

Section B: Market Turbulence and Firm Performance

The following statements refer to market turbulence in organizations. Please indicate to what extent these statements agree with regards to EABL. Where; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

<table>
<thead>
<tr>
<th>Market Turbulence Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td><strong>(a) Market Complexity</strong></td>
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<td>i. The market is greatly influenced by developments in the domestic market</td>
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<td>ii. The company is greatly influenced by developments in the international market</td>
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<td>iii. The company is exposed to high level of government regulation</td>
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<td>iv. The company is exposed to ever-changing tax regimes</td>
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<td>v. There is a high prevalence of mergers and acquisitions in the market</td>
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<td>vi. The industry structure is determined by oligopolies (market is dominated by a small number of large producers)</td>
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<td><strong>(b) Customer Preferences</strong></td>
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<tr>
<td>i. Our industry is characterized by rapidly changing customer preferences</td>
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<td>ii. Our customers tend to look for new products all the time.</td>
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<td>iii. Our customers are very price sensitive</td>
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<tr>
<td>iv. We are witnessing demand for our products and services from customers who never bought them before.</td>
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<tr>
<td>v. New customers tend to have product-related needs that are different from those of our existing customers.</td>
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<tr>
<td>vi. We still cater to many of the same customers that we used to cater for in the past.</td>
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<tr>
<td><strong>(c) Product Differentiation</strong></td>
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<tr>
<td>i. The company introduced new brands to meet specific needs of a given market segment</td>
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</tbody>
</table>
1. The company has carried out product modification by adding new ingredients to an existing product

2. The company has carried out product imitation by introducing a product which is already in the market but new to the company

3. Through product innovation strategy, the company has introduced a new product to replace an existing one so as to satisfy a need in an entirely different way

4. The company revitalized an existing product through branding and packaging

5. The company introduced a new distribution channel for its products

### Section C: Technology Turbulence and Firm Performance

The following statements refer to technology turbulence in organizations. Please indicate to what extent these statements agree with regards to EABL. Where; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

**Technology Turbulence Statements**

<table>
<thead>
<tr>
<th><strong>(a) Technological Orientation</strong></th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>i. The company has adopted up-to-date technologies in its products/services development</td>
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<td>ii. Our products/services are always at the state-of-the-art of the technology</td>
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<tr>
<td>iii. Our company is very proactive in the development of new technologies</td>
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<tr>
<td>iv. Our firm has the will and capacity to build and to market a technological breakthrough</td>
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<td>v. Our firm has built a large and strong network of relationships with suppliers of technological equipment</td>
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<td>vi. Our company has an aggressive technological patent strategy</td>
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<tr>
<th><strong>(b) Technological Capabilities</strong></th>
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<th>2</th>
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<tbody>
<tr>
<td>i. The company has the production capacity to respond to demand changes</td>
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<tr>
<td>ii. The company has advanced specialized manufacturing equipment higher than industry standard</td>
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<tr>
<td>iii. The company has adopted process technologies</td>
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<td>iv. There is vertical integration with vendors/suppliers</td>
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<td>v. The company uses an IT-based HR platform to manage its employees</td>
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<tr>
<td>vi. The company has implemented total quality management systems</td>
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</table>
vii. The company has an efficient production planning/material control system that links the different parts of the organization (such as marketing, procurements and production) in the development of production plans.

viii. There is a high degree of interaction between various departments (such as marketing, production and design) in new product development.

ix. There is a performance measurement and reward system in place.

x. There is a high level of integration among departments and management hierarchy.

(c) **Technological innovation**

i. The company has adopted new technologies over the past 3 years.

ii. The company has redesigned existing products over the last 3 years.

iii. The company introduced new products in the market over the last 3 years.

iv. The company introduced new production processes over the last 3 years.

v. The company has entered/opened up new domestic or overseas market over the last 3 years.

vi. The company maintained its status of innovative leader in its market segment over the last 3 years.

### Section D: Competition Intensity and Firm Performance

The following statements refer to competition intensity in organizations. Please indicate to what extent these statements agree with regards to EABL. Where; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

<table>
<thead>
<tr>
<th>Competition intensity statements</th>
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<th>2</th>
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<tbody>
<tr>
<td>(a) <strong>Competitive Rivalry</strong></td>
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<tr>
<td>i. The industry has a small number of firms</td>
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<td>ii. There is a clear market leader</td>
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<td>iii. There is fast industry growth</td>
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<td>iv. There are low fixed costs</td>
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<td>v. The industry is characterized by highly differentiated products</td>
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<td>vi. Brand loyalty is prevalent</td>
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<td>vii. There are high consumer switching costs</td>
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<td>viii. The company does not have excess production capacity</td>
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<td>ix. There is lack of strategic diversity among competitors</td>
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</table>
x. There are low exit barriers

(b) Competitive Strategies

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<tr>
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<tbody>
<tr>
<td>i.</td>
<td>The company employs cost leadership as a competitive strategy</td>
</tr>
<tr>
<td>ii.</td>
<td>The company deploys product differentiation as a source of competitive advantage</td>
</tr>
<tr>
<td>iii.</td>
<td>The company lays emphasis on customer service to remain competitive</td>
</tr>
<tr>
<td>iv.</td>
<td>The company has got into strategic alliances to maintain its competitive position</td>
</tr>
<tr>
<td>v.</td>
<td>The company is increasingly diversifying in business areas that are not related to manufacturing and selling alcoholic beverages to remain competitive</td>
</tr>
<tr>
<td>vi.</td>
<td>The company employs value chain efficiency as a competitive strategy</td>
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</table>

(c) Market Leadership

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<th></th>
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<tbody>
<tr>
<td>i.</td>
<td>Our company is the market leader in utilizing advanced technologies in manufacturing</td>
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<tr>
<td>ii.</td>
<td>Our company is the market leader in the quality of products</td>
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<tr>
<td>iii.</td>
<td>Our company is the market leader in the diversity of product range</td>
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<tr>
<td>iv.</td>
<td>Our company is the market leader in market presence in numerous countries</td>
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<tr>
<td>v.</td>
<td>Our company is the market leader in market awareness</td>
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<tr>
<td>vi.</td>
<td>Our company is the market leader in corporate reputation</td>
</tr>
</tbody>
</table>
Section E: Firm Performance

The following statements refer to firm performance in organizations. Please indicate to what extent these statements agree with regards to EABL. Where; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

<table>
<thead>
<tr>
<th>Firm performance Statements</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>i.  The company has achieved high levels of operational efficiency</td>
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<tr>
<td>ii. Employee productivity in the company is very high</td>
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<td>iii. The company has increased its product offerings over the past financial year</td>
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<tr>
<td>iv. The company has achieved high levels of customer satisfaction</td>
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<td>v.  The company has achieved sales growth over the past financial year</td>
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<td>vi. The company has achieved a growth in net profits</td>
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<td>vii. The company has achieved a growth in the return on assets</td>
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<td>viii. The company has achieved a growth in the return on equity</td>
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<td>ix.  The company has increased dividends paid to shareholders</td>
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<tr>
<td>x.   The company has increased its market share</td>
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</table>

THANK YOU
## APPENDIX IV: SECONDARY DATA

<table>
<thead>
<tr>
<th>Financial ratios</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Profit ('000)</td>
<td>6,833,549</td>
<td>9,423,375</td>
<td>8,093,787</td>
<td>7,725,956</td>
<td>6,390,488</td>
</tr>
<tr>
<td>Total Assets ('000)</td>
<td>35,405,293</td>
<td>37,016,748</td>
<td>40,263,838</td>
<td>44,682,598</td>
<td>45,463,058</td>
</tr>
<tr>
<td>Shareholders’ funds/Equity ('000)</td>
<td>9,100,848</td>
<td>15,794,602</td>
<td>16,047,512</td>
<td>11,988,170</td>
<td>11,652,036</td>
</tr>
<tr>
<td>Return on Assets (ROA) = Net Profit/Total Assets</td>
<td>19.30%</td>
<td>25.46%</td>
<td>20.10%</td>
<td>17.29%</td>
<td>14.06%</td>
</tr>
<tr>
<td>Return on Equity (ROE) = Net Profit/Shareholders funds</td>
<td>75.09%</td>
<td>59.66%</td>
<td>50.44%</td>
<td>64.45%</td>
<td>54.84%</td>
</tr>
</tbody>
</table>