

**EVALUATION OF THE IMPACT OF THE STOCK PRICE ON THE FINANCIAL
PERFORMANCE OF TELECOMMUNICATION COMPANIES IN ZAMBIA: A
CASE STUDY OF AIRTEL ZAMBIA LIMITED (2012 – 2021)**

By

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**A Dissertation submitted to the University of Zambia in partial fulfilment of the
requirements for the award of the Degree of Master of Business Administration in
Finance**

THE UNIVERSITY OF ZAMBIA

LUSAKA

2024

DECLARATION

I, **Wabei Catherine Mutafu**, do hereby declare that this work is my original work achieved through personal reading and research. This work has never been submitted to the University of Zambia or any other Universities. All sources of data used and literature on related works previously done by others, used in the production of this Dissertation have been duly acknowledged. If any omission has been made, it is not by choice but by error.

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APPROVAL

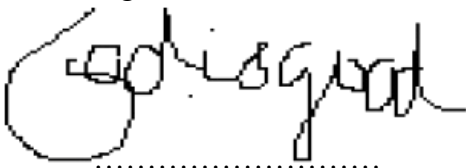
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ABSTRACT

In the fast-paced telecommunications sector, understanding the relationship between a company's stock price and financial performance is crucial. This study focuses on Airtel Zambia Limited, a company where stock price changes could impact revenue. Despite growing market share, Airtel Zambia faced operational challenges and negative performance indicators due to economic turbulence in Zambia and the COVID-19 induced recession. This led to a substantial loss in 2020. Existing literature lacks a comprehensive understanding of this relationship, creating a knowledge gap. This study aims to fill this gap by analyzing the correlation between Airtel Zambia's stock price and annual net revenue. The objective is to determine how stock price changes influence financial performance. The study uses primary and secondary data to examine historical data related to Airtel Zambia's stock price and annual net revenue. Statistical techniques like regression analysis and correlation calculation were used to evaluate the relationship between these variables. Surveys were also conducted to gather employee insights on the impact of stock price changes on revenue. The analysis revealed a significant negative correlation between Airtel Zambia's stock price and annual net revenue. Despite stock price volatility, the company's revenue remained relatively stable, suggesting other factors play a larger role in revenue generation. This study highlights the complex relationship between stock price and financial performance in the telecommunications sector, specifically focusing on Airtel Zambia Limited. The findings underscore the need to consider various factors when evaluating a company's financial health. These insights could guide strategic decision-making within Airtel Zambia and other telecom companies. Future research could explore the specific factors driving revenue generation in the telecommunications industry, enabling targeted interventions to enhance financial performance and contribute to sector growth and sustainability.

Key words: *Securities Exchange, Stock price, Financial performance, Telecommunications.*

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DEDICATION

This study is dedicated to my family and my dear friends for their support and encouragement during the entire period of my study until successfully completion of this program.

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LIST OF ACRONYMS AND ABBREVIATIONS

1. ACCA	Association of Chartered Certified Accountants
2. BoZ	Bank of Zambia
3. COVID-19	Coronavirus Disease 2019
4. D/E ratio	Debt-to-Equity ratio
5. EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
6. EMH	Efficient Markets Hypothesis
7. GDP	Gross Domestic Product
8. IFC	International Finance Corporation
9. IMF	International Monetary Fund
10. LuSE	Lusaka Securities Exchange
11. MCP	Market Capitalization Ratio
12. MNOs	Mobile Network Operators
13. ROE	Return on Equity
14. SEC	Securities and Exchange Commission
15. TR	Turnover Ratio
16. VR	Value of Shares Traded Ratio
17. ZAMTEL	Zambia Telecommunications Company Limited
18. ZICTA	Zambia Information and Communications Technology Authority

CHAPTER 1

INTRODUCTION

1.1. Introduction

The capital markets are a stimulator of economic development. The capital market enables firms to raise capital through a mechanism that allows savings by various economic units to be accessed for investment purposes, which boosts aggregated demand and economic growth (Mo, 2017). Through the capital market, companies raise capital for various expansions projects, it links economics units that want to save to those who want to invest (ACCA, 2012).

The capital market is a system through which various financial assets that include securities, derivatives and various other long-term financial instruments used to raise capital are traded (Wieland et al., 2020). Alternatively, a capital market is an established mechanism through which long-term funds, equities and bonds are traded (World Bank, 2020). The financial instrumented are traded at an established institution known as the stock or securities (Kadi, 2016). The capital is divided into a primary market, where new issuances are traded, and a secondary market, where existing equities and bonds are traded (Davis et al., 2018; Darskuviene, 2010). The securities exchange offers an opportunity to companies in various industries to raise capital and expand their productions.

The study aims to investigate the influence of the Lusaka Securities Exchange on the mobile telecommunication sector using the second largest mobile telecommunication service provider Airtel Zambia Limited, the only listed telecommunication company, as a proxy for the industry.

1.2. Background to the study

The capital market offers companies an alternative source for investment to bank financing (International Finance Corporation, 2017). Besides, they also nurture financial markets condition and attract foreign investment into the country (Olokoyo et al., 2020). Capital markets are a mainstay in the developed world and are a measure of economic performance. In most emerging and developing countries capital markets are relatively new and not as established as in advanced economies (ACCA, 2012; Schellhase et al., 2014).

Most companies in developing countries identified lack of finances as their biggest challenges. The capital market offers an alternative source of finance for these companies. The least active capital markets are in Africa, with an overall turnover ratio is less than 10% (Schellhase et al.,

2014). Like in other less-developed countries, there are few companies listed (Nuhiu & Hoti, 2011). It makes available channels through which savings are made available to enterprises (World Bank, 2020).

The stock market in Zambia is relatively new compared to those in Zimbabwe, Kenya and South Africa but older than that Botswana, Lesotho, Malawi and Mozambique (Schierreck, et al., 2018). The Lusaka Securities Exchange (LUSE) opened in 1994 with the assistance of the World Bank and the International Finance Corporation (IFC) (LuSE, 2021). The capital market was established in 1993, two (2)-years after the liberalization of the economy, to act as a pool for resources mobilization for companies (Kamanga, 2009). The Lusaka Securities Exchange opened on February 21, 1994 (LuSE, 2014). LuSE and the Securities and Exchange Commission (SEC) were established as a project for financial and capital market development in Zambia (Marone, 2003). The capital market is regulated under three (3) Acts (Chola, 2019). The Bank of Zambia (BoZ) Act of 1996 empowers BoZ to act as an agent for government securities. The Securities Act of 2016, which provides SEC with the regulatory authority, and the Companies Act of 2017, which provides guidelines for the creation and management of companies.

The core mandate of LUSE is generally to provide a fair and efficient platform through transparent and equitable trading of the listed securities (LuSE, 2021). It contributes to wealth development, financial services and a platform for investment for foreign and local investors (International Finance Corporation, 2017). It provides a platform where companies can raise long term capital and secondary trading of shares. Further, LuSE also provides facilities for the listing of securities and provides users with an orderly, transparent and regulated platform to trade (LuSE, 2021).

The first company to list was Chilanga Cement in 1995 with an initial share price of ZMW 0.065, almost 2 years later, its share price is now ZMW 26 reflecting, 40,000% growth (LuSE, 2014). LuSE currently has approximately 22 listed companies as of 31st December 2021 (Lusaka Securities Exchange, 2019) (Zambia Invest, 2014). The market capitalization of LuSE was ZMW 59.02billion in 2021 (LuSE, 2021).

Stock market development is of huge importance to growth. King and Levine (1993) stated that the level of financial intermediation is a good predictor of capital accumulation, productivity and economic growth. while Carlin and Mayer (2003) established the existence of a strong relationship between economic growth and the structure of the countries' financial

system. The financial system provides a platform for trading innovative financial instruments such as currency exchange, equities, bonds, various derivatives like futures, swaps and options among others (Sundaram, 2012). This in turn helps in mobilizing the much needed financial resources (capital) from surplus units to deficit units for investments in profitable projects. This helps both the private sector and governments to expand production by increasing investment and ultimately accelerating growth.

Like, the capital market, mobile telecommunication is seen as an enabler to national development. Mobile telecommunication reduces transaction cost and increases efficiency. The first mobile cellular operator was ZAMTEL in 1995, Telecel (now MTN) was launched the service in 1997, and Celtel (now Airtel) introduced the service in 1998 (Mulavu, 2007). According to ZICTA, by 2006, there were 970,028 mobile subscribers in the country, Airtel having the largest market share, 70.2, followed by ZAMTEL with 18.1% and MTN 11.7%. The composition of the market had changed by 2014, MTN had overturned Airtel as the largest service provider. The market share of MTN was 48.8%, Airtel was 36.3%, and ZAMTEL was 14.9%. The total mobile subscription had increased over tenfold to 10,114,867. The surge continued for six years. The number of subscribers had surged by 88.9% to 19,104,208 in 2020. MTN still had the largest proportion of subscribers, 45.31%, ZAMTEL had 35.4% and Airtel 19.2%.

The mobile telecommunication industry like any other industry faces many challenges. In Zambia, inadequate infrastructure, poor quality and limited coverage, high cost associated with technological procurement, and lack of transparency in the awarding of licenses are some of the challenges faced by the companies (Zambiainvest, 2021). The government has invested in the construction of telecommunication satellite towers in several districts that disconnected from the rest of the nation, increases coverage and lowers costs for MNOs. Besides, ZICTA has penalties the MNOs for poor service delivery before (ZICTA, 2020).

The companies also suffer sporadic churns, as can be noticed from figure 1.1. The three companies had periods when their total subscription declined (Banda, 2016). The number of MTN subscribers declined during the periods 2007 to 2008 and 2009 to 2010. During the period 2012 to 2014, there was a decline in active Airtel Sim card users. Zamtel subscription reduced the periods: 2010 to 2011, 2012 to 2013, 2015 to 2016 and 2019 to 2020. Poor customer service, poor network quality, and high network were some of the reasons customers switch from one network provider to another (Banda & Tembo, 2017).

Among the mobile telecommunication companies, only Airtel Zambia Limited is listed on LuSE. Airtel Zambia is a subsidiary of Bharti Airtel Limited. A company with various investments interest in several countries. Airtel Zambia initially started operations as Celtel before, which sold it to ZAIN, which later sold to Airtel (Financifi Africa, 2021). Both takeovers were caused by increased interest in Africa by MTC (Zain) mobile and Bharti Airtel of India. The low and increasing mobile penetration rate in Africa before both takeovers signaled a prospective boom in the industry and made it attractive. Bharti Airtel purchase of Airtel came after a failed merger with MTN (IHS Markit, 2010).

Airtel has the second-largest customer base and is the largest telecommunication company in terms of revenue. The company has a public shareholding of 3.6%, below the LuSE stipulated 25% requirement for public shares for equities, with a market capitalization of ZMW 3.066 billion. It placed 6.36% of the company shares on a sell order in 2019. As 2021, the country had increased its network access to all 117 districts of Zambia, and was providing telecommunication, internet and mobile money services. Airtel money, its mobile money services, has expanded since its launch in 2012, with 42.4% of customers using the services and it contributing 21.8% to the total revenue in 2020 (Airtel Africa Plc, 2020).

The company, in recent years, has been adversely affected by the economic turbulence experienced in the country: GDP per capita has averaged less than 1% from 2010 to 2019 (World Bank, 2020). In the late 2010s and 2020, inflation surged, and the kwacha depreciated. The country experienced a COVID-19 induced economic recession in 2020 that continued in 2021 (IMF, 2020). The economic meltdown exacerbated the reduction in earnings per share ratio from -0.15% in 2019 to the -3.27% decline in 2020 (Financial Insight, 2021). The occurrences have caused Airtel to have a loss of ZMW 341 million in 2020. The negative profit overshadowed the 21% increase in revenue brought by increased mobile money services and coverage of all the 117 districts.

The Airtel Annual report (2020) recognized the lack of depth on the LuSE and nascent nurture of the equity culture in Zambia. Airtel Zambia being the only locally listed telecommunication remains optimistic that with increased sensitization and awareness, the capital market will increasingly become an important source of capital. Besides, the post-Covid period will require investment to stimulate the industry from the paddles (Airtel Zambia, 2021).

1.3. Statement of Problem

Airtel Zambia, a key player in the telecommunications industry, faces a unique opportunity and challenge. The company can leverage increased public shareholding to secure additional resources for expansion. However, its market capitalization is only ZMW 3.066 billion (Africa Markets, 2021), a mere 5.20% of the total market capitalization of the Lusaka Securities Exchange (LuSE), which stands at ZMW 59.02 billion. This situation is further complicated by the recent economic downturn, which saw GDP per capita decline by 1.5% in 2019 and 5.8% in 2020. These economic conditions have negatively impacted Airtel Zambia's earnings per share, which fell by -0.15% and 3.27% in 2019 and 2020, respectively. In 2021, the company reported a loss of ZMW 341 million, underscoring the financial challenges it faces. The LuSE's limited diversity and volume of stocks, particularly in the telecommunications sector, hinder its growth and attractiveness to investors. This problem is compounded by a lack of research into the impact of stock prices on the financial performance of telecommunications companies listed on the LuSE. This gap in knowledge impedes informed decision-making processes.

This study aims to fill this gap by investigating the impact of Airtel Zambia's stock price on its annual net revenue. By applying statistical analysis techniques to historical data, the research will uncover patterns and trends, providing valuable insights into the relationship between stock price dynamics and financial performance. The findings will inform strategic decision making processes aimed at enhancing financial stability and shareholder value for Airtel Zambia. The study is motivated by the telecommunications industry's reliance on the stock market for investment capital to support growth during the COVID-19 pandemic period. The sector has seen significant growth, with the number of subscribers increasing from 970,028 in 2006 to 19,104,208 in 2020. The scarcity of studies examining the financial performance implications of stock prices in Zambian telecommunications companies underscores the significance of this research. By illuminating this relationship, the study not only contributes to existing literature but also encourages further exploration of similar dynamics in other industries. This will facilitate a deeper understanding of the interplay between stock prices and performance.

1.4. Research Aims

The purpose of this study is to explore the impact of the Stock price on the growth of the telecommunication industry in Zambia using the case of Airtel Zambia Limited. The results

will be useful in guiding business strategies and will inform decisions for other MNOs intending to get listed on the stock exchange.

1.5. Research Objectives

1.5.1. General Objective

- i. To determine the effect of stock prices on the performance of telecommunication companies in Zambia.

1.5.2. Specific Objectives

The study seeks to address the following specific objectives:

- i To analyze the relationship between Airtel Zambia's stock price and its annual net revenue.
- ii To assess the understanding and application of stock exchange market knowledge by Airtel Zambia's management in influencing revenue performance.
- iii To investigate the internal and external factors influencing Airtel Zambia's revenue performance.

1.6. Research Hypotheses

- i. H_0 : Airtel Zambia's stock price has no significant effect on Airtel Zambia's annual net profit
19. H_1 : Airtel Zambia's stock price has a significant effect on the annual net profit
- ii. H_0 : There's no correlation between Airtel stock price and the annual net profit
20. H_1 : There's a correlation between Airtel stock price and the annual net profit

1.7. Significance of The Study

The study is important from several perspectives:

- The study will provide empirical evidence to policymakers and the government on the importance of LuSE for industry expansion.
- The study will help LuSE in sensitization on the importance of the capital market for resource market to companies and the economy. LuSE could use the study to change public perceptions about investing on the stock market or increasing public

participation and consequently increasing the capital available to listed firms. This could attract other companies to enlist on LuSE.

- Besides, empirical evidence on the opportunities the Lusaka Exchange presents to listed companies as an alternative source of funding and signal of public perceptions is key to its management and prospect investors. Additionally, increased development of LuSE will enable the economy to blossom as it draws foreign investment and efficiently allocates savings to productive economic units, stimulating economic growth. Lastly the study will be relevant in guiding policy directives on MNOs.
- The study will show that the capital market is an alternative avenue for capital mobilization for expansion of the telecommunication industry. Increased investment in mobile telecommunication, an enabler to economic growth, will accrue benefits to various sectors of the economy by reducing transactions cost and improving efficiency in the economy.
- From an academic perspective, the study will enhance understanding of the impact of the stock market on the growth of telecommunication industry (specifically Airtel Zambia) and contribute to the body of existing literature on areas around stock market development and telecommunication industry.

1.8. Scope of The Study

The study will use quarterly secondary time series data, with the focus period being 2012 to 2021 (10 years). The study will be restricted to Zambia. The independent variables will be Airtel Zambia Limited shares index, exchange rate, interest rate, inflation rate and GDP per capita. The dependent variable will be the profit of Airtel Zambia Limited.

1.9. Limitation of The Study

Airtel Zambia Limited took over from Celtel in 2012 and so the revenue lines reporting to Airtel are only commencing in 2012. This limited our study to a data set of 10 entries for the regression analysis.

Further, there is inadequate literature on the sectoral impact of the LuSE in Zambia. To overcome this, various literature from studies in other countries will be reviewed. This will allow for a broader review of the literature. Additionally, studies that explored the relationship between LuSE and other industries or the overall economy were relied upon.

1.10. Structure of The Proposal

The rest of this proposal is structured as follows. Chapter one gives background of the study, statement of the problem, research objectives/ questions, significant of the study scope and location. Chapter two reviews empirical and theoretical literature on the impact of stock market development and economic growth. Lastly but not the least chapter 3 outlines the proposed research philosophy, research design, research methodology, data collection and data analysis.

1.11. Chapter Summary

This chapter introduces the study. Since the 1990s, when LuSE opened and mobile telecommunication become available in Zambia, the telecommunication industry and the capital market have grown. Coincidentally, LuSE is a platform that the telecommunication industry can use to raise capital and expand. With literature on various studies on the benefits of LuSE to the entire economy, this study will explore the impact of LuSE on telecommunication. The profits of Airtel Zambia Limited will be a proxy of the performance of the telecommunication industry in Zambia. The study will examine the effect of Airtel Zambia Limited shares index, exchange rate, interest rate, inflation rate and GDP per capita on the profitability of Airtel Zambia Limited. The study period will be from 2005 to 2020, with data obtained from various secondary sources.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature relevant to the study. The first section is the overview of stock price, financial performance of telecommunication companies, airtel Zambia, review of similar studies, critique of existing literature, and lessons learnt. The second part reviews theories that have linked the capital market to industry specific development. The third part reviews empirical studies from various empirical contexts that examine the impact of the stock market on the telecommunication sector and various industries, For a snap-shot view on literature reviewed, see Appendix A, herein referred to as literature review matrix. The final part summarizes the lessons learnt from the theoretical and empirical literatures. It also identifies gaps in the empirical literature, which this study hopes to fulfill.

From the 1930s until the early 1960s, there was a widespread myth about how to make money on the stock market. The dominant theory, going back to Adam Smith in the 1700s, was that markets are essentially inconsistent, and that prices tend to fluctuate around some true or fundamental value. By the 1960s, it became clear that these supposedly full proof methods of investment were not working. Strategies based on detailed analysis did not seem to perform any better than simple buy-and-hold strategies. Attempts to explain this phenomenon gave rise to the Efficient Markets Hypothesis, which claims that market prices already incorporate the relevant information. The market price mechanism is such that the trading pattern of a small number of informed analysts can have a large impact on the market price.

The Stock Market in Zambia has been functioning since February 1994 and is named the Lusaka Securities Exchange (LuSE). The idea behind the establishment of the LuSE was part of the government's economic reform programmes aimed at developing the financial and capital markets to support and enhance private sector initiatives. It was predicted that the LuSE would attract foreign portfolio investment, as well as facilitate the divestiture of Government ownership in parastatals. Another reason for the establishment of LuSE was to promote a broad and wide shareholding ownership by the local citizens of Zambia (Lusaka Securities Exchange). The efficient market hypothesis states that asset prices in financial markets should reflect all available information; consequently, prices should always be consistent with fundamentals.

2.1 Stock Price Overview

The stock price serves as a crucial measure of a company's financial health and significantly influences its overall operations. It is shaped by the market's supply and demand for the stock, mirroring the price investors are ready to pay for a share in the company. The stock price is subject to numerous factors, both internal to the company and external in the global environment. Key influencers of stock price encompass company fundamentals, macroeconomic elements, and investor sentiment.

Company fundamentals refer to the company-specific factors like earnings, growth potential, and risk profile. A company exhibiting robust fundamentals is likely to command a higher stock price compared to one with weaker fundamentals. Macroeconomic elements are those that impact the entire economy, such as economic conditions, interest rates, and inflation, and can significantly sway stock prices. Investor sentiment, the collective mood of investors towards a specific stock or the overall market, can be shaped by various factors like news coverage, analyst reports, and social media trends.

In addition to these factors, the Random-walk hypothesis presents a pessimistic view of stock market predictability. It posits that stock prices are fundamentally random, rendering any attempts to predict future stock prices futile.

While some studies have identified company fundamentals like institutional factors and the nature of the firm or business as major influencers of stock prices, others have pointed to the firm's boundaries, organization, governance, ownership structure, auditing, and the value relevance of accounting information as the most significant factors.

The body of literature on the factors influencing stock prices is extensive and continually evolving. As new research emerges, our comprehension of these factors and their impact on stock prices is bound to change. However, the primary influencers of stock prices - company fundamentals, macroeconomic factors, and investor sentiment - are likely to remain constant.

2.2 Telecommunication Companies' Financial Performance

The telecommunications sector is a vast and varied industry comprising companies offering a plethora of services, including voice, data, and internet. The financial performance of telecom companies can differ greatly based on factors like the company's size, market share, geographic presence, and product portfolio. However, key metrics used to gauge the financial performance of telecom companies include revenue, Earnings Before Interest, Taxes, Depreciation, and

Amortization (EBITDA), net income, Return on Equity (ROE), and Debt-to-Equity ratio (D/E ratio).

Barnor (2014) suggests that from a company's perspective, borrowing funds to finance working capital or other capital expenditures can escalate the cost of debt. This could potentially harm the company's profits, earnings, and dividends for the business owners. Therefore, the stock market offers an alternative avenue for firms to raise capital. The capital market enables firms to raise capital by issuing equities for the public to purchase and become shareholders. Shareholders are essentially the owners of the company that issues the shares. The company that issues the equities raises capital to enhance its productivity and increase industrial and overall economic output.

Revenue represents the total income a company generates. EBITDA is a profitability measure that excludes interest, taxes, depreciation, and amortization. Net income is the residual money a company retains after deducting all expenses and taxes. ROE measures a company's profitability in relation to its equity. The D/E ratio is a measure of a company's financial leverage.

These metrics facilitate the comparison of financial performance across telecom companies in different industries and the tracking of individual companies' performance over time. They also aid in identifying trends in the telecommunications industry and making informed investment decisions.

2.3 Airtel Zambia

The ability of firms to mobilize resources on the capital market can be gauged from their market capitalization (Offum & Ihuoma, 2018). The market capitalization of firms is determined by the number of shares they issued and their prices. An increase in share prices indicates an expected higher return on an equity issued (Paspitaningtyas, 2017). Airtel Zambia Limited, trading under the acronym AIRTEL (LuSE, 2021), has its share prices determined by both exogenous (external economic performance) and endogenous factors (internal business factors). These prices determine the capital that can be raised from issued shares.

Airtel Zambia is a telecommunications company offering a broad spectrum of services, including voice, data, and internet. The company, headquartered in Lusaka, Zambia, has a presence across all 117 districts of the country. Airtel Zambia is a subsidiary of the Indian telecommunications company, Airtel.

In recent years, Airtel Zambia has been negatively impacted by the economic instability experienced in the country. The company has witnessed a decline in its revenue and profits due to several factors, including the economic recession, high inflation, and the depreciation of the kwacha. Despite these challenges, Airtel Zambia remains dedicated to delivering quality telecommunications services to its customers. The company is also investing in new infrastructure and technology to enhance its services and cater to the growing demand for telecommunications in Zambia.

2.4 Review of similar studies

There are limited studies that examined the impact of stock market on telecommunication industry. Most of the empirical studies have examined the effect of stock market development on economic growth. Since industry production growth is a component of broader economic growth, the first section of the study will explore effect of the of the stock market on industry specified growth. The second section of the study will review various literature on the stock market on economic growth.

2.4.1 The Stock Market and Industrial Growth

There are limited studies that analysis the impact of stock market on the industrial or sectoral growth. In a study on the impact of market capitalization on the confectionary industry in Nigeria, Oluwatoyin & Gbadebo (2009) used stock turnover ratio as growth of industry growth. The independent variables were price index, profit after tax, market capitalization and dividend. The estimation method used is the Ordinary Least Squares (OLS). The study period was 20 years. The results of the empirical analysis showed that there is positive effect between the price index and industrial performance. Besides, there was an analysis that checked the opposite impact of the market capitalization and the performance of a company. This showed that there is a bidirectional relationship between market capitalization and industrial performance.

In another study in Nigeria, Offum & Ihuoma (2018) examined the causal relationship between the stock market and industrial growth. The paper covered the period between 1985 to 2015. They used a Granger Causality test approach. The explanatory variables were market capitalization, total value of shares traded ratio, government expenditure on education and domestic investment in GDP. The explained variable was share of industrial sector in GDP. The

causality test results revealed a unidirectional relationship between market capitalization and industrial sector share of GDP.

The Finance-Led Growth Hypothesis postulates the capital market is an avenue for resource mobilization. Owui (2019) took a different approach by incorporating the hypothesis to focus on the impact of the capital market on the performance of industrial financing in Nigeria. The dependent variable was the industrial production index, whereas the dependent variables were industrial loans, equity and market capitalization. The study period and the estimation method was the OLS. The results of the analysis established that market capitalization and industrial loans have a positive effect on industrial production index. While equity has a negative impact on industrial index production.

Looking at the impact of the stock on the manufacturing sector in Nigeria, Taiwo et al. (2020) used an Error Correction Model (ECM). The predicted variable was manufacturing output, and the predictor variables were the value of the new issues in capital market, market capitalization and the number of deals. The empirical findings were that market capitalization as a stimulating effect on manufacturing output. Total number of deals and value of the new issues in capital market also have a positive effect on manufacturing output. This showed that capital market nurtures industrial development.

Ikharehon & Erhabor (2018) investigated the impact of the capital market on industrial development in Nigeria. The log of industrial output was used a measure of industrial development. The explanatory variables were the logarithms of number of listed companies, volume of total new issue traded, value of corporate bond or equities, all share index and gross fixed capital formation. The OLS estimation method was used to model the relationship. The estimation results showed that positive effect of all the independent variables on industrial development except for all share index. Thus, they established that the capital market has a positive effect on industrial development.

In a transnational study, Chiang & Chen (2017) examined the impact of stock market on industrial growth in 20 members of the G6. They used daily and monthly data covering the period, 1995 to 2014. The empirical analysis focused on the effect of stock return on industrial production. They used the Maximum Likelihood Estimation (MLE) Method and a Granger Causality test to establish the direction of the effect. This was necessary because share prices is theorized as signal for firm performance, which attracts interests in the equity, leading to improved capital inflows from the stock exchange. Thus, it is believed that there is a bi-relation

between share price and industrial performance. The causality test established a unidirectional impact from stock return to industrial growth. While the regression results show that stock return as a positive impact on industrial production growth.

2.4.2 The Stock Market and Economic Growth

From Sub-Saharan Africa, Owiti (2012) examined the relationship between stock market development and economic growth in Kenya. Using annual secondary data for the period 1990-2010, the study estimated a linear regression model. This study found that stock market development stimulated economic growth in Kenya. The study further noted that the causality between the two variables is bi-directional. That is, the relationship runs in both directions.

Carp (2012) examined whether stock market development was crucial to the economic growth prospects of emerging economies of Central and Eastern Europe. The study controlled macroeconomic imbalances and capital flight from these economies. The study found that capital markets such as the stock market are essential in stimulating economic growth. However, in order for economies to reap the growth-enhancing benefits of stock markets, there is need to deal with macroeconomic imbalances that characterize these economies.

In Asia, Nazir et al. (2010) examined the effect of stock markets on economic growth in Pakistan over the period 1986 to 2008. The study used two measures of stock market development: the stock market index and market capitalization. The study confirms the predictions of the finance-led growth hypothesis that economic growth can be stimulated through stock market development. Another study on Pakistan by Rahman and Salahuddin (2012) examined the effect of stock market development on economic growth over the period 1971 to 2006. The study was placed within a broader study on the determinants of economic growth in Pakistan. The study employed econometric techniques such as the ordinary least squares (OLS) technique, the autoregressive distributive lag (ARDL) model, and an error correction model (ECM). The study found that the stock market was an important driver of economic growth in Pakistan. In addition, the study found that the Pakistani economy was also driven by financial stability, inflation, human capital and foreign direct investment (FDI).

FDI inflow into Zambia has seen a large decline. Akinboade, Siebrits and Roussot (2006), states that Zambia has rich natural resources, relatively low cost of doing business, good infrastructure compared to some countries in Africa, a relatively stable political regime and offers some of the highest return on investment, all of which are highly conducive to FDI

inflow. However, Zambia remains a relatively low recipient of FDI when compared to the rest of the emerging markets.

Kirancabes and Basarir (2012) examined the causal relationship between the stock market and economic activity. Stock market development was measured using the Istanbul Stock Exchange 100 index. The study used monthly time series data. The study used a series of estimation techniques such as unit root tests, cointegration tests, and Granger causality tests. The study found that there exists a strong positive causal relationship between the two variables. In particular, it was found that an increase in stock market activity increased economic growth over the study period.

Srinivasan (2014) investigated the impact of the Indian stock market on economic growth. The study used monthly data on stock market performance and economic activity for the period 1991 to 2013. Stock market development was measured using market capitalisation and turnover ratio. For both measures, it was found that stock market performance has a positive effect on economic activity in India. However, the study also find evidence that the causal relationship between stock performance and economic activity is bi-directional or two-way – stock market development can stimulate economic growth as much as economic growth can stimulate economic growth.

Azam et al. (2016) re-examined the effect of stock market activity on economic growth in four Asian countries: Bangladesh, India, China and Singapore. The study period was 1991-2012. The study estimated an autoregressive distributed lag (ARDL) model. The study found that stock market activity has a significant long-term impact on economic growth only in Singapore and China. In the other countries stock market development was found to have no significant impact on economic growth.

Hoque and Yakob (2017) investigated the relationship between stock market activity and economic growth in Malaysia over the period 1981-2016. The study adopted an econometric methodology. In particular, it employed a series of econometric techniques: the Autoregressive Distributed Lag (ARDL) approach, Granger causality tests, and multivariate regression analysis. The study confirmed a priori expectations that stock market development has a positive influence on economic growth both in the short- and long-run. However, the study found that foreign capital inflows positively intermediate in the relationship between stock market activity and economic growth. However, it was found that exchange rate shocks undermine the importance of the stock market in stimulating economic growth. This

implication of this finding was that policies aimed at encouraging foreign direct investment (FDI) inflows and a stable exchange rate were likely to enhance the effect of stock markets on economic growth in Malaysia.

In the developed world, Boubakari and Jin (2010) examined the relationship between stock markets and economic growth among five developed countries: France, Belgium, the Netherlands, Portugal and the United Kingdom (UK). The study utilised secondary quarterly data from the first quarter of 1995 to the last quarter of 2008. Stock market growth was measured using total market capitalisation of listed companies. It utilised the Granger causality tests. The study found that the impact of the stock market on economic growth depends on how developed and active the stock market is.

Nguyen and Pham (2014) examined the relationship between the two variables in the context of Canada and Australia. The study used quarterly data for the period 1981 to 2012. Using econometric techniques, the study found that the stock market is an important determinant of long-term economic growth in Canada but not in Australia. The implication of their finding is that in some developed countries such as Australia, the sources of economic growth lie in other sectors of the economy.

Adamu and Sanni (2005) investigated the relationship between stock market and economic growth in Nigeria using Granger-causality test and regression analysis. The result reveals a one-way causality from GDP growth to market capitalization and a two-way causality between GDP growth and market turnover. They study also established a positive and significant relationship between GDP growth and turnover ratio.

Additionally, Adenuga (2010) examined the relationship between stock market development indicators and economic growth in Nigeria using vector error correction model (VECM) technique, for the period 1990 to 2009. He employed three measures of stock market development (total value of shares traded ratio (VR), market capitalization ratio (MCR) and turnover ratio (TR). The result showed a positive relationship between the three indicators that represent stock market development and economic growth in Nigeria.

Enisan & Olufisayo (2009) observed the effects of stock market development, measured by MCP and VALT, on economic growth in seven African countries from 1980 to 2004. The autoregressive distributed lag (ARDL) bounds test and the vector error correction model (VECM) based Granger causality tests were used and furthermore. Enisan & Olufisayo (2009) found a long-run relationship between stock market development (irrespective of the indicator)

and growth in Egypt and South Africa, with unidirectional Granger causality from finance to growth.

2.4.3 The Impact of Exchange Rate on Industrial Growth

The exchange rate is an important determinant of industrial performance. In a study in Nigeria, Oseni, et al. (2019) observed that exchange rate volatility had an adverse impact on the industrial output growth. In the analysis, they used an ARDL model. The predicted variable industrial output growth was proxied using industrial value added. The indicators for exchange volatility were the nominal exchange rate, imports and exports of goods and services, trade openness, and inflow of Foreign Direct Investment (FDI). Specifically, exchange rate volatility was measured by the conditional variance of the exchange rate obtained using the AR(1) GARCH.

Akinlo & Lawal (2015), also in Nigeria, used the industrial production index as a measure of industrial production growth. They used an Error Correction Model, which allows for short run and long-run estimations. The indicator variables in the study were exchange rate, money supply and inflation rate. The empirical results, showed that exchange rate did not have a short run impact on the industrial growth. However, in the long-run, exchange rate had a positive effect on industrial growth.

In the Southern African Customs Unions (SACU), comprising of Botswana, Eswatini, Lesotho, Namibia and South Africa, Mlambo & McMillan (2020) observed that exchange rate as a negative impact on the manufacturing industries performance. They used panel data and employed a Fully Modified Ordinary Least Squares (FMOLS) method and a Pooled Mean Group (PMG) Estimator. The FMOLS was used because to allows for estimation in the presence of endogeneity and serial correlation. The PMG is a modification of the Autoregressive Distributed Lag (ARDL) model used to estimate panel data with cointegrating variables. It allows the constant, short-run model coefficients and cointegrating term to differ across cross-sections. The results from both models indicated that exchange rate has a negative impact on manufacturing sector performance. Depreciation of the local currencies reduces production in the manufacturing sector. According to the findings from the PMG, this adverse effect is both short run and long run.

Gichuchi (2016) in a research paper on the impact of monetary policy on nurturing the manufacturing sector using the Vector Autoregressive (VAR) model observed that exchange rate has an insignificant effect on the growth of the sector in Kenya. When he conducted an

impulse response function, the impact of exchange rate on manufacturing sector production become positive.

Habibi (2019) in a paper on the impact of the exchange rate on industrial production used a Non-linear Autoregressive Distributed Lags (NARDL) built upon the Solow model. He modelled a short-run and long-run. In the short run, he observed that the effect of the exchange rate varied with goods. The depreciation of the USD had a positive long run impact on goods with a close to zero import content of exports. While the appreciation of the USD had a positive effect on goods with high import content of exports. Thus, the production of export goods or services whose share of imported inputs is high increases with appreciation of the local currency. As the price of imports reduces. Whilst the production of export goods or services whose share of imported input is low increases as the local currency depreciates.

2.4.4 The Impact Of Interest Rate On Industrial Growth

The effect of interest rate on industrial production growth has been researched on by various scholars (Hatmanu, et al., 2020; Nwandu, 2016; Opusunju, et al., 2009; Gokmenoglu, et al., 2015; George-Anokwuru & Bosco, 2020; Ezeaku, et al., 2018; Gichuchi, 2016). In an empirical investigation of the impact of monetary policy in stimulating manufacturing sector growth in Kenya, Gichuchi (2016) used a interest rate as a proxy for monetary policy and manufacturing sector GDP. The study used quarterly times series data, and the Vector Autoregressive (VAR) model estimate the relationship between variables (including exchange rate and real GDP). VAR estimation results showed a positive relationship between interest rate and manufacturing sector GDP. However, an impulse response function indicated that there is a negative relationship between interest rate and manufacturing sector output.

Nwandu (2016) examined the impact of rising interest rate on the performance of the Nigerian Manufacturing industry. His study covered a period of thirty five (35) years, 1981 to 2015. The study used a simple linear regression model with Ordinary Least Squares (OLS) employed as the estimation model. He concluded that rising interest rate has a negative impact on the performance of the manufacturing industry. However, the empirical results revealed that the impact of interest rate on manufacturing sector was statistically insignificant. Contrary to what Opusunju, et al. (2009) had found an seven (7) years earlier. Opusunju, et al. (2009) also using the OLS found a statistically significant negative relationship between interest rate and manufacturing sector output growth in Nigeria.

Ezeaku, et al., (2018) explored the effect of monetary policy transmission channels on the industrial sector growth in Nigeria. They adopted the Error Correction Model (ECM) after discovering that all the variables were integrated of order one and that there were at least four cointegrating equations among the variables. The ECM results revealed that there is a negative relationship between interest rate and manufacturing sector output. In addition, they showed that interest rate has an adverse effect on the manufacturing firms capacity utilization.

In Turkey Gokmenoglu et al. (2015), studied the relationship between Industrial Production, GDP, Inflation and Oil Prices. They employed a causality test to investigate the relationship. Prior to conducting the test, all the variables were found integrated of order one $I(1)$ by the Augmented Dickey-Fuller tests and long-run causality among the variables was established using the Johansen Cointegration test. The Granger Causality test results revealed that interest rate does not have a causal effect on industrial production. A unidirectional relationship was discovered between oil prices and industrial production. However, no estimation test was conducted to explore the magnitudes of the effects of the relationships.

Hatmanu et al. (2020) examined the impact of interest rate, exchange rate and European Business Climate on Economic growth in Romania. They used an ARDL approach with structural breaks. The ARDL model was adopted based on the results of the stationarity test and the Bound test for cointegration. The empirical results showed that interest rate has a negative relationship on economic growth in Romania. While exchange rate and business climate in the Euro area had an ambiguous effect on the economic growth.

2.4.5 The Impact Of Inflation Rate On Industrial Growth

Inflation rate has an effect on industrial production growth. Bans-Akutey, et al., (2016) used a Vector Error Correction Model (VECM) and Ordinary Least Squares (OLS) estimation technique. They observed that inflation has an insignificant short-run effect on manufacturing sector productivity. The long-run model showed a stable relationship between negative inflation and manufacturing sector productivity.

Musa & Sanusi, (2013) studied the effect of exchange and inflation rate on industrial output in Nigeria. GDP was used as a proxy for industrial output. The estimation techniques used was the Vector Error Correction Model (VECM). The results conformed to theory, exchange rate had a positive impact on industrial output and inflation had a negative effect on industrial output. The conclusion was that inflation and exchange rate cause a significant change in industrial output.

Doguwa, (2012) examined the relationship between inflation and economic growth in Nigeria. The study was based three approaches. The first approach was the Sarel's approach provides a inflation threshold point estimate of 9.9 per cent that was not well identified by the data. The second approach was the Khan and Senhadji had 10.5 per cent inflation threshold. The final approach was the Drukker approach that had the inflations thresholds 11.2 per cent and 12.0 per cent The empirical results showed that economic growth stimulating inflation threshold in Nigeria is 10.5 to 12.5 per cent.

Gokmenoglu et al. (2015) in a paper investigating the relationship between industrial production, GDP, inflation and oil prices. Using the Granger Causality test, he established that there is a relationship between inflation and industrial production. However, the study did not investigate the magnitude of the effect of inflation on industrial production.

2.4.6 The Impact Of GDP Per Capita On Industrial Growth

Several studies have focused on the impact of the mobile telecommunication industry on GDP per capita as opposed to effect of GDP per capita on the telecommunication industries. Even at industry level most research have looked at the stimulating effect of industrial growth on GDP. However, since GDP per capita is a measure of economic growth, it will be used as a substitute.

Haghshenas et al. (2013) examined the relationship between Information Communication and Technology (ICT) and economic growth in Iran. Although, the initial intention was to investigate if investment in ICTs contribute to economic growth, a Granger Causality tests was used to check for the possible of an opposite effect. The results of the test showed that a unidirectional relationship exists with the effect being from economic growth to ICT. The findings were contrary to what Opusunju, et al., (2009) had established in a causality test on various variables including GDP and industrial growth. The Granger Causality test indicated that there is no relationship between GDP and industrial growth in Zambia.

2.5 Critique of existing literature

The existing literature vast and varied. However, it is important to be aware of the limitations and areas for improvement in this body of research.

First, some studies have focused more on the determinants of stock price than on financial performance itself. This is a significant gap in the literature, as a deeper understanding of financial performance is necessary to fully understand the relationship between stock price and financial performance.

Second, although traditional financial measures, such as return on investment (ROI) and earnings, are significantly relevant to market value, there is still debate about the superiority of other financial tools, such as Economic Value Added (EVA). More research is needed to compare and contrast different financial performance measures.

Third, some studies have found that financial performance does not always mediate the effect between financial decisions and stock prices. This suggests that the relationship between these variables is more complex than previously thought.

Fourth, the literature has begun to include non-financial factors in the analysis of financial performance, but these factors need to be further explored and validated.

2.6 Lessons Learnt And Research Gaps Identified

This review has provided important insights into the nature of the relationship between stock market development, and industrial and economic growth. The finance-led hypothesis and the endogenous growth models both predict that the stock market is important in increasing economic efficiency in the allocation of resources and productivity, and hence economic growth.

The review of empirical evidence also revealed that for most studies, stock market development stimulated both industrial production and economic growth. Most importantly, it revealed that this assertion is true across both developed and developing countries. In addition, it was revealed that the conclusion that stock markets stimulate economic growth is not driven by the choice of analytical techniques used. In other words, the assertion is generally true regardless of the estimation methods employed. However, there is hardly any empirical studies that investigate the impact of the stock market on telecommunication industry. There are also seldomly literature on the relationship between the stock market and industrial growth in Zambia. Therefore, this study seeks to fill this knowledge gap in the empirical literature on the subject matter. This is important contribution of the proposed study.

2.7 Chapter Summary

This chapter discussed the importance of theoretical and conceptual frameworks in research.

It has given enough justifications on why their inclusion in research is indispensable because they heighten the quality of a research. Also, it has thoroughly explained the meanings of the two frameworks, their distinctive roles that they play in the research process, their differences, how they are constructed and where they must be presented in a dissertation or thesis research

write-up. Researchers and students must tactfully incorporate theoretical and/or conceptual framework in their research inquires to increase their robustness in all its aspects.

This chapter, therefore, assisted the researcher in trying to understand the relationship between stock market development and mobile telecommunication industry in Zambia.

CHAPTER 3

THEORETICAL AND CONCEPTUAL FRAMEWORK

3.0 Introduction

The primary objective of this chapter is to introduce the theoretical and conceptual frameworks that serve as the foundation of this research investigation. The study's central focus is the correlation between stock price and financial performance, as well as the relationships between stock and non-financial elements. The emphasis here is on the financial performance and how price of a company's stock affects its volatility.

The chapter commences by elucidating the concept of a theoretical framework and its significance in the context of research. It then proceeds to explore the specific conceptual framework that guides the present study and finally, the chapter presents a discussion of the hypotheses to be empirically tested.

3.1 Theoretical Framework

There are several theoretical perspectives that explain the impact of stock market development on sectoral and economic growth (Offum & Ihuoma, 2018). This study reviews two primary theoretical perspectives: the finance-led growth hypothesis and the endogenous growth model. These two models explain how stock exchanges contribute to sectoral and economic expansions.

The finance-led growth hypothesis posits that the development of the financial sector stimulates industrial and economic growth. The stock market serves as a platform for investors to gather information about a firm and mobilize resources for capital accumulation and acquisition.

The Endogenous growth model, similar to the finance-led growth hypothesis, suggests that financial markets stimulate industrial and economic growth by enhancing the quality of investment decisions. The stock market provides information to investors about all its listed firms. Investors use this information to make rational choices. Additionally, the financial market also helps raise funds for innovative investment projects that boost productivity and economic growth.

3.1.1 Finance-Led Growth Hypothesis

The finance-led growth hypothesis claims that the development of the financial sector stimulates industrial and economic growth. The stock market helps to provide a platform for investors to gather information on a firm and mobilize resources for capital accumulation and acquisition. The Endogenous growth model is similar to the finance-led growth hypothesis.

This hypothesis assumes that the development of the overall financial sector, with the stock market as a crucial component, stimulates industrial and economic growth (Stiglitz and Weiss, 1981). According to Levine (1993), this can be achieved through several pathways. Firstly, the stock market helps investors increase their returns by enhancing the availability of information in the economy. Secondly, the stock market plays a vital role in connecting net savers, who have excess financial resources, with clients who have limited resources but potentially economically beneficial projects.

Thirdly, stock markets enable investors to make accurate and optimal decisions about future investment projects. In this way, stock markets are crucial in ensuring an optimal allocation of scarce corporate and common resources, leading to higher economic productivity and growth.

The fourth pathway through which stock markets can potentially stimulate economic growth is the risk diversification route. The stock market ensures risk diversification by offering investors an opportunity to diversify their portfolio of assets. Similarly, stock markets enhance economic growth through greater risk sharing.

3.1.2 Endogenous Growth Model

The Endogenous Growth Model posits that the financial market stimulates industrial and economic growth by enhancing the quality of investment decisions. The stock market, in particular, provides investors with information on all its listed firms. Investors use this information to make rational choices. Additionally, the financial market aids in raising funds for innovative investment projects that boost productivity and, consequently, economic growth.

This theory, developed in the 1990s by Romer (1994), emerged as a response to criticisms of the Neo-Classical growth model. It asserts that policy measures can significantly influence an economy's long-term growth rate. Advocates of endogenous growth argue that enhancements in productivity are closely tied to a faster pace of innovation and increased investments in human capital.

Empirical evidence suggests that stock markets can bolster economic growth by providing a platform for firms to change ownership without disrupting the production process. They also offer a means for agents to diversify their portfolio risk.

Moreover, the presence of a stock market creates opportunities for portfolio investors to invest in firms listed on the exchange. This influx of investment broadens the firm's capital base, making it more resilient and capable of undertaking innovative expenditures and adopting new technologies aimed at enhancing productivity. This aligns with the core tenets of the Endogenous Growth Theory, further underscoring its relevance in contemporary economic discourse.

Traditional growth theories such as the classical and neoclassical growth theories predict that economic growth depends on technological progress (Pagano, 1993). In addition, these theories predict that economic growth is driven by changes in physical capital accumulation. The endogenous growth model, however, brings to the fore the effect of financial sector development on economic growth. According to this model, the financial market stimulates economic growth by improving investment decisions (Levine, 1991).

Unlike the Neo-Classical model, the Endogenous Growth Theory posits that economic growth is driven by factors intrinsic to the production process. These factors could include economies of scale, increasing returns, or technology changes induced by the production process itself, rather than external (exogenous) factors such as population growth.

According to Levine (1991), endogenous growth models suggest various ways through which financial markets such as the stock market can affect economic growth. The first route is through innovation. The financial markets provide funds for innovative investment projects. These innovations can stimulate productivity and hence economic growth.

The second channel is the information channel. The stock market enables easy availability of information on listed companies' managerial and overall performance. If a company is performing poorly, on the basis of poor stock market indicators such as the share price, it is vulnerable to a takeover. This threat gives managers an incentive to improve the company's productivity thereby promoting overall economic growth.

3.2 Conceptual Framework

A conceptual framework is a structure that the researcher believes can best elucidate the natural progression of the phenomenon under study (Camp, 2001). It is intertwined with the concepts, empirical research, and significant theories used in promoting and systemizing the knowledge advocated by the researcher (Peshkin, 1993). It is the researcher's interpretation of how the research problem will be explored. The conceptual framework presents an integrated perspective of a problem under study (Liehr & Smith, 1999). From a statistical viewpoint, the conceptual framework delineates the relationship between the main concepts of a study.

The conceptual framework offers numerous benefits to research. For instance, it aids the researcher in identifying and constructing his/her worldview on the phenomenon to be investigated (Grant & Osanloo, 2014). It is the simplest method through which a researcher presents his/her asserted solutions to the problem he/she has defined (Liehr & Smith, 1999; Akintoye, 2015). It emphasizes the reasons why a research topic is worth studying, the assumptions of a researcher, the scholars he/she agrees with and disagrees with, and how he/she conceptually grounds his/her approach (Evans, 2007). Akintoye (2015) posits that the conceptual framework is predominantly used by researchers when existing theories are not applicable or sufficient in creating a firm structure for the study.

This study narrates the financial impact of stock prices on Airtel Zambia Limited. The study employs five independent variables, which are exchange rate, inflation rate, interest rate, GDP per capita, and AIRTEL share prices. Figure 3-1 is a simplified illustration of the effect of the independent variables on the dependent variable, the revenue of Airtel Zambia, which serves as a proxy for the performance of the telecommunication industry in Zambia.

3.3 Operational Definitions

Table 3-1 Operational Definitions

Variable	Definition
Airtel Zambia Revenue	Refers to amount of money realized from the sale of products. It is the total output sold multiplied by the average price.
Stock Price	Tandelilin (2010:32) describe having common stock as stating ownership in a corporation. According to the Pandji and Piji (2003:58) share price can be divided into three, namely nominal prices, IPO price, and market price.

3.3.1 Revenue Of A Company

The revenue of a company is the expression of the total output sold in monetary terms. In other words, it the product of the total output sold and the price. The revenue is preferred as a measure of performance of company because its capture the productivity of the firm. In a study on a House (1995) postulated that revenue (or sales growth) is preferable better measure of growth of a company or industry than income and asset growth. Among the three, it has a considerable relationship with equity or market value.

3.3.2 Stock Price

A corporation is a company that is a legal entity which is separate from its stockholders. Tandelilin (2010:32) describe having common stock as stating ownership in a corporation. According to the Pandji and Piji (2003:58) share price can be divided into three, namely nominal prices, IPO price, and market price. Having a stock means a person can receive a portion of corporation profit that is paid to the shareholders, which is called dividends. Moreover, when that person sells his stock for more than what he acquired for the stock he is said to have price appreciation. As the company growing, the value of the stock will grow as well. There are several studies that linked factors that could affect capital market and stock prices.

INDEPENDENT VARIABLE

DEPENDENT VARIABLE

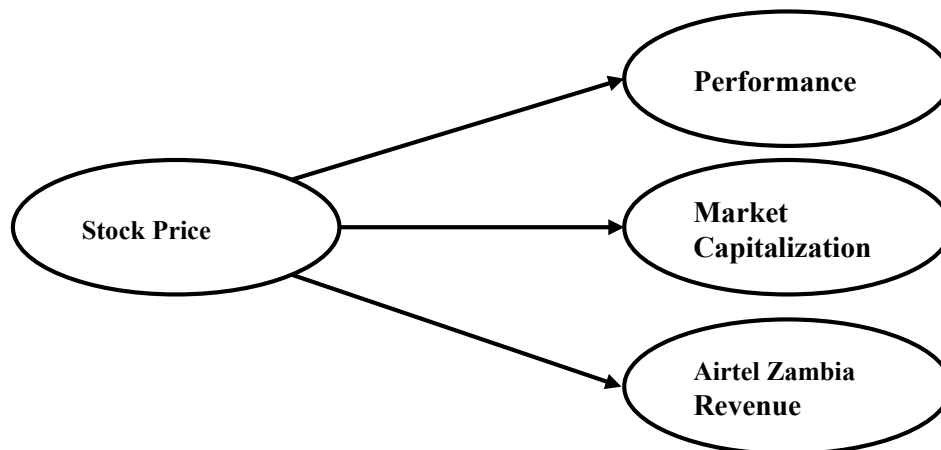


Figure 3-1 Conceptual framework adapted from Oluwatoyin & Gbadebo (2009)

3.4 Chapter Summary

In summary, Chapter Three establishes a theoretical and conceptual foundation for analyzing the correlation between stock prices and financial performance guiding the research on the relationship between stock price and financial performance, with a focus on Airtel Zambia Limited.

The two main theoretical perspectives under review are the Finance-Led Growth Hypothesis and the Endogenous Growth Model. The Finance-Led Growth Hypothesis proposes that the development of the financial sector, particularly the stock market, stimulates economic growth. This growth is facilitated by enhancing information accessibility, resource mobilization, investment decision-making, and risk diversification. On the other hand, the Endogenous Growth Model suggests that financial markets promote the quality of investment and innovation, leading to economic growth. This growth is driven by intrinsic factors such as improvements in productivity and enhanced information. These two perspectives provide a comprehensive understanding of the role of financial markets in economic growth.

The conceptual framework outlines the research structure, illustrating the interrelationships among independent variables (exchange rate, inflation rate, interest rate, GDP per capita, Airtel share prices) and the dependent variable (Airtel Zambia's revenue). This framework facilitates visualization of how these factors influence the company's financial performance.

CHAPTER 4

METHODOLOGY

4.0 Introduction

This chapter explains the research methodology, a key part of any study. It shows the step-by-step approach used to tackle the research problem. The methodology is like a roadmap for the research, guiding the researcher through each step with clear goals (Kothari, 1978).

The main goal of this study is to understand, test, and analyze the performance of Airtel Zambia. This study is based on primary and secondary data, and this chapter will explain the methodology used throughout the study.

The methodology for this study has been designed to be thorough and detailed. It includes the research philosophy and design, the population and sample studied, the methods of data collection, and the techniques for data analysis.

This chapter also talks about possible ethical issues that might come up during the study and how they will be handled. It also discusses the sources of data, the types of data used, and the time period covered by the sample. Definitions or measurements of the variables and the techniques used for estimation are also discussed in this chapter.

4.1 Research Design

The research design is the structure of a research, it suggests the plan of the research (Akhtar, 2016). It conveys information on collection, analysis, interpretation and discussion of the data in research. According to Salkind (2010) among many others research designs are the experimental, correlation, causal comparative and survey research. Only suggested that there are four research designs: descriptive, exploratory, experimental and explanatory (Akhtar, 2016). This study will be common by the two suggestions. It will look at four research designs: descriptive, exploratory, experimental and explanatory (correlational and causal-comparative).

4.1.1 Experimental Research

In experimental research there is an independent variable(s) that forms the baseline model and various variables that are controlled. These studies involve measuring the effect on an observed

dependent variable. This kind of study allows us to prove cause and effect. The control variables can be varied, while the other variables remain the same (Salkind, 2010).

4.1.2 Exploratory Research

Explanatory research is interested in formulating ideas in an unexplored area of interest. There is no hypothesis on the topic and the research explores various literature to formulate the hypothesis. Thus, other scholars do not regard exploratory research as a separate design but as part of the process of the other three research designs.

4.1.3 Descriptive Research

Descriptive research answers the question of “what is going on?”. It provides information on characteristics of various issues and elements. The aim is to portray precise information on a particular studied element. Descriptive research are essential, they add a wide variety of knowledge to various different faculties. Examples of descriptive research include population and housing census, and various surveys conducted by the government. The Data collection techniques in these studies vary from surveys, questions to archival methods that involve the use of secondary data. Descriptive research leads to the question of why that is answered in explanatory research (Akhtar, 2016).

4.1.4 Explanatory Research

Explanatory research answer the “why” question. Explanatory studies usually explore the reasons why something exists the way it does. It is usually concerned with causes. This research can be causal-comparative or correlational. An example of an explanatory research is one that seeks to understand what factors determine the behavior of an economic phenomenon. Explanatory research can either be causal-comparative or correlational. The causal-comparative explanatory design is similar to the correlational design because both aims to find the relationship between the variables. However, the causal-comparative design is also concerned with the direction of the causal effect among the variables (Salkind, 2010).

This study will use an experimental research design. The interest is to measure the effects of a stock exchange on the performance of a firm. Experimental research has been preferred to an explanatory research because it will enable the measurement of the causality, correlation and magnitude of the effect as opposed to only measuring the causality or correlation.

4.2 Research Philosophy

A research philosophy is a collection of beliefs and assumptions that guide research (Saunders, et al., 2009). In other words, a research philosophy is a description of the assumptions that guide every decision during the development of knowledge. According to Zukauskas, et al. (2018) is a process of development of research assumptions, its knowledge and nature. Research philosophies are views on how information should be gathered and formulated. There are the assumptions made in a research process.

Assumptions are usually influenced by perception, someone's view of reality. There are three common assumptions that guide research philosophies, these assumptions are ontology, epistemology and axiology. Ontology assumptions are focused on what is real, it focuses on questions on nature and structure, and there are two or more contrasting views on how questions should be answered (Antwi & Hamza, 2015). Epistemology assumptions concern knowledge and how it can be conveyed to others. Unlike ontology, which seems highly intellectual, epistemology is subjective, and the research uses various pieces of literature (Creswell & Poth, 2020). Axiology are assumptions that refer to the role of values and ethics within research. They involve the use of inductive reason, the researcher concentrates on the pedantry before generalization (Saunders, et al., 2009).

The five research philosophies are positivism, critical realism, interpretivism, postmodernism and pragmatism.

4.2.1 Positivism

Positivism is highly objective; it involves the proving of hypotheses using empirical results. The opposite of positivism is interpretivism, it is subjective and based on value judgement (Ryan, 2018). Positivism is commonly used in scientific research. Its assumption is that it relies on empirically proven scientific methods that produce methods designed to give pure data uninfluenced by human subjectivity or judgement that are generalized into law-like theories. Thus, the ontological assumptions are based on reality and independent from external interference. Epistemological assumptions are determined by noticeable factors. Whilst the axiologically is free from subjectivity (Saunders, et al., 2009). This rationality approach makes positivism philosophy applied to experiments and quantitative research (Ryan, 2018).

4.2.2 Critical Realism

The philosophy of critical realism is different from the naïve direct realism, which perceives what is seen as actual reality. In critical realism, the perceived (empirical) may be different from the structural (real), it contextualizes the empirical (Bergin, 2008). The ontological and epistemological assumptions of this philosophy are tilted towards the social sciences. It blends ontological realism, epistemological relativism (information is dynamic) and axiologically subjectivity. The methods are varied (Miller & Tsang, 2010; Fletcher, 2017). The result of critically realistic research is an historically perspective influenced in-depth analysis (Saunders, et al., 2009).

4.2.3 Postmodernism

Postmodernism does not conform to any theoretical school of thought, they believe that people decide truth (Farhan, 2019). The ontological belief that guides the philosophy is that there is no single reality, thus there are varied perceptions about an issue. The epistemological assumption is that information can be deduced from subjective judgement agreed upon by humans, who are intelligent to do so because there is no absolute truth. Since there has been consensus on what true is, the views of other researchers are marginalized. The lack of objectivity leads to spontaneous studies (Kroeze, 2012).

4.2.4 Pragmatism

Pragmatism reconciles objectivism and subjectivism using concepts where they matter. It combines various elements of the assumption's techniques and various attributes of the other four philosophies (Saunders, et al., 2009). It is the generalized research philosophies used by researchers. The conceptual tools that have been universally accepted (Kaushik & Walsh, 2019). The ontological assumption is that reality is guided by the idea behind the research. Epistemology is that accusation of knowledge is dependent on the contexts, thus truth is based on the knowledge that will lead to success. The axiology is influenced by researchers' doubts and beliefs about everything related to the idea and research.

The study will adopt a pragmatic approach because it relies on the use of principles and proven methods in answering the research question, as well as modification of the convection of knowledge to suit the context and provision of theoretic inclusiveness nuance.

4.3 Research Methodology

According to Salkind, (2010) a research methodology “to how the whole research design is deployed through logical, systematic and consistent research decisions so that it withstands critique as to reaching valid and reliable findings”. There three research methodologies: quantitative method, qualitative method and mixed (pragmatic) method:

4.3.1 Quantitative Method

The research method involves the quantifying of the research variables used in the analysis (Apuke, 2017). According to Adedoyin, (2020) the objectives are measurable and inseparable from variables and hypotheses. Hypotheses are propositions about the causal, effect or causal effect relationships among the variables. The study often involves the analyzing of numeric variables using various statistical packages to solve the research problem. The variables can be generalized. The generalization of the variables allows for the replication of the method in other studies. The research involves the identification of variables according to characteristics of study subjects, usually seeking to determine the existence of cause-and-effect relationship among the variables (Cropley, 2019).

4.3.2 Qualitative Method

A qualitative method is an interpretive and naturalistic approach to research that attempts to understand the specific meaning and behavior of the studied social or economic phenomenon (Palmer & Bolderston, 2006; Ospina, 2004). The method involves the development of abstract concepts, theories seeking to answer the research question. The data collection techniques used range from participation groups, in-depth interviews and focus groups. This allows for interactions with various stakeholders, which enables broadness in gathered information. Unlike quantitative research where the hypotheses are pre-defined in this analysis hypothesis are influenced by the interviews. Qualitative research usually allows for interaction with the various stakeholders or the studies. This research can be used in various descriptive and experimental research (Mohajan, 2018).

4.3.3 Mixed (Pragmatic) Method

The method involves the development of abstract concepts, theories seeking to answer the research question. The data collection techniques used range from participation groups, in-depth interviews and focus groups. This allows for interactions with various stakeholders,

which enables broadness in gathered information. Unlike quantitative research where the hypotheses are pre-defined in this analysis hypothesis are influenced by the interviews. Qualitative research usually allows for interaction with the various stakeholders or the studies. This research can be used in various descriptive and experimental research (Wisdom, 2013).

The study will adopt a quantitative research method. A quantitative approach is appropriate for studies that require the use of large sample size or number of observations. This study will use time series data generated in a natural, non-experimental setting, covering a long period of time. Thus, quantitative analysis techniques will be used to analyze the data. This approach will provide an in-depth understanding of the relationship among the variables. This method has been adapted for this type of research by several researchers (Chiang & Chen, 2017; Offum & Ihuoma, 2018; Oluwatoyin & Gbadebo, 2009; Ikharehon & Erhabor, 2018).

The method has been adapted to measure the impact of enlisting on the securities market on performance of a company. The study intended find empirically objective results to ensure that the effect of the capital market on industry is communicated from an impartial perspective. The method will not be a replication of several other research, it will be modified for this particular study. The quantitative method will use a large sample and will not be influenced by respondents' subjectivity. Furthermore, the researcher's views will not have an effect on the empirical results (Miller & Tsang, 2010; Cropley, 2019; Adedoyin, 2020).

The quantitative method will enable the researcher to investigate the relationship between various (independent) variables and the dependent variables. The study will cover a long time period. An archival data collection technique will use to collect data from various records at LuSE, Bank of Zambia (BoZ), Zambia Statistical Agency (ZamStats) and Airtel Zambia for the variables to be used. Quarterly time series data will be used. The empirical analysis will involve the use of a regression model whose selection will be influenced by the pre-diagnostic tests. The validity of the findings will be checked using the post diagnostic tests.

4.4 Study Area

The study will look at the impact of the Lusaka Securities Exchange on the development of the Telecommunication Sector in Zambia. The focus will be Zambia, Airtel Zambia Limited, whose performance is being used a proxy for telecommunication operates in Zambia.

4.5 Study Population

The research population or population of interest is the target population in a study. It refers to human beings and non-human entities (like time, prices and geographical area) (Majid, 2018). In this study the total population size is the collective data since the establishment of the Lusaka Securities Exchange in 1994 for all the variables. Additional statistics will include information obtained from Airtel Zambia Limited on Airtel Zambia Revenue, market capitalization from the Lusaka Securities Exchange. Interest rate and exchange rate from the Bank of Zambia.

The research study's population is composed of two primary components:

4.5.1 Airtel Zambia Limited

- i. Employees: This encompasses individuals employed across various departments within Airtel Zambia, such as finance, marketing, operations, and management.
- ii. Financial Data: The study will leverage financial data from Airtel Zambia's annual reports, which include revenue, net profit, earnings per share (EPS), return on equity (ROE), and other pertinent financial performance indicators.
- iii. Stock Price Data: The study will gather daily closing stock price data of Airtel Zambia's shares traded on the Lusaka Securities Exchange (LuSE) for analysis.

4.5.2 Lusaka Securities Exchange (LuSE):

- i. Market Participants: This includes individuals and entities engaged in trading activities on the LuSE, such as investors, traders, brokers, and regulatory authorities.
- ii. Market Data: The study will collect historical market data, including the all-shares index, market capitalization, and trading volumes, to provide context for the study and evaluate broader market trends.

The study population is determined by the availability of relevant data sources required to examine the relationship between Airtel Zambia's stock price and its financial performance within the context of the telecommunications industry and the LuSE.

4.6 Study Sample

A sample population is a subset of the total population that is under study. In this research the sample will be 53 observations, covering the period 2012 (when Airtel Zambia Limited was listed on the Lusaka Securities Exchange) to 2021.

4.7 Sampling Technique

A Sampling technique is a method of drawing a sample from a population. Sampling techniques are divided into probability and non-probability.

4.7.1 Probability Sampling Techniques

A probability sampling technique is a method of sampling in which every item in the sample has an equal chance of being selected or include in the sample (Taherdoost, 2016). In other words, the elements in the population are randomly selected. There is no influence or bias in selection. There are various forms of probability sampling techniques that include simple random, systematic, stratified and clustered sampling.

4.7.1.1 Simple Random Sampling

In a simple random sampling technique, all the elements in the sample have an equal chance of being chosen. The sampling method is usually avoided because to capturing various characteristics of the population is too costly and the standard errors are usually too high.

(Tongco, 2007).

4.7.1.2 Systematic Sampling

In systematic sampling the first element in the sample is randomly selected, then every n th element in the sample after the random start. This technique allows the research to follow a pattern after the random sample (Taherdoost, 2016).

4.7.1.3 Stratified Random Sampling

To ensure greater representation of each group. A population may be divided into various stratum according to a particular characteristic. Then random samples from be drawn from each stratum or subgroup. The complication with stratified random sampling is that the dividing the population into subgroups may be too difficult and expensive (Kabir, 2016).

4.7.1.4 Clustered Random Sampling

Clustered sampling involves the division of the population into clustered based on a natural occurring characteristic and not a characteristic of interest. The sample is then randomly drawn from all the clustered. This technique is preferred for samples drawn from a large geographical area as the population may be clustered according to provinces (Kabir, 2016).

4.7.2 Non-Probability Sampling Techniques

A probability sampling technique is a method in which there is no way of estimating the likelihood of an element being sampled from a population. A sample does not have to be representative or random but a logically thought of composition of elements. There are several types of non-probability sampling techniques, which include quota sampling, snowball sampling, convenience and purposive or judgmental sampling. (Tongco, 2007).

4.7.2.1 Quota Sampling

Quota sampling technique is method in which a sample is chosen based on prearranged characteristics to ensure that all the characteristics of the population are included.

4.7.2.2 Snowball Sampling

Snowball sampling is a non-probability sampling technique that identifies an individual in a population meeting the required characteristics who introduces them to other persons that meet the characteristics (Kabir, 2016).

4.7.2.3 Convenience Sampling

In convenience sampling participants are chosen because they are easy to find and readily available. This usually preferred because it is cheap to conduct (Kabir, 2016).

4.7.2.4 Purposive or Judgmental Sampling

Purposive or judgmental sampling is a non-probability sampling technique in which participants are chosen on purpose because they meet a certain criterion of information.

The study will use a triangulation of non-probability sampling techniques. The method has been chosen because the study will use secondary data ranging from a specified period of time. The study period was predetermined. The Lusaka Securities Exchange has been in existence since 1994 and Airtel Zambia Limited has also only been existed since 1997. In addition, the variables were selected based on information from similar studies in other countries (Taherdoost, 2016).

The target population for the study includes the Management employees at Airtel Zambia Limited. A purposive or non-probability sampling technique was implemented to identify the competent and highly experienced key respondents with deep understanding and knowledge on the subject being studies.

The sample size was calculated using the following formula developed by Cochran (1977) for infinite population.

$$\text{Equation 1: } n = \frac{m}{1} + \left[\frac{m-1}{N} \right]$$

Where n, m and N represent sample size of limited, unlimited and available population

$$\text{Equation 2: } m = Z_2 \times P \times \frac{[1-P]}{C_2}$$

Where Z represents Z Value (e.g. 1.96 for 95% confidence interval), P represents the value of the population being estimated (0.05), C₂ represents the sampling error.

$$m = 1.962 \times 00.005 \times \frac{1 - 0.005}{0.052} = 385$$

$$n = \frac{385}{1} + \left(\frac{385 - 1}{7530} \right) = 366.31918121$$

Therefore $n = 366$

Hence, the required sample size was 366 respondents. Nevertheless, the study had to reduce the sample size from 366 to a suitable sample size of 54 because of time limitations of the research period and due to the fact that it was a case study of one telecommunication company listed on the stock exchange. The sample size was 54 due to the limited number of people available for the study.

4.8 Research Instruments

The research instrument is a tool used for collecting, measuring and analyzing data. The directions when using a questionnaire are that it should be not intrusive (Kabir, 2016). Research instrument may be divided into observation and structured questionnaires.

4.8.1 Interviews

An interview is an interaction in which a person (interviewer) obtains information from another person(s) (interviewee) on a specified topic. The interviewee responds to question posed by the interviewer. Interviews are based on the arrangement, formulation and organization of the questions. An interview in which the questions are formal, predetermined and based on a guided questionnaire is known as a structured interview. The interview follows a predetermined

pattern in asking questions. While an interview in which the interviewer has the liberate to modify the questions and the pattern in which there are asked is known as an unstructured interview. A focus interview is meant to obtain the subjective views of the respondent. When there is more than one person in a focus interview it is known as a focus group (Annum, 2017).

4.8.2 Questionnaires

A questionnaire is a list of question that is compiled by a researcher for a particular respondent(s) (Roopa & Satya, 2012). Questionnaires are used to collect primary data. They are mostly used for large sample sizes. There are two types of questionnaires based on their structured, semi-structured and unstructured question. Structured questionnaires can be administered by a member of a research team or the respondent. Structured questionnaires have a controlled method format of answering. In most cases the respondents may be required to respondent “yes” or “no” to a question. Unstructured questionnaires allow the respondent to freely answer a question, there is no restriction or optional answers. This captures the respondents’ subjective views. A combination of structured and unstructured questionnaires is the semi-structured questionnaire.

4.8.3 Observation

The observation of a particular elements of research is also research data collection technique. The elements or materials observed may include and are not restricted to photographs, videotapes, tape recordings, art objects, computer software and films. It is advisable that the researcher should record the particular element of interest. There are three types of research observations: participant, non-participant and reading of documents. Participant observation requires the research to live among the research subjects while observing them. The participant observer conceals is identity to have unreserved and unrestricted interactions with the subjects of the study. When the participant does not live among member of the subject under study, this is known as a non-participant observation (Annum, 2017). Reading of documents is broad research in which the research relies on secondary resources. For this study to be successful there has to be unrestricted access to the research materials or resources.

The research will rely on archival records of the share prices of Airtel Zambia Limited and the financial reports of Airtel Zambia. Additional information will be from Airtel financial reports and projections. Information on the Exchange Rate, Consumer Price Index, Interest rate and GDP per capita will be from the Bank of Zambia website. The data collection technique will a Microsoft Excel timeseries dataset created using the data for the various variables.

Since the study will use a quantitative approach relying on data from archival records from Airtel Zambia Limited, Zambia Statistical Agency (ZSA) and the Bank of Zambia following research instrument will be used to collect data.

Table 4-1 Research Table

Sample elements	Population (Reasonable Estimate)	Sample size (45% - 60%)
Telecommunication Companies on LUSE	1	1
Number of Years Since Listed	10	10
Telecommunication Companies in Zambia	3	1
Airtel Zambia Limited Management & Employees	70	54
Total	84	66

4.9 Data Collection Procedure

This study used both secondary and primary data. Secondary data is data collected from already published sources. Secondary data is essential for studies that capture past trend and developments. The collection of secondary data is less time consuming as compared to primary data, less time consuming and the data quality has been predetermined before the research (Kabir, 2016). However, there is always need to verify the reliability of the data, data cannot be translocated (data for one locality cannot be used in another location) and authenticity issues. The data sources included governmental statistics, NGO reports, newspaper or website articles, hospital records, research studies and others (Simister, 2017).

For this study, the secondary data used will be taken from several sources. The total revenue will be from the financial reports of the company. Market capitalization data from LuSE. The

GDP per capita data will be from the ZamStats. Then the exchange rate and interest rate data will be obtained from the BoZ. The data obtained from the source is reliable and authentic. The institutions from which the data will be collected are the actual custodians of the data. This data is applicable to study because it is suitable for the analysis, it is for the specific company and the context in which it operates. The time allocated for data collection is 30 days, the equivalent of a month. The estimation of the period includes the procedural works of obtaining data from the necessary organizations.

The primary data on the other is data collected by the researcher from respondents. In this case, it was collected from Airtel Zambia limited employees. A number of structured questions were electronically sent to respondents and these questions are intended to meet the research objectives.

4.10 Research Data Analysis

The research analyses the methods by which the data collected is empirically analyzed using variables techniques and statistical formulations. This study will use Statistical Package for Social Sciences (SPSS) and E-views to analysis the data but prior to the analysis of the data there is need for an understanding empirical model underpinning the study.

4.10.1 Empirical Model

The impact of stock market activity on revenue performance of the telecommunication companies was analysed using the bivariate regression model specified below:

$$SP = f(TR)$$

Where SP is the Stock Price¹ and TR is Airtel Zambia's net revenue.

The specified linear regression equation for the model is presented below: The modification was influenced by study in Nigeria.

$$\text{LogTR} = \beta_0 + \beta_1\text{SR} + \mu$$

¹ Stock price used is closing price, that is final price of buying and selling on stock exchange per 31st December 2012 to 2021.

SP is Airtel Zambia's Stock Price on LuSe TR revenue of Airtel Zambia Limited μ is the random error term; β_0 is the intercept term; and β_1 , is the coefficients measuring the effect stock price on Airtel Zambia's revenue.

4.10.2 Estimation Technique

This study used a bivariate linear regression that was run in SPSS. The regression coefficient from this technique helped in determining how the stock prices are predicting Airtel's revenue.

4.10.3 Post-Diagnostic Tests and Data Validation

A number of diagnostic tests will be carried out to check for various properties of the data.

4.10.3.1 Autocorrelation

Autocorrelation may occur due to various reasons and one such cause is due to inertia or sluggishness. Time series such as price indices and gross national product may experience business cycles where there are fluctuations in the economic activities causing interdependence.

This phenomenon, autocorrelation, may also occur due to error in the model specification either by being stated in the wrong functional form or some important variables being omitted in the model. Data manipulation may also cause autocorrelation and here the Durbin Watson test is used to check for autocorrelation. (Gujarati, 1995). This test seeks to prove that the error term is normally distributed and is based on the assumption that it is normally distributed. The research made use of the Durbin-Watson statistic to check for autocorrelation using SPSS.

4.10.3.2 Data Validation

Taherdoost (2016) cites Ghauri & Gronhaug (2005), that explains that validity clarifies by what means and fine the collected data covers the definite area of examination, thus, enabling the measuring of that envisioned to be measured (Taherdoost, 2016). This was attained by accomplishing the triangulation technique through the usage of three (3) different methods and

these being literature review, secondary data analysis, and primary data collection. According to Flores (2016), data validation refers to the process of ensuring the accuracy and quality of data and it is key in ensuring reliability of research findings. For this research, a number of additional data validating techniques were employed including consistency checks, peer reviews and member checking. These techniques helped in ensuring that the information gathered in this research is reliable, transferrable and could influence the organization's policy.

4.10.3.3 Construct validity

Construct Validity is apprehensive with the degree to which a research instrument (or tool) measures the envisioned construct (Mackenzie et al., 2011; Carmines & Zeller, 1979, cited in Thatcher, 2010, p.147). They three types of proof that can be used to validate a research instrument has construct validity are:

- i. Homogeneity—this in tells that the instrument processes one construct (Shuttleworth, 2015, 68).
- ii. Convergence—this happens when the instrument processes ideas alike to that of other instruments. Though, if there are no alike instruments existing, this will not be conceivable to do (Carlson and Herman, 2012).
- iii. Theory evidence—this is obvious when behavior is comparable to theoretical suggestions of the construct measured in the instrument (Korb, 2012). This study made sure that the instruments measured the constructs they were intended to measure.

4.10.3.4 Content Validity

The content validity is the degree to which a research instrument precisely measures all facets of a construct. It can also be said to be, the instrument covers the whole domain correlated to the variable, or construct it was planned to measure? It's also called Face validity. The subgroup of content validity is face validity, where specialists are asked their outlook about whether an instrument measures the concept envisioned (Hardin et al, 2011; Thatcher, 2010, p.125, 141). This study made sure that all the instruments measured the content they were supposed to measure.

4.10.3.5 Criterion Validity

Nunnally (1978) referred to in Thatcher (2010, p.125, 145), criterion validity is the degree to which a research instrument is connected to other instruments that measure the similar variables. Criterion validity is measured in three ways:

- i. Convergent validity—illustrates how an instrument is extremely interrelated with instruments measuring alike variables (Cadon & Lee, 2013; Bagozz, 2011).
- ii. Divergent validity—demonstrates that an instrument is below par interrelated to instruments that measure dissimilar variables (Diamantopoulos, 2011; Edwards, 2011).
- iii. Predictive validity—this is the instrument must have high associations with future criterions (Korb, 2012). This study made sure that the marks projected a criterion measure and results interrelated with other results by planning and using precise tools for data collection, analysis and interpretation.

4.11 Ethical Consideration

Being both qualitative and quantitative in nature, the study sort ethical clearance before data was collected. The study ensured that all ethical considerations were put in place. Ethical issues in the data collection, analysis and reporting of the study findings: personal information in the questionnaire were limited to general information, the anonymity and confidentiality of the participants were preserved, privacy and confidentiality of the questionnaires was managed carefully, any form of deception or exaggeration about the aims of this study was avoided and integrity upheld, and lastly any type of misleading information, as well as representation of primary data findings in a biased way was strictly avoided.

4.11.1 Plagiarism

Plagiarism is when a researcher represents another authors study as their own through language and expressions. The study took into consideration all work that was done by other authors. This was carried out by citing and references attached to the study for future use.

4.11.2 Informed Consent

Informed consent is the obligation of obtaining permission from a respondent to take part in the research. It is an essential safeguard of any research. The researcher adhered to getting

consent from every individual who took part in the research and information given was only used for academic purposes.

4.11.3 Transparency

Transparency in research refers to the common belief that “researchers have an ethical responsibility to assist the assessment of their evidence-based knowledge claim” by making their evidence, research design and analysis public (Impia & Elman, 2014). This study made sure the analysis, evidence and research design public, which this aspect will deal with the work done to be transparent.

4.11.4 Coercion

Coercion demoralizes the voluntariness of possible contributor’s decision whether to enroll in the research and consequently it’s regularly varying with valid consent. To avoid deception, the study did not use coercion on the participants but sort consent.

4.11.5 Confidentiality

Though respondents may possibly avail restricted access to themselves, they may not surrender all the control over any information acquired. Information collected from the respondents’ consent from their records was not disclosed to any third person without the respondents’ approval. This continued on to all the conversations as well. This was shown by how the respondents appreciated and were happy with the way it was conducted.

4.11.6 Privacy

This takes place when respondents are enrolled in a research study, they are able to have access to themselves, but access is unlimited. Admission is a wide term and normally includes viewing, touch or having information about them. Consequently, to guarantee privacy of respondents, unanimity was sternly followed. Which was by warranting that privacy was followed and the respondents were made at ease and open to dialogue.

4.12 Chapter summary

This chapter provides a comprehensive discussion of the research instruments, data collection procedures, analytical methods, validity measures, and ethical considerations relevant to the study. The methodologies and philosophies are justified based on their relevance and effectiveness in addressing the research objectives.

The instruments employed for data collection, measurement, and analysis include observation, structured questionnaires, and interviews. For this research, structured questionnaires were selected for their ability to facilitate consistent data collection from a substantial number of respondents, enabling the quantitative analysis necessary to assess the impact of stock market activity on Airtel Zambia's revenue. Structured interviews were implemented to obtain in-depth insights from key employees of Airtel Zambia.

The combination of secondary and primary data offers a comprehensive view of the factors influencing Airtel Zambia's revenue. Secondary data provides historical context and trends, while primary data offers current, firsthand insights from employees. The data collection methodologies were chosen for their efficiency and relevance to the research inquiries.

The bivariate regression model was selected to quantify the connection between stock prices and revenue. This model facilitates the precise measurement of the impact of stock market oscillations on Airtel's financial performance. SPSS and E-views were chosen for their robust statistical capabilities.

Construct validity was ensured through the design of questionnaires that precisely measure the constructs pertinent to Airtel Zambia's revenue performance. Content validity was verified via expert reviews, and criterion validity was established by correlating the instrument results with other established measures.

Ethical considerations were adhered to in order to uphold the integrity and credibility of the research. Informed consent was obtained from all participants, with assurances of anonymity and confidentiality. Transparency was maintained by making the research design and data collection processes publicly accessible.

In summary, this chapter provides a robust foundation for the study and enhances transparency and reliability. It showcases a clear alignment between the research design and the objectives, ensuring a thorough and credible analysis of the impact of stock market activity on Airtel Zambia's revenue performance.

CHAPTER 5

DATA ANALYSIS AND PRESENTATION OF RESULTS

5.0 Introduction

This chapter presents the findings given the research questions set at the beginning of the study. It will reveal the thematically presentation of the findings of the study. It will commence by presenting the descriptive statistics for the two variables and then proceed to give the summary.

5.1 Descriptive Statistics and Order of Variables

Table 5-1 below shows the descriptive statistics of the data set. It shows the mean for Airtel revenue as 14.6 while that of Stock Price is 31.4. The standard deviation on the other hand is 0.246 and 4.96 for Airtel's revenue and stock price respectively.

Table 5-1. Descriptive Statistics Source: Author's Computation

	Mean	Std. Deviation	N
Airtel Revenue	14.5547	.24586	10
Stock Price	31.3470	4.95599	10

5.1.1 Order of Variables

Table 5-2 below shows the order in which variables were inputted in SPSS. Stock price was inputted as the explanatory variable while Airtel Revenue was inputted as the dependent variable.

Table 5-2 Order of variable analysed. Source: Authour's Computation

Model Variables

Model	Variables	Variables Removed	Method
1	Stock_Price ^a	-.	Linear Regression
2	Airtel_Revenue	-	Linear Regression

a. All requested variables entered.

b. Dependent Variable: Airtel_Revenue

5.2 Stationarity Test

A unit root test for stationarity in the data is used and this was computed using E-views 10 Enterprise. According to Ndhlovu (2013), stationarity in time series entails that the mean and variance of the data are not dependent of time, on the condition that a series under study has a mean and variance that is not constant overtime. If a series is not stationary, it could be transformed to stationary by differencing. This data is then said to have an integration of order k, denoted I(k) where k is the number of times the series has been differenced. On the other hand, a series that does not need to be differenced is said to integrated of order 0, donated I(0).

5.2.1 Augmented Dicky Fuller Test

The most commonly used test for stationarity in literature is the Augmented Dickey-Fuller (ADF) test. The null hypothesis for the ADF test states that a variable has a unit root. The main variables of the research were subjected to unit root tests at level, first difference and second difference in order to test for stationarity. A. ADF Test AT Level:

Table 5-3 below shows the ADF test results for Airtel revenue at level. According to the results, the data is non-stationary, the p-value is 0.9839 which is above the 0.05 significance. The study therefore fails to reject the null hypothesis of the ADT test.

Table 5-3 ADF Test At Level

Null Hypothesis: AIRTEL_REVENUE has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			0.767099	0.9839
Test critical values:	1% level		-4.582648	
	5% level		-3.320969	
	10% level		-2.801384	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AIRTEL_REVENUE (-1)	0.307361	0.400680	0.767099	0.4777
D(AIRTEL_REVENUE (-1))	1.018618	0.756598	1.346313	0.2360
C	-511772.5	775682.0	-0.659771	0.5386
R-squared	0.518642	Mean dependent var	245388.0	
Adjusted R-squared	0.326099	S.D. dependent var	337991.2	
S.E. of regression	277461.9	Akaike info criterion	28.18475	
Sum squared resid	3.85E+11	Schwarz criterion	28.21454	
Log likelihood	-109.7390	Hannan-Quinn criter.	27.98383	
F-statistic	2.693643	Durbin-Watson stat	1.102100	
Prob(F-statistic)	0.160757			

B. At First Difference

Table 5-4 below shows the ADF test results for Airtel revenue at level. According to the results, the data is non-stationary, the p-value is 0.5874 which is above the 0.05 significance. The study therefore fails to reject the null hypothesis of the ADT test.

Table 5-4 ADF Test for Revenue at First Difference

Null Hypothesis: D(AIRTEL_REVENUE) has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic - based on SIC, maxlag=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-1.248210	0.5874
Test critical values:	1% level		-4.803492	
	5% level		-3.403313	
	10% level		-2.841819	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (AIRTEL_REVENUE (-1))	-1.146862	0.918805	-1.248210	0.2800

D (AIRTEL_REVENUE (-1),2)	1.530320	0.786435	1.945895	0.1235
C	205425.0	129639.2	1.584589	0.1882
R-squared	0.506571	Mean dependent var	136174.9	
Adjusted R-squared	0.259856	S.D. dependent var	270959.6	
S.E. of regression	233110.9	Akaike info criterion	27.85394	
Sum squared resid	2.17E+11	Schwarz criterion	27.83076	
Log likelihood	-94.48880	Hannan-Quinn criter.	27.56743	
F-statistic	2.053265	Durbin-Watson stat	2.074002	
Prob(F-statistic)	0.243473			

C. At Second Difference

Table 5-5 below shows the ADF test results for Airtel revenue at level. According to the results, the data is non-stationary, the p-value is 0.8218 which is above the 0.05 significance. The study therefore fails to reject the null hypothesis of the ADT test.

Table 5-5 ADF Test for Revenue at Second Difference

Null Hypothesis: D(AIRTEL_REVENUE,2) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-0.549187	0.8218
Test critical values:	1% level		-4.803492	
	5% level		-3.403313	
	10% level		-2.841819	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(AIRTEL_REVENUE (-1),2)	-0.266165	0.484653	-0.549187	0.6065
C	91887.52	97390.24	0.943498	0.3887
R-squared	0.056890	Mean dependent var	75824.29	
Adjusted R-squared	-0.131732	S.D. dependent var	231028.8	
S.E. of regression	245775.2	Akaike info criterion	27.89718	
Sum squared resid	3.02E+11	Schwarz criterion	27.88172	
Log likelihood	-95.64012	Hannan-Quinn criter.	27.70617	
F-statistic	0.301607	Durbin-Watson stat	1.479032	
Prob(F-statistic)	0.606502			

D. Logging the Variable

Seeing that the data set was not stationary even after second difference, the next data transformation techniques applied was to log the data. This helped to not only make the data stationary but also helped in ensuring that the units regressed from the data variable are both in ratios.

Table 5-6 below shows the ADF test results for the logged Airtel revenue variable at level. According to the results, the data is stationary as the p-value is 0.189 is below the 0.05 level of significance.

Table 5-6 ADF Test After Logging the Variable

Null Hypothesis: LAIRTEL has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 1 (Automatic - based on SIC, maxlag=1)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-6.453718	0.0189
Test critical values:	1% level		-5.835186	
	5% level		-4.246503	
	10% level		-3.590496	
Included observations: 8 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LAIRTEL(-1)	-1.775284	0.514021	-6.453718	0.0260
D(LAIRTEL(-1))	1.611999	0.399626	4.033774	0.0157

C	25.13227	7.289643	3.447668	0.0261
@TREND("2012")	0.117857	0.030174	3.905920	0.0175
R-squared	0.857092	Mean dependent var		0.099276
Adjusted R-squared	0.749911	S.D. dependent var		0.116339
S.E. of regression	0.058180	Akaike info criterion		-2.543699
Sum squared resid	0.013540	Schwarz criterion		-2.503978
Log likelihood	14.17480	Hannan-Quinn criter.		-2.811599
F-statistic	7.996673	Durbin-Watson stat		2.707194
Prob(F-statistic)	0.036417			

E. Stock Price

The ADF test was equally computed for the stock price variable. Table 5-7 below shows the test results for the Stock price variable at level. According to the results, the data is stationary as the p-value is 0.0011 is below the 0.05 level of significance.

Table 5-7 ADF Test for Stock Price

Null Hypothesis: D(STOCK_PRICE) has a unit root	
Exogenous: Constant	
Lag Length: 1 (Automatic - based on SIC, maxlag=1)	
	t-Statistic Prob.*

Augmented Dickey-Fuller test statistic		5.746497	0.0011	
Test critical values:	1% level	-4.803492		
	5% level	-3.403313		
	10% level	-2.841819		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(STOCK_PRICE(-1))	0.885783	1.186587	5.746497	0.4969
D(STOCK_PRICE(-1),2)	-1.234208	1.005031	-1.228030	0.2868
C	-1.707725	1.680510	-1.016195	0.3670
R-squared	0.273975	Mean dependent var		-1.712857
Adjusted R-squared	-0.089037	S.D. dependent var		4.096628
S.E. of regression	4.275115	Akaike info criterion		6.041026
Sum squared resid	73.10643	Schwarz criterion		6.017845
Log likelihood	-18.14359	Hannan-Quinn criter.		5.754509
F-statistic	0.754727	Durbin-Watson stat		2.121228
Prob(F-statistic)	0.527112			

5.3 Linear Regression Model Summary Results

A bivariate linear regression was computed using SPSS software. The purpose was to achieve the objectives below.

Specific Objective 1: To analyse the effect of Airtel Zambia’s stock price on the annual net revenue of Airtel Zambia.

Table 5-8 presents a summary of the linear regression results. According to the results below, the results are statistically significant with a probability value of 0.6 percent which is less than the 5.0 percent mark. The F-statistic is 14.007 whereas the Beta Coefficient for stock price is -4.0 while the standardized Beta is -79.8 percent.

Table 5-8 Linear Regression Model Summary: Source: Author’s Compilation

Hypothesis	Regression Weighs	SP Beta Coefficient	Standardized Beta	R2	F	pvalue	Hypothesis Supported
i	SP→TR	-0.04	-0.798	0.636	14.007	0.006	NO

a. Predictors: (Constant), Stock Price

b. Dependent Variable: Airtel Revenue

Specific Objective 2: To determine management’s level of knowledge of the stock exchange Market and how the knowledge is being applied to influence revenue performance.

5.4 Correlation Results

Table 5-9 below shows the Pearson Correlation for the dependent and independent variables. According to the results, the correlation coefficient is -79.80% and this is significant at 5.0 percent as the 2 tailed significance is 0.006 percent.

Table 5-9 Pearson Correlation between Stock Price and Total revenue

Correlations

		Airtel Revenue	Stock Price
Pearson Correlation	Airtel Revenue	1.000	-.798
	Stock Price	-.798	1.000
Sig. (1-tailed)	Airtel Revenue	.	.003
	Stock Price	.003	.
N	Airtel Revenue	10	10
	Stock Price	10	10

5.5 Autocorrelation Results

Table 5-10 below shows the linear regression output with the Durbin Watson Statistic. According to the results, the Durbin-Watson statistic is at 2.054 which is within the 1.7 - 2.0 allowable range for the no autocorrelation in the regression implying that the regression is not spurious and the results are valid or can be relied upon.

Table 5-10 Linear Regression showing the Durbin-Watson Statistic

Hypothesis	Regression Weights	SP Beta Coefficient	Standardized Beta	R2	F	pvalue	Durbin-Watson
i	SP→TR	-0.04	-0.798	0.636	14.007	0.006	2.054

5.6 Primary Data Results

5.6.1 Gender of Respondents

The study sought to establish the gender spread of respondents to the questionnaire circulated in the organization and the results are as shown below:

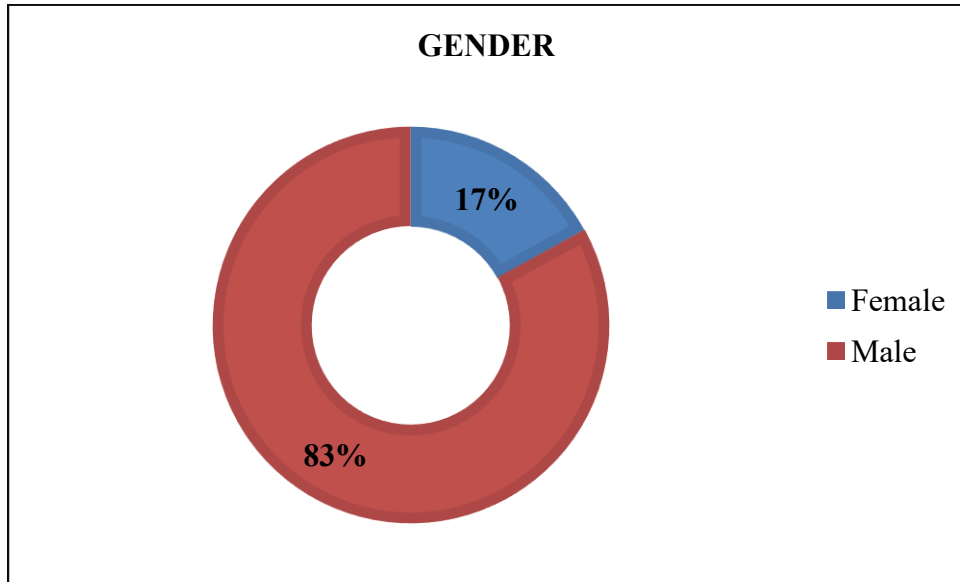


Figure 5-1 Gender composition of respondents

From Figure 3-1, 53 employees of Airtel participated in the study, of which N=44(83%) were males and only N=9 (17%) were females.

Thus, there was a significant gender disparity amongst the respondents however this does not affect or influence the findings of the study.

5.6.2 Age Composition of Respondents

Age composition of respondents was sought for employees that were participating in the study. A majority of N=32(60.4%) of the respondents were between the ages of 31 – 40 years, followed by those between 26 - 30 years N=11(20.8%), while those in the age group of 41 – 50 years were N=7(13.2%). Only N=3(5.7%) of respondents were 50 years or above and were few as shown in Figure 5-2 below.

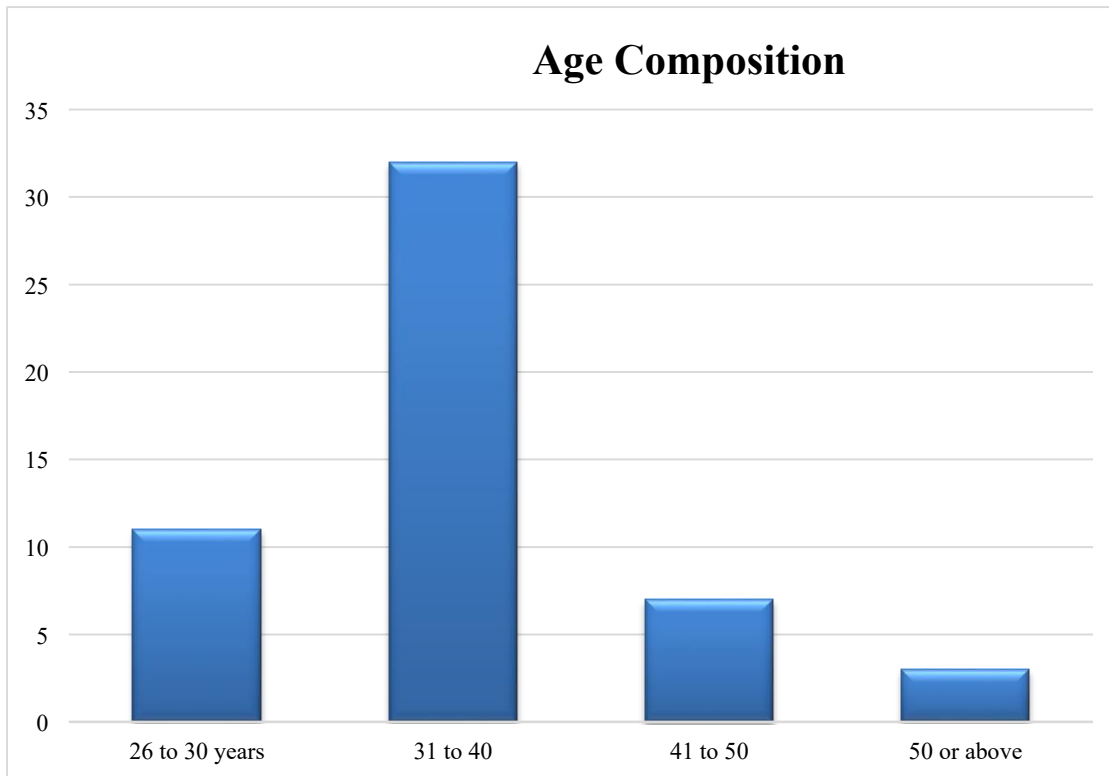


Figure 5-2 Age composition of respondents

5.6.3 Level of Education

The study further sought to establish the education level of the respondents. The responses to this question are depicted in Table 5-11. A majority of N=23 (43.4%) of the respondents reiterated that they had acquired University education, followed by N=19 (35%) who attained college. Only N=11 (20.8 %) of respondents had post-graduate education. This implied that the respondents had attained higher education.

Table 5-11 Educational level of the respondent

Level	Frequency	Percent	Cumulative percent
College	19	35.8	35.8
Postgraduate	11	20.8	56.6
University	23	43.4	100
Total	53	100.0	

5.6.4 Departmental Distribution of Respondents

The study sought to establish the occupation of the participants so as to ensure there is mix of decision makers and other relevant employees. This is because revenue discourse may fully be appreciated by management staff in the organization. The majority of 54.7 % (29/53) of the respondents indicated that they were managers, 15.1% (8/53) of the respondents indicated that they were in sales while 9.4% (5/53) said to be in finance. 5.6% (3/53) indicated to be from operations while Only 1.8(1/53) of the respondents indicated to be from human resources.

What is your position in the organization?

Table 5-12 Distribution of respondents based on position

Position Name	Frequency	Percent	Valid Percent	Cumulative Percent
Accountant	5	9.4	9.4	9.4
Operations Officer	3	5.6	5.7	15.1
Manager	29	54.7	54.7	69.8
Sales Representative	8	15.1	15.1	84.8
HR Admin	1	1.8	1.9	86.9
Customer service	3	5.6	5.7	92.5
Other	3	5.6	5.7	98.2
Total	53	100.0	100.0	100

5.7 Presentation of Thematic Results

5.7.1 Management's Stock Exchange Knowledge

To understand management's awareness of the stock exchange and effect on revenue and how they apply knowledge while handling day to day business. Table 13 shows the distribution of the sample according to knowledge gained including the current position.

Table 5-13 shows that more than half (62%) of respondents are well trained and are knowledgeable about stock exchange compared but do not work towards influencing the stock price at the stock exchange or how the stock price affects revenue compared (30%) who indicated to be trained and that their work impacts the stock price and revenue performance. While (8%) of respondents are not trained yet heard have an idea on LuSe, only (0%) indicated not having any idea with regards stock exchange and its effect on revenue. Further, Managers responded to have received training in related fields but do not practice monitoring of the stock movement in view of impacting revenue and where the majority (N=21/29). Only (N=8) of the Managers were trained and actively monitor the stock exchange movement.

Table 5-13 Perceptions and Knowledge level

Position	No idea at all	Not trained but heard about it	Trained but not practice	Well trained and practice	Total
Accountant	0	0	3	4	7
HR Admin	0	0	1	0	1
Manager	0	0	21	8	29
Other	0	4	2	0	6
Sales Representative	0	0	7	3	10
Total	0	4	33	16	53

5.7.2 Brand Management in Relation to Stock Price

Respondents were further asked to indicate whether there is a staff or team tasked to manage brand perception with a view of influencing stock performance and revenue. Research findings highlighted that a majority of 43/53 indicated having a dedicated team to manage the brand compared to 1/53 of the responded to not having a dedicated team while only 1 responded that there is no team. Thus, it can be concluded that the there is a staff or team in place to look at the brand and influence positive perception as shown in the Table 5-14 below.

Table 5-14 Responses to question on dedicated staff/team to manage the brand and influence stock prices & revenue.

Is there a dedicated staff that manages brand performance? Cross tabulation

	Is there a dedicated staff that manages brand performance?			Total
	I don't know	No	Yes	
	0	0	0	0
No	9	1	21	31
Yes	0	0	22	22
Total	9	1	43	53

5.7.3 Relationship of Stock Price and Revenue According to Employees

Table 5-15 below shows results from the respondents who answered yes or no on whether they believe there exists a relationship between stock price and revenue performance. According to the results, 45/53 responded Yes while 3/53 responded No and the remaining 5/53 were not

sure if there's an effect or not. From the results, it can be concluded that Airtel Employees generally believe there exists a relationship between stock price and revenue performance.

Table 5-15 Responses to Question on Relationship Between Stock Price and Revenue Performance

Do you think there is a relationship between stock price and revenue for Airtel Zambia Limited?
Cross tabulation

	Do you think there is a relationship between stock price and revenue for Airtel Zambia Limited?			Total
	I don't know	No	Yes	
	0	0	0	0
No	5	3	0	8
Yes	0	0	45	45
Total	5	3	45	53

5.7.4 Extent of Effect of Stock Price on Revenue Performance

To ascertain the extent to which respondents think stock prices have impacted Airtel Zambia's revenue risk events that lead to delays in the project road construction, respondents were asked to indicate to what extent projects have deviated from the project plan. Results from the study showed differences in perception on the extent of effect of stock price on revenue performance. 94.3 % responses from the study indicate that the effect is less than 30%, followed by 5.7% who answered that there's a 21-50%, then 26.4% answered 31-50% deviation and only lastly 3.8% responded with 81-100% deviated from the project plan.

Table 5-16 Views on effect of stock price on revenue performance

To what extent do you think Stock price has an effect on revenues performance on Airtel?

	Frequency	Percent	Valid Percent	Cumulative Percent
21 - 30 %	3	5.7	5.7	5.7
31- 80 %	0	0	0	5.7
81 - 100 %	0	0	0	5.7
less than 20%	50	94.3	94.3	100.0
Total	53	100.0	100.0	

5.7.5 Chi Square Test Results on Perception

To examine the perception of employee on the effect of stock exchange price on revenue performance of Airtel Zambia, current position, the level knowledge and practice were used as predictive factors, and the Chi-square analysis was performed as shown above in Table 5-17. The chi-square value (.004) is less than the specified value (0.05), and it shows that there is a significant relationship between how employees perceive the effect of stock price on Airtel’s revenue performance and the actual effect of the stock exchange.

Table 5-17 Chi-Square Tests Result

				Mont : Carlo Sig. (2-sided)		
				Sig.	95% Confidence Interval	
	Value	Df	Asymp. Sig. (2-sided)	Sig.	Lower Bound	Upper Bound
Pearson Chi-Square	30.199a	12	0.003	.004b	0.003	0.006
N of Valid Cases	53					

5.7.6 Spread of level of Skill in driving Revenue Performance

Table 5-18 below shows the distribution of level of skill in driving revenue performance of the respondents. According to the results, 56% of the respondent stated that they are experts, 28% stated that they are skills whereas 15% and 0.18% stated they are beginners and not skilled respectively. Managers were the most experts as the accounted for 63% of all respondents that selected 'expert'.

Table 5-18 Level of Knowledge and Perception

	How skilled are you in driving revenue streams of Airtel Zambia?				Total
	Beginner	Expert	Not skilled	Skilled	
Operations Officer	2	1	0	2	5
Sales	0	9	0	1	10
Managers	1	19	0	9	29
Other	5	1	1	1	8
HR Admin	0	0	0	1	1
Total	8	30	1	15	53

5.7.7 Chi Square Results Skill in driving Revenue Performance

To examine the ability of respondents to drive revenue performance, the level of skill and current position were used as predictive factors. A Chi-square analysis was computed and the results are as shown in Table 5-19 below. The chi-square value (.020) is less than the specified value (0.05), and it shows that there is a significant relationship between level of skill in employees and ability to drive revenue performance.

Table 5-19 Chi-Square Results on Skills Levels

	Value	Df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	23.986 ^a	12	.020	.020 ^b	.018	.023

5.7.8 Frequency of Revenue Performance Reviews

In addition, respondents were asked to indicate the frequency of meetings held to look into the revenue performance of Airtel. The majority, 27/53 indicated ‘often’ times, followed by those who indicated ‘very often’ 20/53. Only 5/53 indicated ‘rare while 1/53 indicated never. From the results it can thus be concluded that the company does hold regular meetings to deal with revenue performance.

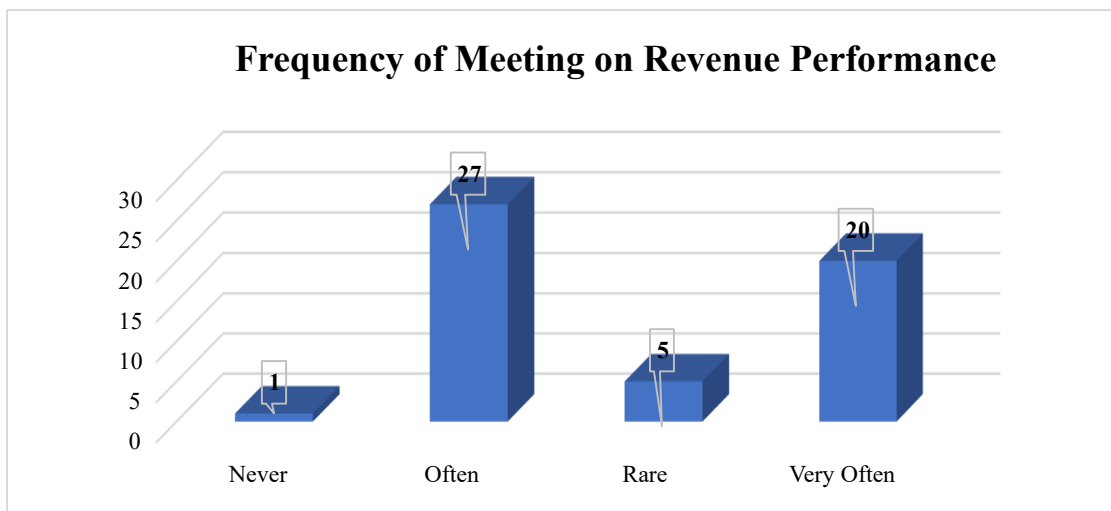


Figure 5-3 Frequency of Meeting Results

To ascertain the risk events that lead to delays in the project road construction, respondents were asked to indicate to what extent projects have deviated from the project plan. Results from the study showed differences in the levels of deviation. 35.8% responses from the study

indicate that the project’s deviation from the plan is less than 30%, followed by 34.0 who answered that there’s 51-80% deviation, then 26.4% answered 31-50% deviation and only lastly 3.8% responded with 81-100% deviated from the project plan.

5.7.9 Factors That Contribute to Revenue Performance

With regards to Airtel Revenue, respondents were requested to indicate the major factors that they below are impacting on revenue performance. This was aimed at identifying the factors that have an effect on revenue performance besides the stock prices in order of impact according to the perception of the respondents. Research findings showed that Number of subscribers was ranked first (N=17, 32%), followed by customer service (N=13, 25%) ranked second, then products (N=11, 20%) ranked third, marketing strategies (N=8, 15%) was ranked fourth and other factors which accounted for N=4, 7.5% were fifth. Figure 3 below showcases this distribution.

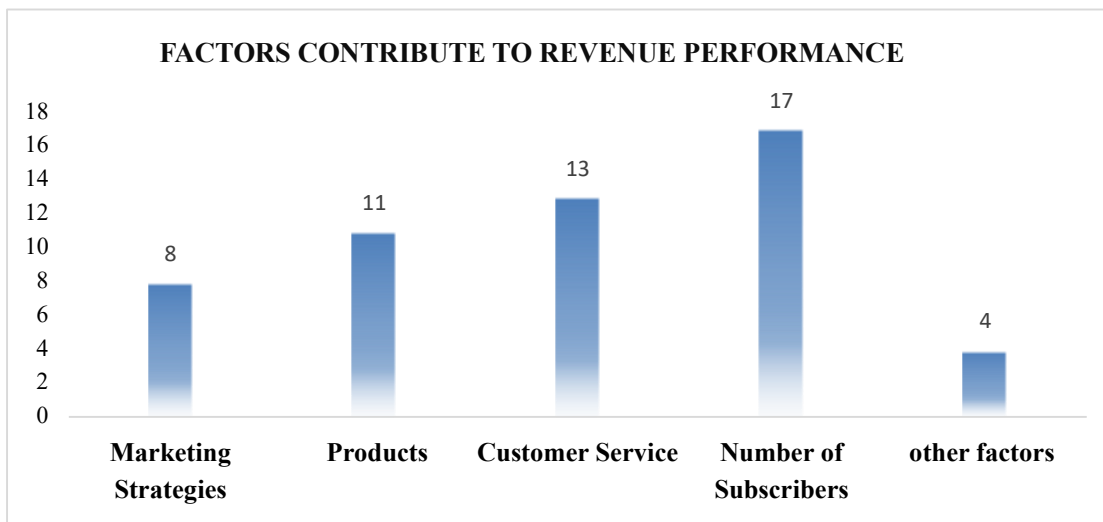


Figure 5-4 Ranking of Factors Affecting Revenue Performance

5.8 Chapter Summary

This chapter presented data analysis and the results. It showed that the regression model was statistically significant at the 5% significance level with a p-value of 0.006 and the correlation was equally significant at 5% significance. The Durbin-Watson statistic was employed to measure autocorrelation in the model and it showed that there is no autocorrelation at 2.054. The primary data was collected through an online questionnaire that was sent to the respondents and thereafter analysed using SPSS. The results presented were grouped into demographics and thematic results that addressed the objectives of the research.

CHAPTER 6

DISCUSSION OF RESULTS, CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter delves into deeper analysis of the findings from the previous chapter, highlighting a significant inverse relationship between Airtel Zambia's stock price and its revenue. This suggests that stock price fluctuations could potentially impact the company's revenue. These results are examined in the context of the study's objectives, hypotheses, and significance.

The chapter emphasizes the importance of understanding stock price dynamics, optimizing brand management practices, and addressing key factors that influence revenue generation. As we delve deeper, we discuss these findings in detail, explore their implications for Airtel Zambia's financial strategy and suggest potential strategies for enhancing organizational performance in dynamic market environments.

The aim of this chapter is to provide a clear understanding of the study's purpose and to reinforce its main points. It presents the overall conclusion drawn from the study and provides recommendations based on these findings. The major results to be discussed, based on the findings from Chapter 5, include:

- i) The negative relationship between Stock Price and Airtel Revenue, ii) The positive correlation between Stock Price and Airtel Revenue, iii) The perception that there is a relationship between stock price and Airtel revenue by employees of Airtel Zambia, iv) The conclusion that management at Airtel is adequately trained to manage stock prices and
- v) The finding that Number of subscribers is the top ranked factor affecting revenue performance of Airtel Zambia limited.

6.1 Discussion of Results in Relation to Secondary Data

- i. To analyse the effect of Airtel Zambia's stock price on the annual net revenue of Airtel Zambia.

According to Table 5-8, the Beta coefficient of Airtel's stock price is -4. Being a linear to log relation model, this means that a 1-unit change in Airtel Zambia's stock prices will lead to a 4 percent change in Airtel Zambia's revenue. This essentially means that there is a negative relationship between the stock price and the net revenue of Airtel Zambia and the effect that stock price is only 4 percent. The R^2 according to Table 5-8 shows that about 63% of the change

in Airtel's revenue in the model is explained by the change in stock price. A note should be taken here that regression results do not imply causation between the variable but shows the effect between variables based on the dataset. To check for causation, one would need to run a causality test such as the 1996 endo-granger causality test.

This result is consistent with a prior expectation because the Lusaka Securities Exchange has relatively been performing calmly without significant movements in stock prices over the years and has not been responsive to market shocks. This then means that other factors impacting Airtel Zambia's revenue have more effect (96%) than the stock price. According to LuSe (2022), as of October 2022, the Lusaka Securities Exchange only has 24 listed companies, which is a relatively very poor participation rate compared to other stock exchanges such as the London Stock Exchange with over 2,000 listed companies the same period (LUSE, 2022). The first objective to analyse the effect of Airtel Zambia's stock price on the annual net revenue of Airtel Zambia has therefore being met. This has been analysed above.

- ii. To determine the correlation between Airtel Zambia's stock price and the annual net revenue of Airtel Zambia.

According to Table 5-9, the correlation coefficient is -79.8. This shows that there is a strong negative correlation between Airtel's stock price and Airtel Zambia's revenue. The data variables show an opposite trend where the revenue of Airtel is increasing year on year, but the Stock price is reducing year on year.

One main cause of this is that subscriptions to Airtel shares declined during the transition from Celtel in 2013 as a result of the \$10.7 billion rebranding that officially took place in 2010 between Zain group Nigeria and Airtel Networks. Shareholders were left uncomfortable as there was no clear way forward on the treatment of the share stocks they held. In 2011 Celtel applied to leave LuSe and the company was officially delisted and reapplied to be listed as Airtel Zambia Limited in 2012. This transition saw the stock price drop from highs of 33.5 in 2013 to lows of 18 at end December 2021. The company however has continued to earn significant revenue year on year since 2012 and that could be why the correlation is -79.8.

The second objective to determine the correlation between Airtel Zambia's stock price and the annual net revenue of Airtel Zambia. This has been analysed above.

6.2 Discussion of Results in Relations to Study Hypothesis

- i. H_0 There's no correlation between Airtel's stock price and Airtel Zambia Limited's net revenue.
- ii. H_1 There's a correlation between Airtel's stock price and Airtel Zambia Limited's net revenue.

According to the results in Table 5-8, the p-value for the correlation coefficient is 0.006% which is lower than the standard 0.05 or 5% significance level. The findings therefore reject the null hypothesis H_0 and support the alternative H_1 and conclude that There's a correlation between Airtel's stock price and the annual net profit. This relationship has been found to be a strong negative with a correlation coefficient of -0.798.

The LuSe had continued to have low impact on the revenue of most companies, and this is attributed to the low participation of companies in the equities market. LuSe had 19 (nineteen) companies listed in 2017 and 4 years later in 2021 it had only seen an increase by 4 companies bringing total to 24. Studies by Hutabara et' al (2013), and Chileshe (2017), have shown that stock exchange markets have the potential to increase the profitability of listed companies if participation is increased.

6.3 Discussion of Results in Relation to Primary Data

Specific Objective 3: To determine management's level of knowledge of the stock exchange Market and how the knowledge is being applied to influence revenue performance.

Research findings indicated that management is well knowledgeable about the stock exchange market and has attained adequate levels of education in that regard. According to the results in Table 5-11 all respondents attained tertiary education at diploma, degree and master's levels. In addition, 62% of the respondents indicated that they were adequately trained on the subject of stock exchange but were just not actively monitoring the movements in relation to revenue performance. It seems Airtel's not currently considering the stock exchange as the major source of revenue or capital. This is despite the organization having a brand management team that promotes the brand of the organization to customers and investors. According to the research results from table 14, 81% of respondents indicated that there is a dedicated team that looks at the brand of the organization.

The study went further to assess the respondent's ability to drive revenue performance. This is in order to ascertain that the respondents are well qualified to comment on the subject at hand and that the results could be relied upon. According to the findings in Figure 5-3, 27/53 or 50.9% of the respondents indicated that they hold revenue performance review meetings often and 20/53 37.7% indicated they hold revenue review meetings very often. Only 5/53 and 1/53 indicated rare and never respectively which is reasonable considering the diversity of positions help by the respondents. It can therefore be concluded that the respondents were adequately knowledgeable on the subject of revenue and the findings are reliable.

The third objective of the research has thus been met. The study was able to determine the level of knowledge of management and that management has a team in place that manages the branch to ensure that investors and customers are attracted to the branch. However, the research has found that the stock price is not the main focus when it comes to revenue performance.

Specific Objective 4: To examine the perception of employees on the effect of stock price on the revenue performance of Airtel Zambia Limited.

Based on research findings analysed Table 5-15, 84% of the respondents indicated that they though there was a relationship between stock price and revenue performance while the remaining 14% indicated that there is no relationship. This shows that management at Airtel believes the stock price is one of the revenue streams that have an impact on their annual revenue. Further, the chi-square was computed and the results in Table 5-17 with value (.004) which is less than the specified value (0.05), provided a view that there is a significant relationship between how employees perceive the effect of stock price on Airtel's revenue performance and the actual effect of the stock exchange. This is on the assumption that more effort is directed towards areas where there's greater output which is a principle that many managers tend to employ (Hannaway, 1989).

The study went further in assessing management's perception on the degree that this effect has on the revenue performance. According to the results presented in Table 5-16, over 94% of the respondents indicated that they perceive the effect of stock price on Airtel's revenue performance to be less than 20% whereas the remaining 5.7% perceived the effect to be in the range of 21 – 30%. Generally, we conclude that the perception on the effect of the stock price on revenue performance of Airtel is low. These findings from the primary data are consistent with the results obtained from the secondary data where it was found that there is a significant

relationship between the stock price and revenue performance of Airtel Zambia Limited discussed above.

The fourth objective of the research has thus been met. The perception on employees on the effect of the stock price has been determined and found employees believe there is a positive relationship between the stock price and revenue performance but that the extend of the effect is low, only less 20%.

Specific Objective 5: To identify and examine factors that affect revenue performance of Airtel Zambia Limited.

Based on research findings, key factors identified that respondents indicated to have a significant effect on the revenue performance included Products, Number of Subscribers, Technology Innovation, Government Regulation and Polices, Marketing Strategies, Customer Service, Pricing strategy, and leadership.

Research findings in Figure 5-4 above showed that Number of Subscribers first (N=17, 32%), followed by Customer Service (N=13, 25%) ranked second, then Products (N=11, 20%) ranked third, Marketing Strategies (N=8, 15%) was ranked fourth and other factors which accounted for N=4, 7.5% were fifth. These results are similar with studies done by Venkatram & Zhu (2012) which also showed that number of subscribers was ranked first in factors that affect revenue performance.

According to Venkatram & Zhu (2012), factors such as “Number of Subscribers”, “Technology Innovation” and “Government Regulation and Polices” were found to be the most influential and contributing factors towards the growth of the Telecom industry in China and India. Contrary to the findings of this study were Government regulation and policies was not amounting the highly ranked factors, the contribution of “Government Regulation and Polices” as a factor, seemed to be more obvious and significant for the Chinese Telecom industry. The results from India showed findings that are similar to the findings of this study.

The fifth objective of the research has thus been met. The key factors that have a significant effect on the revenue performance included were identified and these included, Products, Number of Subscribers, Technology Innovation, Government Regulation and Polices, Marketing Strategies, Customer Service among others.

6.4 Discussion of Results in Relation to Study Significance

The findings of this study have shown that as things stand, Airtel's stock prices have had a 4.0 percent effect on the net revenue. This empirical information has shown the need for Airtel to better manage their brand and image towards traders on the stock exchange so that the share price could pick up. The findings have also added information to further motivate authorities from the Securities and Exchange Commission (SEC) and LUSE to come up with way of stimulating participation on the local stock exchange despite being the best performing in 2021. According to Business Insider Africa (2022), the LUSE was rated as the best performing stock market in Africa in 2021 with all share index gain of 93.2%. However, the volumes traded remained low and as this study has shown, might not have huge impacts on the revenues of listed companies.

6.5 Conclusion

This empirical research investigates the influence of stock prices on the financial performance of telecommunication companies in Zambia, with a specific focus on Airtel Zambia Limited. The study was driven by two main objectives: i) to examine the impact of Airtel Zambia's stock price on its annual net revenue, and ii) to ascertain the correlation between Airtel Zambia's stock price and its annual net revenue.

We tested two hypotheses: i) Airtel Zambia's stock price does not significantly affect its annual net profit, and ii) there is no correlation between Airtel's stock price and Airtel Zambia Limited's net revenue. The study spanned from 2012 to 2021, with data sourced from LUSE and Airtel, while literature was cited from online resources and books.

Our findings revealed that Airtel's stock prices had a significant but minimal effect on its revenue, accounting for only a -4 percent change. This suggests that 96% of the factors affecting Airtel's revenue are unrelated to its stock price.

In conclusion, our research has explored the intricate relationship between Airtel Zambia's stock price and its annual net revenue, offering valuable insights into market dynamics and company performance. We found a significant inverse relationship between Airtel Zambia's stock price and its revenue, indicating that stock price fluctuations could potentially affect the company's financial stability. However, it became evident that while stock prices do influence revenue, other factors such as market participation, customer engagement, and product offerings play a more substantial role in revenue generation.

The study also underscored the importance of strategic alignment within the organization, as reflected in employee perceptions. Employees acknowledged the link between stock price and revenue, but their understanding of its impact emphasizes the need for clear communication and a shared comprehension of market dynamics.

We identified key factors that influence revenue performance, including the number of subscribers, the quality of customer service, and marketing strategies. These findings highlight the complex nature of revenue generation in a dynamic market environment and suggest that by addressing these factors, Airtel Zambia can better position itself for sustainable growth and success.

Moving forward, it is crucial for Airtel Zambia to concentrate on strategic initiatives that optimize brand management practices, enhance market participation, and address key revenue drivers. Regulatory authorities should also consider measures to encourage participation in the local stock exchange, fostering a robust financial ecosystem for listed companies.

Reflecting on our findings, it is clear that effective financial management requires more than just managing stock prices. It necessitates a comprehensive approach that considers market dynamics, organizational strategy, and stakeholder perceptions. By embracing these insights and implementing strategic interventions, Airtel Zambia can navigate market complexities and drive long-term growth.

In essence, this study serves as a call to action for both Airtel Zambia and regulatory authorities. It urges them to prioritize strategic alignment, market participation, and stakeholder engagement in their pursuit of organizational resilience and prosperity. By acting on these insights, Airtel Zambia can pave the way towards sustained financial performance and market leadership, making a lasting impact on its stakeholders and the wider telecommunications industry.

6.6 Recommendations

1. It is recommended that more concerted efforts should be made toward stimulating participation on the stock exchange both from the companies' side and the customer's side. The central bank and other players such as the Securities and Exchange Commission (SEC) in the financial market should devise strategies aimed encouraging more economic agents to participate in the equities market. Currently, there are very few players who are currently participating on the Lusaka Securities Exchange (LUSE).

For example, there are only 24 (twenty-four) companies that are registered on LUSE while the volume of trade still remains very low.

2. A recommendation is made to companies listed on the LUSE to improve their branding and reputation with shareholders in order to increase share prices. It has been seen from literature and this study that if share prices were to increase, it may have a contribution to the company's revenue.
3. Due to the limited availability of studies on this subject, a recommendation is made to scholars to increase studies on this or similar studies. This study had identified significant gaps in the literature which presents an opportunity for research.

6.7 Chapter Summary

This chapter has discussed the research finding in relation to the study objectives, research hypotheses and significance of the study. It has been found that the objectives of the study have been adequately met where the effect of stock prices and revenue have been adequately analysed and the correlation coefficient between the variables determined. The study also rejected both null hypotheses and supported the alternatives. The research findings were significant to Airtel Zambia Limited, SEC, LUSE and other scholars who might need to refer.

On the primary data findings, the study showed that the views from the respondents were consistent with the empirical results in that there was a low effect of stock price on Airtel Zambia's revenue and that there was a correlation between the stock price and revenue performance. It was also found that the management and staff that participated in the study were all adequately trained to comment on revenue and stock price. The majority of the respondents indicated that the main factors were Number of subscribers, customer service, products and marketing strategies.

This chapter further covered the conclusions drawn from the study and the research findings and resulted in recommendations made to Airtel Zambia Limited, SEC, LUSE and scholars with similar interests.

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APPENDICES

Appendix A Literature Review Matrix

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
Oluwatoyin & Gbadebo (2009)	Quantitative	Investigated the impact of market capitalization on the confectionary industry in Nigeria	Company's annual data for 20 years,	The study found a positive and statistically significant correlation between the performance of the confectionary company and variables such as profit after tax, dividends, and turnover. These variables were found to have a strong impact on the changes in the company's performance and the value of its market capitalization	The lack of understanding of the correlation between the sales of shares and the growth of the company. The study aimed to fill this gap by analyzing the impact of share market capitalization on a company's performance
Offum & Ihuoma (2018)	Quantitative	Examined the causal relationship between the stock market and industrial growth in Nigeria	Data from 1985 to 2015, including market capitalization ratio and total value of shares traded ratio.	Unidirectional causality from market capitalization and total value of shares traded to industrial performance.	Addresses the scarcity of studies on capital market and industrial performance nexus using extended data points in Nigeria.

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
Owui (2019)	Quantitative	The study examines the role of the Nigerian capital market in the growth of industrial sector financing	Data for the study were obtained from the Central Bank's statistical bulletin and the Nigerian Stock Exchange fact book.	Significant impacts were found between industrial loans, market capitalization, and the growth of industrial sector financing in Nigeria. However, equity did not show a significant impact.	The study addresses a research gap by empirically investigating the Nigerian stock exchange's role in industrial sector financing.
Taiwo et al. (2020)	Quantitative	Examined the impact of the stock market on the manufacturing sector in Nigeria	Data was collected from Central Bank Statistical Bulletin and National Bureau of Statistics	Findings revealed that stock market capitalization has significant positive long run impact on manufacturing output; total number of deals has positive impact while value of new issues has negative impact.	Examine the impact of capital market on manufacturing sector in Nigeria,

Ikharehon & Erhabor (2018)	Quantitative	Investigated the impact of the capital market on industrial development in Nigeria.	Log of industrial output was used as a measure of industrial development.	The explanatory variables were the logarithms of number of listed companies, volume of total new issue traded, value of corporate bond or equities, all share index and gross fixed capital formation. The estimation results showed that	Generalizability
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Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
				positive effect of all the independent variables on industrial development except for all share index. Thus, they established that the capital market has a positive effect on industrial development.	
Chiang & Chen (2017)	Quantitative	Examined the impact of stock market on industrial growth in 20 members of the G6.	Daily and monthly data covering the period, 1995 to 2014.	The causality test established a unidirectional impact from stock return to industrial growth. While, the regression results show that stock return as a positive impact on industrial production growth.	Generalizability

Owiti (2012)	Quantitative	Examined the relationship between stock market development and economic growth in Kenya.	Using annual secondary data for the period 1990-2010, the study estimated a linear regression model.	This study found that stock market development stimulated economic growth in Kenya. The study further noted that the causality between the two variables is bi-directional. That is, the relationship runs in both directions.	Generalizability
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Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
Carp (2012)	Quantitative	Examined whether stock market development was crucial to the economic growth prospects of emerging economies of Central and Eastern Europe.	Data over the period 1995-2010 from World Bank Development database indicators.	The study found that capital markets such as the stock market are essential in stimulating economic growth. However, in order for economies to reap the growth-enhancing benefits of stock markets, there is need to deal with macroeconomic imbalances that characterize these economies.	Contextual gap

Nazir et al. (2010)	Quantitative	Examined the effect of stock markets on economic growth in Pakistan over the period 1986 to 2008.	Pakistan Stock exchange from 1986 to 2008	The study confirms the predictions of the finance-led growth hypothesis that economic growth can be stimulated through stock market development.	Generalizability
Rahman and Salahuddin (2012)	Quantitative	Examined the effect of stock market development on economic growth over the period 1971 to 2006 in Pakistan.	Pakistan Stock exchange from 1971 to 2006	The study found that the stock market was an important driver of economic growth in Pakistan. In addition, the study found that the Pakistani economy was also driven by financial	Generalizability

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
				stability, inflation, human capital and foreign direct investment (FDI).	

Kirancabes and Basarir (2012)	Quantitative	Examined the causal relationship between the stock market and economic activity.	Istanbul Stock Exchange monthly time series data.	The study found that there exists a strong positive causal relationship between the two variables. In particular, it was found that an increase in stock market activity increased economic growth over the study period.	Generalizability
Srinivasan (2014)	Quantitative	Investigated the impact of the Indian stock market on economic growth.	Indian stock market for the period 1991 to 2013.	For both measures, it was found that stock market performance has a positive effect on economic activity in India. However, the study also find evidence that the causal relationship between stock performance and economic activity is bi-directional or two-way	Generalizability
Adenuga (2010)	Quantitative	Examined the relationship between stock market	Nigerian stock exchange for the	The result showed a positive relationship between the three	Generalizability

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
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		development indicators and economic growth in Nigeria using vector error correction model (VECM) technique,	period 1990 to 2009.	indicators that represent stock market development and economic growth in Nigeria.	
Enisan & Olufisayo (2009)	Quantitative	Observed the effects of stock market development, measured by MCP and VALT, on economic growth in seven African countries from 1980 to 2004.	Nigerian stock exchange for the period 1980 to 2004.	Found a long-run relationship between stock market development (irrespective of the indicator) and growth in Egypt and South Africa, with unidirectional Granger causality from finance to growth.	Generalizability
Oseni, et al. (2019)	Quantitative	Observed that exchange rate volatility had an adverse impact on the industrial output growth in Nigeria.	Panel data	Used an ARDL model. The predicted variable industrial output growth was proxied using industrial value added. The indicators for exchange volatility were the nominal exchange rate, imports and exports of goods and services, trade openness, and inflow of Foreign Direct Investment (FDI). Specifically, exchange rate volatility was measured by the conditional	Generalizability

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
				variance of the exchange rate obtained using the AR(1) GARCH.	
Akinlo & Lawal (2015)	Quantitative	Used the industrial production index as a measure of industrial production growth in Nigeria. They used an Error Correction Model, which allows for shortrun and long-run estimations.	The indicator variables in the study were exchange rate, money supply and inflation rate.	The empirical results showed that exchange rate did not have a shortrun impact on the industrial growth. However, in the long-run, exchange rate had a positive effect on industrial growth.	Generalizability
Mlambo & mcmillan (2020)	Quantitative	Observed that exchange rate as a negative impact on the manufacturing industries performance in the Southern African Customs Unions (SACU).	Panel data	The results from both models indicated that exchange rate has a negative impact on manufacturing sector performance. Depreciation of the local currencies reduces production in the manufacturing sector. According to the findings from the PMG, this adverse effect is both short run and long run.	Generalizability
Gichuchi (2016)	Quantitative	Conducted a research paper on the impact of monetary policy	Panel data	Observed that exchange rate has an insignificant effect on the growth of	Generalizability

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
		on nurturing the manufacturing sector using the Vector Autoregressive (VAR) model.		the sector in Kenya. When he conducted an impulse response function, the impact of exchange rate on manufacturing sector production become positive.	

Habibi (2019)	Quantitative	Examined the impact of the exchange rate on industrial production using a Non-linear Autoregressive Distributed Lags (NARDL) built upon the Solow model. He modelled a short-run and long-run.	A dataset of quarterly observations from 1995Q1 to 2017Q4 for the United States was used.	In the short-run, observed that the effect of the exchange rate varied with goods. The depreciation of the USD had a positive long run impact on goods with a close to zero import content of exports. While, the appreciation of the USD had a positive effect on goods with high import content of exports. Thus, the production of export goods or services whose share of imported inputs is high increases with appreciation of the local currency. As the price of imports reduces. Whilst the production of export goods or services whose share of imported	Generalizability
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Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
				input is low increases as the local currency depreciates.	

Thomas C. Chiang, Xiaoyu Chen 2017	Quantitative	Relationship between stock market performance and industrial production growth	20 international markets	An increase in stock returns contributes positively to industrial production growth	Influence of stock market activities on industrial production growth
Palamalai, Prakasam 2020	Quantitative	Role of the stock market in economic growth	Indian stock market	Both the banking sector and stock market have a positive effect on economic growth	Role of the stock market in economic growth, with a focus on India
Collin Chikwira, Jahed Iqbal Mohammed 2018	Quantitative	Impact of the stock market on liquidity and economic growth in volatile markets	Zimbabwe stock market	There is a positive statistically significant association between the stock market and economic growth at the 10% level	Impact of the stock market on liquidity and economic growth in volatile markets
Abdu Seid Ali 2020	Quantitative	Relations of stock market performance and industrial production growth	20 international markets	Increase in stock returns or rise in market value of stocks contributes positively to industrial production growth	Relationship between stock market performance and industrial production growth

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
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2022	Quantitative	The study aimed to determine whether stock market impacts are communicated in an economically unstable environment	Quarterly data from between 2013 and 2022	The study revealed that there is a positive statistically significant association between the stock market and economic growth.	The study advises policymakers to evaluate the rules regulating the stock market carefully and to relax some of the requirements for firms to be listed on the stock exchange.
Kapaya, S.M. (2020)	Quantitative	The purpose of this paper is to contribute to empirical evidence by recognizing the importance of stock markets in the financial system and consequently its causality to economic growth and vice versa	Quarterly timeseries data from 2001q1 to 2019q2 in Tanzania	The results suggest that stock market development have both negative and positive causality for both short-run dynamics and long-run relationship with economic growth. Economic growth is found to only cause and relate negatively to liquidity both in the short-run and in the long-run.	The study uses indices to capture general aspects within the stock market against economic growth as an intuitive way to aggregate the stock market development effects.
Hakki Ozturk, Tolun	Quantitative	The study aimed to find the long run relationship between	Both banking sector and stock market data	Both the sector have positive effect on economic growth.	The study uses stock market indicators of financial development.

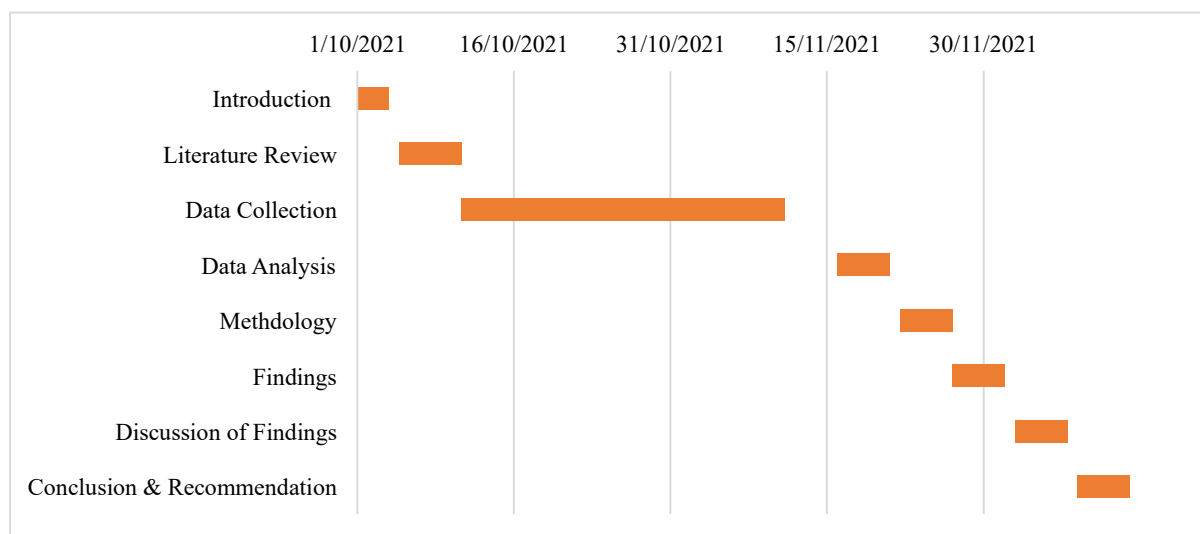
Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
A. Karabulut, 2020		economic growth and stock market development indicators			
Nehkholen Haokip 2022	Quantitative	The study focuses on the nexus between production and exchange rate in the United States (U.S.) by considering non-linear adjustments of exchange rate effects on industrial production in several sectors of the U.S. economy	The study analyzes the production of several sectors of the U.S. economy	The study finds a non-linear relationship between exchange rate and industrial production in some of the mmigs. It documents short-run non-linear effects of exchange rate on production of non-energy materials, durable manufacturing, consumer goods and business equipment.	The study addresses the problem of understanding the impact of exchange rate changes on U.S. industrial production.
Arash Habibi 2019	Quantitative	The study focuses on the impact of the real exchange rate (RER) on economic growth	Compiled 543 empirical estimates from 51 studies of the exchange rategrowth nexus	After addressing publication bias and heterogeneity in the estimates, the meta-regression results show that RER depreciation (or undervaluation) genuinely favors economic growth. On average, RER depreciation has a greater impact on economic growth in developing countries than the developed ones	Generalizability

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
Mehdi Seraj & Cagay Coskuner (2021)	Quantitative	Focuses on the dynamics between the real exchange rate and economic growth	93 countries over the period 1990 - 2018	Support Rodrik's conclusion that undervaluation has a significant impact on economic growth although the results of FEER are more significant than these of BS	The study addresses the problem of varying results in the literature regarding the impact of the real exchange rate on economical growth
Lawal, Esther Omotola	Quantitative	The study focuses on the impact of exchange rate fluctuations on the output of the manufacturing sector ² .	The study analyzes data from the manufacturing sector ² .	Key Findings: The study finds that real exchange rate has a positive effect on economic growth ² .	The study addresses the problem of understanding the impact of exchange rate fluctuations on the output of the manufacturing sector ² .
Mehar, M.A. (2023),	Quantitative	The effects of credit to private sector on the business and trade activities	Analyzed Sample: 18 years data of 186 countries	Credit to private sector and external debt improve the investment in infrastructure, which is a significant determinant of gross domestic product growth.	Assess the effectiveness of rapid expansion in public and private borrowing through state's intervention after COVID-19 pandemic.

Authors	Approach	The Focus of the Study	Analyzed Sample	Key Findings	Gap Identified
Fazlollahi, N., Ebrahimijam, S. (2022).	Quantitative	The impact of private sector credit, interest rate, and exchange rate on real output growth		Private sector credit, interest rate, and exchange rate channels have negative effects on real output growth, both in the long run and in the short run.	Generalizability
Prof. Dr. Abdul Ghafoor awanatteqqa Alam 2015	Quantitative	The study focuses on the relationship between the three major industries and China's GDP growth.	The study analyzes data from China.	The study's key findings are not specified in the available information.	The study aims to understand the impact of industrial structure on GDP and economic growth.

Appendix B Research Timeline

This is the timeline to the completion of the study.



Appendix C Research Budget

The estimated cost for the entire research project.

Category	Item	Description	Amount (ZMW)
Personnel	Data Capturer	An undergraduate student at ZMW 1500 per month for 2 months	3000
Travel & Accommodation	Transportation cost	Lump-sum ZMW 500 per month transportation cost of the researcher for 2 months	1000
Travel & Accommodation	Transportation cost	Lump-sum ZMW 750 per month transportation cost of the data capturer for 2 months	1500
Materials	Stationery	Pens at ZMW 50 per month	100
Materials	Stationery	Lever arch files	100

Other costs	Internet	Two months subscription, 40 GB at ZMW 400.00 per month on liquidtelecom	800
Other cost	Printing, & Laminating Bidding	Lump-sum amount K300	300
Other cost	Miscellaneous	Unexpected costs	500
Total Costs			7300

Appendix D Data Analysis Output from SPSS

Descriptive Statistics

	Mean	Std. Deviation	N
Airtel_Revenue	14.5547	.24586	10
Stock_Price	31.3470	4.95599	10

Correlations

		Airtel_Revenue	Stock_Price
Pearson Correlation	Airtel_Revenue	1.000	-.798
	Stock_Price	-.798	1.000
Sig. (1-tailed)	Airtel_Revenue	.	.003
	Stock_Price	.003	.
N	Airtel_Revenue	10	10
	Stock_Price	10	10

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method

1	Stock_Price ^a	.	Enter
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a. All requested variables entered.

b. Dependent Variable: Airtel_Revenue

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. Change	F Durbin-Watson
1	.798 ^a	.636	.591	.15723	.636	14.007	1	8	.006	2.054

a. Predictors: (Constant),

Stock_Price

b. Dependent Variable:

Airtel_Revenue

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.346	1	.346	14.007	.006 ^a
Residual	.198	8	.025		
Total	.544	9			

a. Predictors: (Constant), Stock_Price

b. Dependent Variable: Airtel_Revenue

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95% Confidence Interval for B		Correlations	
	B	Std. Error				Lower Bound	Upper Bound	Zeroorder	Partial Part
1 (Constant)	15.795	.335		47.122	.000	15.022	16.568		
Stock_Price	-.040	.011	-.798	-3.743	.006	-.064	-.015	-.798	-.798

a. Dependent Variable:

Airtel_Revenue

Residuals Statistics ^a					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.4102	15.0830	14.5547	.19614	10
Residual	-.22303	.19183	.00000	.14824	10
Std. Predicted Value	-.737	2.693	.000	1.000	10
Std. Residual	-1.419	1.220	.000	.943	10
a. Dependent Variable: Airtel_Revenue					

Appendix E Structured Questionnaire

Variable	Question	Responses
Gender		Tick Male Female
Age	Where do you place your age in the following range?	Under 25 From 25 to 34 From 35 to 49 From 50 to 64 Above 64
Highest academic qualification	What is your highest academic qualification?	High school certificate Certificate Diploma

Department at the company	Which department are working in at Airtel Zambia limited?	Degree or higher Finance Operations Marketing
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Stock Market Perception	How knowledgeable are you in regards to Stock exchange market?	Sale Other (specify) Well Trained & practice Trained but don't practice Not trained but heard about it Not idea at all
Revenue	How skilled are you in driving revenue streams at Airtel Zambia Limited?	Expert Skilled

		Beginner
		Not Skilled
Revenue	Do you think there is a relationship between stock price and revenue for Airtel Zambia Limited?	Yes
		No
Stock Price	Which of the following factors has affected your stock price? *Tick all that apply	Major Shareholder
		Selling
		Demand and supply.

		Economy
		Dividend declarations
		Poor participation in LuSe
		Government policies
		Other Specify

Stock Prices	Is there a dedicated staff that manages brand performance?	Yes No
Stock Prices	Does the organisation track share price movement?	Yes No I don't know
Risk Events	Does the organisation keep a record of factors affecting revenue performance?	Yes No
Revenue Performance	Which factors do you think affect revenue performance at Airtel Zambia?	Products Number of Subscribers
		Technology Innovation Government Regulation and Policies.

		Marketing Strategies
		Customer Service
		Pricing strategy
		Leadership
Revenue Performance	How often are risk meetings held to look into revenue performance	Very often
		Often
		Neutral
		Rare
Revenue Performance	To what extent do you think revenue performance has been affected by stock prices movement at LuSe?	81 - 100%
		31-80%
		21-30%
		Less than 20%