

**AN ANALYSIS OF SHARE PRICES WITHIN THE GROCERY STORE
SECTOR FOR THE PERIOD 2018 TO 2023**

BY

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**SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF**

BACHELOR OF COMMERCE HONOURS

IN THE

FACULTY OF BUSINESS AND ECONOMIC SCIENCES

AT THE

NELSON MANDELA UNIVERSITY

STUDY LEADER: PROF J KRÜGER

SUBMISSION DATE: 21 OCTOBER 2024

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DECLARATION:

In accordance with Rule G5.6.3, I, Courtney Walsh (224075861), hereby declare that the above-mentioned treatise “An analysis of share prices within the grocery store sector for the period 2018 to 2023” for the degree in Honours in Commerce, is my own work and that it has not previously been submitted to another University or for another qualification.



SIGNATURE

11/09/2024

DATE

ACKNOWLEDGEMENTS

I would like to express my gratitude to several people that contributed to the success of completing this study.

- First, I would like to thank the Lord for his guidance, provision and grace throughout this journey.
- I would like to extend my sincere thanks to my supervisor, Prof Krüger, for her support, insights, encouragement and mostly her patience throughout this year. This journey would not have been as rewarding without Prof's mentorship, constructive feedback and advice.
- To my parents Wayne and Piati, for their support, love and motivation. Your positivity, wisdom and strength inspire me to always become a greater version of myself. I am beyond bless to have you both as role models from whom I can learn.
- To my brother and sister, Ethan and Andrea, who always uplifts my spirit when I am feeling overwhelmed. Thank you for your love and support.
- Nelson Mandela University, thank you for allowing me to do this study and providing the necessary facilities and resources to have successfully completed it.

ABSTRACT

Shareholders aim to maximise their shareholder's wealth; therefore share price fluctuations need to be considered by shareholders. The purpose of this study is to investigate share price fluctuations of companies within the grocery store sector prior to, during and after Covid-19. During this quantitative study, the t-test results showed that no statistically significant differences exist between the share prices of three selected companies prior to, during and after Covid-19. In order to minimise major share price fluctuations, companies should improve their supply chains to increase its resilience, invest in e-commerce and delivery infrastructure and become more transparent towards sharing company information with their shareholders.

KEY CONCEPTS: shareholders' wealth maximisation; share prices; earnings yield; price-to-earnings ratio; grocery store sector; Covid-19

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1 INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

Shareholders' wealth maximisation is described as the wealth that investors perceive to gain from their investment in a company and the greater the wealth maximisation, the more motivated investors will be to keep their funds in that company. Shareholders' wealth maximisation can be measured by the market price of a company's shares and the dividends per share (Ogunmefu, Ojenike, Sanyaolu & Shodiya, 2019:48). In addition, shareholders' wealth maximisation is an important measurement to determine the success of an organisation. Some companies thus incorporate shareholders' wealth maximisation into their competitive strategies to attract more investors. Shareholders use market share prices as an indicator to determine whether their shareholders' wealth are increasing. Profitability determines shareholders' wealth maximisation through increases in the market prices of shares (Ogunmefu *et al.*, 2019:48-49). Profitability refers to a company's ability to generate profit. A high profitability ratio increases the value of a company, which keeps current investors committed to their investment and attracts new investors to invest (Furqaan & Darmansyah, 2023:959).

The Covid-19 pandemic increased the volatility of share prices in the grocery store sector due to an adverse supply shock resulting from national and international lockdown which caused delays in transportation and a scarcity of key inputs, such as grocery products (Hohler & Lansink, 2020:172-173). Share price volatility is the risk, return but also the rate at which that security can change over a period. Greater volatility refers to greater risk, but the greater the risk, the greater the loss or gain that the share will generate over a period of time. Thus, volatility is the concept used to describe the variance of the price of a share. Investors are risk averse by nature and prefer to invest in shares that are less volatile, because it allows them to be able to predict possible gains or losses (Mmadubuobi, Okegbe, & Egbunike, 2022:114). Covid-19 increased the volatility of share prices and decreased investors level of confidence in the companies in which they have invested. Due to the increased volatility, many investors sold their shares, resulting in share prices falling below anticipated levels, sparking great concern (Furqaan & Darmansyah, 2023:959). Factors that increased the volatility of share prices during the pandemic were the regulations and restrictions implemented by the government such as the national lockdown periods and social distancing. Citizens were bound by these restrictions and forced to do their work from home (Hasibuan & Rahman, 2023:3630).

The decreases in sales of grocery products lead to decreases in the profitability of companies in the grocery store sector which also decreased the market prices of shares. As stated by Hohler and Lansink (2020:172-173), changes in share prices will only occur when there are changes in expectations about future risks and returns. According to Yiyang, Liu and Prodromou (2022:126), the increased volatility of share prices during the Covid-19 pandemic was due to the market overreaction and the dramatic changes of prices in the short run. The uncertainty presented by the pandemic lead to an overreaction which escalated and resulted in the collapse of share prices on the stock market at the start of the pandemic, but it recovered afterwards. Although the pandemic caused disruptions in the supply chain and logistics within the grocery store sector, there was not a decrease in the demand for the sector's products. (Meyer, Reardon, Davids, Van der Merwe, Jordaan, Delpont & Van Den Berg, 2022:22). Demand for grocery products remain unaffected as this sector offers the essentials for the health and well-being of all consumers. Nutrition is the most important part of human existence; thus, the grocery store sector provides the essentials in a wide range of products at affordable prices or at higher prices as those products have greater value to the consumer (Register, 2023). The grocery store sector consists of stores that sell a wide variety of consumer goods to the public as finished goods for their own use, but it can also be bought for resale purposes. These goods include clothing, health and beauty products, hardware etc (Reddy & Ngqinami, 2023:2).

The purpose of the study is to determine and compare the fluctuations of share prices of three selected grocery store companies prior to (2018 and 2019), during (2020 and 2021) and after Covid (2022 and 2023) and to indicate how it influenced shareholders' wealth maximisation over these periods. For this study, the companies listed on the Johannesburg Stock Exchange (JSE) under the heading Consumer Staples – Personal Care, Drug and Grocery Stores – Personal Care, Drug and Grocery Stores – Drug Retailers as referred to as the grocery store sector. The top three listed companies that form part of the South African grocery store sector are Pick n Pay Stores Ltd, Spar Group Ltd and Shoprite Holdings Ltd.

The chapter starts with the problem statement, followed by the primary, secondary and methodological research objectives. The research questions and the hypotheses are then presented. The significance of the study is highlighted followed by the structure of the research.

1.2 PROBLEM STATEMENT

Companies require investment in shares as start-up capital, for expansion or diversification requirements. When investments are highly volatile it creates concern among investors due to

their risk averse nature. It is therefore valuable to them when they have knowledge and are aware of the factors that affect share prices as this will guide them when they make investment decisions (Pillai, Purohit & Sharif, 2015:207). Investors will only invest if they will receive a return on their investments. Therefore, investors will consider the share price and the movement in the share price. However, there are many factors that may lead to share price fluctuations and one of the main contributors to share price fluctuations is Covid-19 due to trading restrictions. This study, therefore, aims to investigate the share price movements of three selected grocery store companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).

1.3 RESEARCH OBJECTIVES

The following section highlights the objectives of this study.

1.3.1 PRIMARY OBJECTIVE

The primary objective of this study is to investigate share price fluctuations of companies within the grocery store sector prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).

1.3.2 SECONDARY OBJECTIVES

To achieve the above-mentioned primary objective the following secondary objectives (SOs) are formulated:

- SO¹: To determine the share prices of selected companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).
- SO²: To compare the share prices of selected companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).

1.3.3 METHODOLOGICAL OBJECTIVES

The following methodological objectives are to achieve the above-mentioned primary and secondary objectives; thus, the methodological objectives (MOs) are:

- MO¹: To conduct a literature review on the selected companies in the grocery store sector.
- MO²: To determine the most appropriate research design and methodology for the study.
- MO³: To analyse and compare the share prices of the selected companies.

MO⁴: To make recommendations to the selected companies regarding the share price movements.

1.4 RESEARCH QUESTIONS AND HYPOTHESES

Based on the secondary objectives, the following research questions (RQs) are presented:

RQ¹: What are the share prices for the selected companies for each of the years from 2018 to 2023?

RQ²: What are the differences between the share prices of the companies for each of the three selected companies, namely:

To answer these research questions, a number of hypotheses are formulated for each of the three selected companies, namely:

H_{0,1}: There is no significant difference between share prices prior to and during Covid-19.

H_{A,1}: There is a significant difference between share prices prior to and during Covid-19.

H_{0,2}: There is no significant difference between share prices prior to and after Covid-19.

H_{A,2}: There is a significant difference between share prices prior to and after Covid-19.

H_{0,3}: There is no significant difference between share prices during and after Covid-19.

H_{A,3}: There is a significant difference between share prices during and after Covid-19.

1.5 SIGNIFICANCE OF THE STUDY

The purpose of the study is to determine how the Covid-19 pandemic influenced the share prices of companies listed on the JSE under the grocery store sector. Ultimately downward changes in share prices indicate that the pandemic have negatively influenced shareholders' wealth maximisation. These results will provide useful guidelines on what to expect when there is another adverse supply shock nationally and/or internationally and how this may influence share prices of companies within the grocery store sector. The study may also assist researchers to further research of the Covid-19 pandemic's influence on share prices and shareholders' wealth maximisation in any other sector within the economy.

Since there is little academic research available on how Covid-19 influenced share prices within the South African grocery store sector, this study may provide evidence of the Covid-19 influence on shareholders' wealth maximisation from the investors' perspective.

1.6 STRUCTURE OF THE RESEARCH

Chapter One: The chapter includes an introduction and a background to the study, followed by the problem statement and thereafter will be the primary, secondary, and methodological research objectives. Also included in this chapter are the research questions and hypotheses, thereafter the significance of the study will be presented, and the chapter concludes with the structure of the study.

Chapter Two: This chapter consists of a literature review of the study. It starts with definitions of the key concepts that are frequently used throughout this study. The following section provides a detailed description of the South African grocery store sector while also providing background information on the selected grocery store companies namely, Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. This section also summarises the key performance indicators of the individual companies over a three-year period (2021-2023). The chapter concludes with a discussion on previous research that relate to this study.

Chapter Three: A detailed description of the research design is provided which is used throughout this chapter. The chapter starts with a description of each of the components applicable to this study. The chapter provides a discussion on the population and sampling techniques that will be employed during the study. The data collection methods and the measuring instrument that are employed is also discussed in this chapter. This chapter highlights the ethical considerations that had to be undertaken to conduct this study and concludes with a summary of the main key factors that form part of the research design of this study.

Chapter Four: This chapter provides a detailed analysis of the share prices, earnings yield and price-to-earnings ratio of the three selected grocery store companies, Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd, over a six year period, from 2018 – 2023, to determine how the Covid-19 pandemic has impacted these performance indicators. This chapter will also provide a discussion on the empirical results obtained from the IRESS database. The final section in this chapter provides results obtained from Statistica which was extracted based on the hypotheses that was formulated in Chapter One.

Chapter Five: In this chapter an overview of the study is given, along with conclusions and recommendations. The overview will discuss the main objectives of each chapter whilst indicating how each secondary objective and methodological objectives were approached and achieved. Thereafter a discussion of the findings of the analysis will be provided with relevant

recommendations. Finally, a conclusion will be provided where it indicates how the primary objective of this study was achieved.

2 LITERATURE REVIEW

2.1 INTRODUCTION

Chapter One provides a background and introduction to this study while also indicating the problem statements, the different objectives of this study, the research questions, what the hypotheses to be tested are, while also discussing the significance of this study. The purpose of Chapter Two is to provide a literature review of the key concepts. This chapter provides a detailed discussion of the South African grocery store sector while also providing background knowledge of how the selected grocery store companies which will be analysed, were established. Therefore, this chapter will address MO¹, discussing what the grocery store sector is, how the different grocery stores are listed on the JSE and why this sector is important. This chapter identifies and discuss the influence of the Covid-19 pandemic on the share prices of the selected grocery stores namely Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd and how the fluctuations in share prices impact shareholders wealth maximisation. A table is used to identify and discuss some of the performance indicators provided in the integrated annual reports of these companies. The chapter concludes with previous research that are related to this study.

2.2 DEFINITIONS

The following key concepts frequently appears throughout this study and should be defined to indicate its relevance.

2.2.1 SHAREHOLDERS' WEALTH MAXIMISATION

According to Khan and Hussanie (2018:739), shareholders' wealth maximisation refers to a company that only focusses on business activities that will maximise the market value per share. This concept refers to how effectively and efficiently an organisation is performing. Khan and Hussanie (2018:739) also provide the expression for shareholders' wealth as follows: (Shareholders' Wealth = Number of Shares held x Market Value Per Share). Shuaibu and Mohammed (2023:45) define shareholders wealth maximisation as the discounted amount of the future returns that the shareholders of a company expect to receive normally in the form of dividend payouts or through the revenue received from the sale of shares. In addition, shareholders wealth maximisation as also described as being the most important goal of a company to make the investments of their investors grow. Thus, implying that the focus of the company should be to generate profits in order to increase the value of their shares. The end

goal is to ensure that the money invested by shareholders into the company earns them more money over time (Windsor, 2010:439).

2.2.2 SHARE PRICES

The price of a share reflecting on the stock market indicates how much it will cost an investor to purchase one of those shares. Not only does share prices reflect the cost to a potential investor, but it also indicates how valuable those shares are and how much money the company is making, thus implying that share prices are a company's performance indicator to the public (Almashaqbeh, Islam, Bakar & Ghazalat, 2020:12). Financial theories consider share prices as the amount of money that investors expect to make from those shares in the future (Watson & Head, 2010). According to Kalama (2013) and Sharma (2011:211), share prices reflect the equilibrium between the demand for the share and the supply of the share at a particular point in time.

2.2.3 PRICE EARNINGS RATIO

Price earnings ratio (PER) indicates a company's growth and profitability potential. A higher PER implies higher earnings growth expectations for investors in the future. These higher expectations increase share prices since investors are willing to pay more for shares (Taubah, Roslina, Damayanti & Tansar, 2024:59).

Aqdas, Munir and Mangi (2021:5510) further elaborate on this concept by saying that a high price-to-earnings ratio indicates that investors are prepared to pay a price that exceeds the return that they will be getting from the company. This financial indicator also suggests that investors expect an increase in the earnings growth rate. If this is the mindset of many investors than this could lead to shares being overpriced.

A high price-earnings ratio is favourable because it indicates that investors believe that the company has good growth opportunities (Brealey, Myers. & Allen, 2003:75).

2.2.4 EARNINGS YIELD

Profitability and market ratios can be determined by calculating the earnings yield (EY). Earnings yield is used as a financial performance measurement to indicate a company's ability to sell goods that are profitable. It reflects a company's ability to earn profits by successfully employing resources to produces goods and services that will allow their market base to grow by attracting new customers. Earnings yield is the reciprocal of price-to-earnings ratio, and it is calculated as the earnings per share relative to the current market price of stock (Abraham,

Harris & Auerbach, 2017:10). This financial indicator informs investors of potential growth in a company's earnings, as investors purchase shares so that they would earn dividends and receive capital gains. A high earnings yield on a corporation suggests that the shares might be cheap. This may draw in buyers who are searching for inexpensive companies in relation to earnings, increasing demand and driving up share prices (Brealey *et al.*, 2003:70).

2.2.5 GROCERY STORE SECTOR

This sector sells a range of different products, such as food, beverages, personal care and health products, home appliances and outdoor equipment, household and cleaning products (Reddy & Ngqinani, 2023:2). Grocery stores perform activities at multiple sectors within the vertical chain. They operate in the manufacturing sector, they perform wholesale activities while also delivering retail services to final customers (The Competition Commission, 2019).

2.2.6 COVID-19 PANDEMIC

In December 2019 the coronavirus was identified, and its symptoms were similar to that of pneumonia outbreaks. The virus emerged in Wuhan, China. The disease was caused by SARS-CoV-2 and it was classified as a novel coronavirus disease (Covid-19). On the 11 of March 2020 the World Health Organization (WHO) declared the world to be in a pandemic state due to the global health emergency and the virus spreading like a wildfire across countries (Gkirtsou, Konstantinidis, Cassimos, Konstantinidou, Kontekaki, Rekari, Bezirtzoglou, Martinis & Stergiannis, 2022:1). The pandemic resulted in multiple countries implementing lockdown restrictions to prevent the spreading of the disease which caused supply shocks globally. The pandemic created food insecurity which made citizens stock up their pantries. The result was stores running out of food supply and not being able to refill their shelves due to the disruptions in the supply chain (Njomane & Telukdarie, 2022:1-2).

2.3 GROCERY STORE SECTOR

This section discusses the nature of the South African grocery store sector while also providing a detailed discussion of the background of the selected grocery stores to be analysed.

2.3.1 THE NATURE OF THE SOUTH-AFRICAN GROCERY STORE SECTOR

Grocery stores represent supermarkets that sell a wide variety of consumer goods such as food, clothing, hardware, appliances, liquor, while also offering a variety of additional services such as pharmacies, deli-counters and bakeries (Carpenter & Moore, 2006:436). These stores do not only operate as retailers but perform multiple activities in the value chain such wholesaling and

they have multiple subsidiary stores that operates independently but are still part of the larger parent company (The Competition Commission, 2019).

The South African grocery store sector is a highly concentrated market, dominated by five companies, namely Shoprite Holdings Ltd, Bid Corporation Limited, SPAR Group Ltd, Pick n Pay Stores Ltd and Choppies Enterprises Ltd (see Table 2.1). These stores account for 80% of the South African food retail market and the remaining 20% is mainly stores from the informal retail sector (Profile's Stock Exchange Handbook- Issue 1, 2024:52). This sector has high entry barriers which are mainly structural and include, economies of scale, capital costs and advertising and marketing. Very few companies have managed to enter and compete successfully against these dominating companies. Other grocery stores mainly operate in the informal sector (The Competition Commission, 2019).

TABLE 2.1: RANKINGS OF THE GROCERY STORES

Company rankings from best to lowest performance	Companies listed in the Profile's Stock Exchange Handbook	Company rankings on the JSE- Johannesburg Stock Exchange (03/05/24)
1.	Shoprite Holdings Ltd	20
2.	Bid Corporation Limited	22
3.	SPAR Group Ltd	67
4.	Pick n Pay Stores Ltd	92
5.	Choppies Enterprises Ltd	191

Source: Profile's Stock Exchange Handbook – Issue 1 (2024:52)

The study investigates three listed South African grocery stores on the JSE namely Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. These companies are listed in the Profile's Stock Exchange Handbook under the following heading 'Consumer Staples – Personal Care, Drug and Grocery Stores – Personal Care, Drug and Grocery Stores – Drug Retailers' (Profile's Stock Exchange Handbook – Issue 1, 2024:52).

2.3.2 BACKGROUND OF THE THREE SELECTED COMPANIES

The following section provides a detailed discussion on the background of the selected grocery store companies, namely Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. A table is provided which indicates the performance indicators of the selected companies over a three-year period while also comparing the performance indicators of the individual companies with one another.

2.3.2.1 Shoprite Holdings Ltd

Shoprite was founded in 1979 by Whitey Basson and the store was first established in the Western Cape in South Africa. The group spent R1 million purchasing eight Cape-based supermarkets. In 1983 the group introduced their first branch and have expanded outside the Western Cape to the Northern Cape. A year later Shoprite took a big leap and purchased six food stores from Ackermans. In 1986 the Group expanded further to another province and opened a store in Bloemfontein, Free State. This was also the year when Shoprite was listed on the JSE (Johannesburg Stock Exchange) and had a market value at the time of R29 million. Two years later Shoprite expanded to the Transvaal province and opened two stores that are situated in Polokwane (Pietersburg). Shoprite became a multinational company when they opened their first international store in Namibia in 1990. The national Checkers chain was introduced in 1991. In 1997 Shoprite took on an acquisition when they purchased the OK Bazaars Group. The Group further expanded internationally and opened their first supermarkets in Zimbabwe, Malawi, Egypt, Uganda, and Lesotho. In 2004 Shoprite started operating as a wholesaler in India, Asia. In 2005 the Group took on many more growth opportunities when they acquired Foodworld, who had thirteen stores, and Computicket, it opened its first Liquor Shop, and it entered Nigeria. In the year 2007 Shoprite made an announcement to invest eighty million US dollars in the Democratic Republic of Congo. During the 2010's Shoprite continued their mission on becoming the largest retailer in Africa, with the continued leadership of Whitey Basson (Shoprite-AGE, 2010).

The group operates in multiple countries with 3 453 stores. The group has three main trading banners which includes Usave, targeted towards the lower-income market, Shoprite serving the middle-income market, Checkers targets the higher-income/more affluent customers that prefers convenience and quality. Their other main banners which are not grocery specific, such as Checkers Hyper that offer a wider variety of products (such as household items, clothing, video games, hardware) than Checkers. The main banners are the liquor stores which are either a Checkers brand or a Shoprite brand, but they are both targeted towards the customers shopping at the grocery stores and are thus located near almost every Checkers or every Shoprite stores. Shoprite Holdings Ltd also has other adjacencies that serve other markets such as pet shops, pharmacies, furniture stores and even a platform for purchasing tickets online and a few others stores as well (Shoprite Holdings Ltd, 2023).

2.3.2.2 SPAR Group Ltd

SPAR first originated in the Netherlands in 1932 and was originally named DE SPAR and later (in the 1940's) the name was abbreviated to SPAR. In 1947 SPAR became an international brand when they were established in Belgium. In 1953 SPAR expanded to Amsterdam and in 1957 SPAR held a Congress where they made the announcement that it wants to become a worldwide organization. In 1959 the SPAR family included wholesalers and retailers operating in nine different countries. Only in 1963 SPAR South Africa was established and it was the first country outside of Europe to join the SPAR organisation. Through several acquisitions and mergers, SPAR South Africa expanded to become a single, unified wholesaler that had the rights to the following brands in addition to the SPAR name: SAVEMOR (established in 1975), KWIKSPAR (established in 1990), SUPERSPAR (established in 1998), Build-it (Building materials brand, established in 1985), TOPS at SPAR (liquor brand, established in 2000). Only in 2004 SPAR Group Ltd was listed on the Johannesburg Stock Exchange (JSE). Two more SPAR brands were launched in 2011 as Pharmacy at SPAR and SPAR Express. In 2014 the Group acquired a stake of eighty percent in the BWG Group in Ireland, including SPAR Ireland who became a member of the SPAR family since 1963. During 2015 the Group acquired a sixty percent stake in SPAR Switzerland. In 2017 SPAR launched a joint venture in Sri Lanka between the SPAR Group Limited and Ceylon Biscuits Ltd (a Sri Lankan food manufacturing conglomerate). During 2020 after acquiring Monteagle Africa, a significant South African supplier, SPAR Poland rebranded it as SPAR Encore. In 2021 the ownership holdings in SPAR Switzerland and BWG Foods, which includes SPAR Ireland, were settled (SPAR Group, 2023a).

The Group currently services 4 579 stores across multiple countries of which 2 523 operates within South Africa. South Africa has the most operating SPAR stores among the countries (South Africa, Ireland, Switzerland and Poland) in which SPAR is located. The different SPAR brands currently operating within South Africa include SuperSPAR which are mainly located in metropolitan areas and have product and service offerings such as groceries, general merchandise, fresh produce, butchery, in-store bakery, deli, ready-to-eat meals and home-meal replacements. It also has its own in-store Beantree café. SPAR is located in neighbourhoods and rural areas with similar offerings such as SuperSPAR, but to a lesser extent and includes fresh produce, butchery, in-store bakery, deli, ready-to-eat meals and home-meal replacements. KwikSPAR are also located in neighbourhoods and rural areas and have core groceries and general merchandise and include fresh produce, baked foods, meat and ready-to-eat meals.

SPAR Express is a convenience store franchise that is open twenty-four hours a day offering core products like groceries, fresh produce, baked goods, snacks and ready-to-eat meals. Tops are standalone liquor stores located near existing SPAR stores. SaveMor SPAR are also located in neighbourhoods and rural areas, offering essential groceries and general merchandise including fresh produce, baked goods, meat and ready-to-eat meals. Built-it is standalone stores, offering building and hardware products, targeting at home builders and renovators in lower and middle-income sectors. Pharmacy at SPAR is either in-store or standalone with a variety of health-related products and mostly situated near existing SPAR stores (SPAR Group Ltd, 2023).

2.3.2.3 Pick n Pay Stores Ltd

The company was founded in 1967 and operated as a family-controlled business with four small stores in the Western Cape. The following year Pick n Pay Stores Ltd was listed on the Johannesburg Stock Exchange (JSE). The group are divided and managed into three sections and they each have their own management boards called Pick n Pay Retail Division, the Group Enterprises Division, and Franklins Australia. Harry Goldin was the founder of the chain (Pick n Pay-AGE, 2010).

Pick n Pay currently owns 2 204 stores of which 2 018 operates within South Africa. Pick n Pay has a variety of brands and include BOXER which is targeted towards middle to lower-income shoppers and is classified as a “one-stop-shop” that provide essential products for daily needs such as maize meal, rice sugar, samp, oil and beans, perishable products, health and beauty, general merchandise, etc. Pick n Pay targets middle- to higher-income citizens and offers a wide range of over eighteen thousand products. Pick n Pay is well-known for always delivering on innovation, quality, freshness and convenience. Pick n Pay Clothing offers a range of clothing and footwear suitable for the whole family at affordable prices and they offer exceptional promotions on their products. The clothing varies from casual wear, sleepwear, active wear and formal wear. Pick n Pay clothing is a standalone operating store that offers the same products available in Pick n Pay’s supermarkets and hypermarkets, but it has an extended range. Pick n Pay QualiSave was launched during February 2023. It is targeted towards lower-to middle-income communities and it offers essential grocery products at low prices without lacking quality. Pick n Pay Asap is Pick n Pay’s online store that offers the convenience of purchasing groceries from its app while providing good availability and delivers within no longer than one-hour time slots. Pick n Pay Asap operates within a growing market against its main competitor being Checkers with its Sixty60 initiative. Pick n Pay Liquor stores are

standalone stores that are stationed near to Pick n Pay's supermarkets and hypermarkets, but with separate entrances. It offers a wide range of liquor such as wine, beer, spirits and local craft products (Pick n Pay Stores Ltd, 2023).

2.3.2.4 Overview of financial performance of selected companies

Table 2.2 highlights key performance indicators of Shoprite Holdings Ltd, SPAR Group Ltd, Pick n Pay Stores Ltd. The performance indicators are the following: the total number of stores, market share, turnover (Rm), number of shares in issue, dividends per share (cents), share price (R), earnings per share (cents). SPAR Group Ltd currently has the highest number of stores of 4 579, followed by Shoprite Holdings Ltd, with 3 543 stores, with Pick n Pay Stores Ltd in last place currently only operating 2 204 stores.

Shoprite Holdings Ltd outperforms SPAR Group Ltd and Pick n Pay Stores Ltd in terms of their annual turnover (Rm) within the entire three-year period, followed by SPAR Group Ltd in second place and Pick n Pay Stores Ltd in third place. During 2023 Shoprite Holdings Ltd had turnover of R214 956m, while SPAR Group Ltd had a turnover of R149 324.3m and Pick n Pay Stores Ltd with a turnover of R106 561.8m. The companies each kept their shares in issue constant over the three-year period from 2021 to 2023. Shoprite Holdings Ltd has 591 338 502, SPAR Group Ltd has 192 602 355, while Pick n Pay has 493 450 321 shares in issue.

All three companies show indications of improvement in their earnings per share from 2021 (during Covid-19) to 2022 (after Covid-19), but during 2023 SPAR Group Ltd are the only company who had a significant decline in their earnings per share from 2022 to 2023. Shoprite Holdings Ltd's earnings per share for 2021, 2022 and 2023 were 851.6, 1046.5 and 1161.4 cents, respectively. SPAR Group Ltd's earnings per share for 2021, 2022 and 2023 were 1176.3, 1159.1 and 208.6 cents, respectively. Pick n Pay Stores Ltd's earnings per share for 2021, 2022 and 2023 were 202.52, 253.34 and 243.37 cents, respectively.

By considering the overall performance indicators in Table 2.2, it is evident that Shoprite Holdings Ltd are currently the best performing company. This can also be concluded from their market share in the South-African grocery store sector which has been higher than both their competitors, SPAR Group Ltd and Pick n Pay Stores Ltd over the three-year period from 2021 to 2023.

TABLE 2.2: OVERALL COMPARISONS OF THE THREE SELECTED COMPANIES

	Shoprite Holdings Ltd			SPAR Group Ltd			Pick n Pay Stores Ltd		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Total number of stores	3 065	3 135	3543	4 459	4 500	4 579	1 994	2 081	2 204
Market Share	31.0%	32.1%	33.9%	2.6%	2.9%	-	16%	16%	-
Turnover (Rm)	171 188	183 868	214 956	127 941	135 609	149 324	93 079	97 873	106 562
Number of shares in issue	591 338 502	591 338 502	591 338 502	192 602 355	192 602 355	192 602 355	493 450 321	493 450 321	493 450 321
Dividends per share (cents)	544	600	663	816	400	0	179.7	221.2	185.15
Share price (R)	155.56	196.09	225.60	196.42	143.36	116.28	51.67	46.44	45.63
Earnings per share (cents)	851.6	1 046.5	1 161.4	1 176.3	1 159.1	208.6	202.52	253.34	243.37

Source: Pick n Pay Stores Ltd (2021, 2022, 2023); Profile Stock Exchange Handbook – Issue 1, 2023; Shoprite Holdings Ltd (2021, 2022, 2023); SPAR Group (2021, 2022, 2023)

2.4 PREVIOUS RESEARCH ON THE IMPACT OF COVID ON SHARE PRICES

No previous research regarding the impact of Covid-19 on the share prices within the South-African grocery sector could be traced. There is however research available on how Covid-19 affected the share prices within other sectors in the economy and the economy as a whole. There are also studies available on how Covid-19 impacted the grocery store sectors in multiple countries in terms of consumer behaviour, and how retailers adjusted their distributional operations. Previous studies were done on the disruptions and volatility of the food supply chain. These studies will therefore be discussed.

According to Meyer *et al.* (2022:24), the grocery store sector was disrupted by the Covid-19 pandemic due to government restrictions. The government allowed supply chain activities to continue, which is the movement of food from the producers such as farmers to wholesalers, to retailers which would sell these products to customers. The government restricted lateral supply chain activities such as the supply of labour, material and logistics which although the food supply chain did not completely stop from operating, the restrictions did lead to overall supply chain disruptions.

Duffy, Wen, Bercholz, Davis, De Marco, Hall, Maselko and Smith Taillie (2024:3) conducted a study explaining how the Covid-19 pandemic impacted families from low-income households, while focussing specifically on women, infants and children. In this study the researchers indicated that the main issue was the acquisition of food. The issue was mainly due to the government implementing lockdown restrictions which mandated citizens to remain indoors, but also the fear of becoming infected and the overall food shortages. While the pandemic created disruptions in the traditional method of grocery shopping, e-commerce has transformed the grocery store sector for multiple companies, but this is mostly applicable for urban areas and mainly targeted towards middle- and higher-income consumers. Covid-19 shifted consumer behaviour towards the acceptance of technological innovation in the grocery sector from a point to where online shopping was a necessity to where it is preferred for the sake of convenience (Pauwels & Bruggemann, 2024). The pandemic also shifted consumer behaviour to stockpiling. As soon as consumers realised the seriousness of the spread and symptoms of Covid-19, they immediately reacted out of fear and uncertainty and started to stock-up on grocery products. This behaviour placed major pressure on the food supply chain (Boyle, Bond, Carracedo, Simmons, Mulvenna & Hollywood, 2021).

The greatest impact of Covid-19 on the financial sector is due to the uncertainty it created. Covid-19 significantly increased the volatility of share prices in the stock market mainly because of the restrictions implemented by the government to prevent the spread of the disease. This prohibited multiple sectors within the economy to operate normally. Investors lost confidence in their investments and started selling their shares on the stock market (Hasibuan & Rahman, 2023:3630). The excess supply of shares that were now available on the stock market caused the prices of shares to drop significantly (Furqaan & Darmansyah, 2023:959). Zaremba, Kizys, Aharon and Demir (2020:8) highlight two reasons to why market volatility increased during the pandemic resulting from stringent policies implemented by the government. The first response of investors is triggered by Covid-19-related information campaigns which created awareness about the virus and how the government planned to combat further spreading. This acted as a motive for investors to restructure their portfolios leading to increased trading. The second government intervention that caused a triggered response was the cancellation of public events. This happening acted as a signal, notifying investors of future financial and economic instabilities. According to Sahoo (2021:456), investors tried diversifying their portfolios by investing in cryptocurrencies with the hopes of making short-term gains. The issue however, just like many other share prices during the start of the pandemic, was that cryptocurrencies also declined significantly in value.

An empirical study was conducted on the volatility of the food supply sector, which includes the sectors where food is produced such as the agricultural sector, to where food is distributed such as wholesalers and retailers, where a sample was drawn of seventy-one stock listed companies located in either the USA, Europe or Japan. The results showed the volatility of these companies particularly increased at the beginning of the pandemic (in March 2020), with the most volatile sectors being the fertilizer and agrochemicals subsector, which is followed by the food distribution sector. The food retail sector was found to have the lowest volatility from 2019 to 2020 and thus conclude that the food retail sector did not lack in performance during the early months of the pandemic (Hohler & Lansink, 2020).

3 RESEARCH DESIGN

3.1 INTRODUCTION

Saunders, Lewis and Thornhill (2019:130) created a research onion in which they indicated five different research philosophies. The philosophies are positivism, critical realism, interpretivism, postmodernism and pragmatism. The research philosophy for this study is positivistic which, according to Ahmad, Bello, Kasim and Martin (2014), refers to how truth and reality are independent of people's thoughts and opinions as it exists on its own. Positivism is an approach that allows the researcher to have limited engagement with the participants of the research as their goal is to remain objective to avoid making biased conclusions. Two research methods can be adopted, namely quantitative research methods and qualitative research methods (Saunders *et al.*, 2019:130). This study is conducted using quantitative research methods. The researcher utilises quantitative research methods in the data collection process by means of experiments, statistics, structured interviews (Ntege & Nampeera, 2021).

The approach to analysing the data can be deductive, inductive or abductive. This study adopts the deductive approach which refers to the scientific method, particularly within hypothesis testing. It involves proposing a hypothesis, conducting statistical analysis on collected data, and determining whether the hypothesis is supported or rejected. The most important goals include measurement, control, prediction, formulation of laws, and understanding causality in the studied phenomenon (Rehman & Alharthi, 2016). Krauss (2005:760) defines the deductive approach as already existing theories that are tested to predict results that fit the facts more accurately. The study has three null hypotheses relating to the changes in share prices within the South African grocery store sector before, during and after Covid-19. Hypothesis testing is a rational proposition used to address a research issue which then helps the researcher to produce potential solutions to the identified problem (Yusuf, Otu & Apeh, 2024:51).

The purpose of this study is to conduct a descriptive and comparative research analyses. Saunders *et al.* (2019:290) define descriptive statistics as a method of recording and summarising data so that the results can be reported numerically, enabling the researcher to draw conclusions from the sample or population. Comparative research is used to compare the data drawn from secondary sources, allowing the researcher to cross-reference their findings while situating their discoveries within a broader framework (Saunders *et al.* 2019:359). The main aim of this study is to conduct an analysis to compare the share prices of Shoprite

Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd to determine the variations in the performance of these companies due to the Covid-19 pandemic.

According to Saunders *et al.* (2019:130), there are eight types of research strategies namely experiment, survey, archival research, case study, ethnography, action research, grounded theory, narrative inquiry. This study applies an archival research strategy which is defined as administrative records and documents that are byproducts of daily actions, that are analyzed as primary sources of data in research strategies. Manuscripts, papers, records (including digital records), photos, artifacts, audio recordings, moving pictures, and other things can all be considered archival sources (Reitz, 2024). This study analyses data from the selected grocery store companies drawn from the IRESS database and integrated annual reports.

Research studies take the form of one of two time-horizons and can be either cross-sectional or longitudinal. This study utilizes a longitudinal time-horizon and refers to the examination of changes and growth over time by observing individuals or events longitudinally (Saunders *et al.*, 2019:130).

3.2 RESEARCH POPULATION AND SAMPLING

The population of a study is defined as a complete set of individuals possessing particular characteristics, while a sample denotes a portion of that population. The typical parameters for defining a population often revolve around geographic factors (Banerjee & Chaudhury, 2010: 64). The population is all the grocery stores as listed on the Johannesburg Stock Exchange, from which the sample will be drawn. A sample is a subset of a population to determine the attributes of the larger population from which the subset was selected. For instance, an average can be estimated of a population based on the average obtained from a sample (Leedy & Omrod, 2013:277). The sample for this study is the grocery stores that consumers use to purchase final grocery items. The sample size is the three selected grocery store companies, namely, Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. In order to select the sample, two sampling techniques can be used, namely, non-probability and probability sampling (Struwig & Stead, 2023). The sampling technique incorporated is non-probability sampling which refers to the prevention of the results of the study from being generalised to the whole population. When a non-probability sample yields results, the researcher is constrained to describing their findings in relation to the individuals or items that were sampled. Moreover, this approach precludes the researcher from computing sampling statistics that would otherwise offer insights into the accuracy of the results. Non-probability sampling is

beneficial because it contrasts probability sampling in that it is less complicated and less time-consuming (Overview of Sampling Procedures, 2017). Non-probability sampling includes quota sampling, snowball sampling, convenience sampling and purposive or judgemental sampling (Taherdoost, 2016:22-23). This study adopted purposive sampling which involves the intentional selection of specific settings, individuals, or events to collect crucial information that may not be accessible through other options. This method entails that the researcher includes cases or participants within the sample based on their belief that they are deserving of inclusion (Taherdoost, 2016:23).

3.3 DATA COLLECTION

There are two techniques/procedures that are used to conduct a research study namely a desktop study or desk research. The method utilised in this study is desk research and is defined by Travis (2016) as the role of the researcher, which is not about data collection, but rather to review and examine previous research findings to generate a broad understanding of the field. The data for this study is collected from the IRESS database (<https://0-research.mcgregorbfa.com.wam.seals.ac.za/Default.aspx>). This database allows access to performance indicators to multiple listed companies. The data extracted to conduct an analysis for this study is the share prices, the earnings yield and the price-to-earnings ratios for the three selected grocery store companies namely Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. The analyses are conducted for the periods prior to (2018 and 2019), during (2020 and 2021) and after the Covid-19 pandemic (2022 and 2023). This allows for an investigation to examine the share price movements during these periods in order to draw conclusions on how the pandemic influenced the performance of the three selected companies.

3.4 DESIGN OF THE MEASURING INSTRUMENT

A template is developed that is populated with the relevant data from the IRESS database that can be used during the data analysis. The template includes performance indicators such as the share prices, the earnings yield and the price-to-earnings ratios of the selected grocery store companies (Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd) to determine the influence of the Covid-19 pandemic. This database allows the researcher to obtain performance indicators at a particular point in time that is not necessarily available on publicly available documents such as the companies' integrated reports. The data is utilised to specifically determine share prices, earnings yield and the price-to-earnings ratios between the

periods prior to (2018 and 2019), during (2020 and 2021) and after the Covid-19 pandemic (2022 and 2023). The template is presented in Appendix A.

3.5 DATA ANALYSIS

This study uses descriptive statistics and percentage changes. Statistics serve two primary purposes. Some statistics show the characteristics of the data, such as their central tendency or dispersion, the degree of correlation between two or more variables within the dataset, and similar aspects. These statistics are appropriately termed as descriptive statistics (Leedy & Omrod, 2013: 277). Saunders *et al.* (2019:596) define descriptive statistics a broad term for statistics that is employed to describe variables.

In order to determine whether differences in the share prices exist between the three periods prior to (2018-2019), during (2020-2021) and after the Covid-19 pandemic (2022-2023), t-tests for dependent samples were conducted. T-tests for dependent samples are utilised to compare the mean scores of two related groups. It indicates that both sets of scores originate from the same people. The purpose of this test is to determine whether there is a difference between the measurements being compared (Statistics Resources, 2024). This study has three null hypotheses and three alternative hypotheses. The hypotheses testing will enable the determination of whether there is a statistically significant difference between share prices prior to and during, prior to and after and during and after the Covid-19 pandemic.

3.6 ETHICAL CONSIDERATIONS

Only secondary data will be collected to conduct this study, thus full ethics approval is not required. The ethics form for this study is attached, refer to Appendix B, and is approved by the Department of Business Management of Nelson Mandela University. The Ethics consideration for Honours treatise form has been duly completed and submitted to the treatise coordinator. Secondary data will be extracted from the IRESS database which is available from <https://0-research.mcgregorbfa.com.wam.seals.ac.za/Default.aspx>. Data pertaining to share prices of the three selected grocery store companies (Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd) will be extracted to conduct analyses on how the performance of these companies were impacted by the Covid-19 pandemic.

3.7 SUMMARY

This chapter starts by describing the different research components set forth in a research onion. The introduction highlights which of the components are specific to this study. The research philosophy applied during this study is positivistic, the approach to theory development is

deductive, the methodological choice is a mono method which is quantitative, the research strategy is archival, while the time horizon for this study is longitudinal. The second section describes the population and sampling methods. The sample for this study is the grocery stores that consumers use to purchase final grocery items. The sample size is the three selected grocery store companies namely Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd, the sampling technique employed are purposive non-probability sampling. The third section describes the data collection method which takes the form of desk research where secondary data sources will be used to extract data to conduct the analysis for this study. The fourth section defines the measuring instrument to be used which is the IRESS database where the share price information will be extracted. The fifth section identifies how this data will be analysed, compared and the conclusions to be drawn. Descriptive statistics and percentage changes will be applied in order to analyse the data. T- tests will be used to determine the significance of the null hypotheses tests. The sixth section discusses the necessary ethical considerations that were undertaken in order to continue with this study and can be referred to Appendix B to view the Ethics form.

4 RESULTS

4.1 INTRODUCTION

This chapter presents the results of the research study. The results were generated using the IRESS database. This database makes information available to evaluate the past performances of different companies listed on multiple stock exchange platforms. The use of Statistica is also incorporated in order to do a regression analysis. The chapter starts with a trend analysis of the share prices, earnings yield and the price to earnings ratio (P/E) with the data provided in the data analysis template. Thereafter a comparative study is presented where comparisons between the share prices, earnings yield and the price to earnings ratio (P/E) of the three companies in each year will be made from 2018 to 2023. Followed by the comparative study, t-test results are presented to determine whether significant differences exist between the share prices prior to, during and after Covid-19 for the three companies.

4.2 TREND AND COMPARATIVE ANALYSES

The following section comprises of analyses. The trend analysis indicates the fluctuations of the performance indicators used to conduct the study (share prices, earnings yield and the price-to-earnings ratio). The comparative analysis compares the various performance indicators of the three selected companies (Shoprite Holdings Ltd, SPAR Group Ltd, Pick n Pay Stores Ltd). Table 4.1 summarises the share prices, earnings yield and price-to-earnings ratios of the three selected companies (Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd) while Table 4.2 presents the percentage changes of the performance indicators for the three selected companies. The discussions to follow are based on Tables 4.1 and 4.2.

TABLE 4.1: SHARE PRICE, EARNINGS YIELD AND PRICE-TO-EARNINGS RATIOS

	Prior to Covid-19		During Covid-19		After Covid-19	
	2018	2019	2020	2021	2022	2023
SHARE PRICES (cents)						
Shoprite Holdings Ltd	21 976	15 237	12 019	16 436	22 490	23 576
SPAR Group Ltd	19 437	19 446	18 051	18 908	15 205	11 957
Pick n Pay Stores Ltd	7 159	6 682	5 354	5 470	5 605	3 747
EARNINGS YIELD (%)						
Shoprite Holdings Ltd	4.93	6.20	5.41	4.68	4.67	3.98
SPAR Group Ltd	4.65	5.72	5.99	7.16	10.22	5.15
Pick n Pay Stores Ltd	4.75	4.92	4.78	4.70	5.27	1.00
PRICE-TO-EARNINGS RATIO						
Shoprite Holdings Ltd	20.28	16.13	18.50	21.38	21.40	25.11
SPAR Group Ltd	21.49	17.49	16.70	13.97	9.78	19.44
Pick n Pay Stores Ltd	21.07	20.33	20.91	21.26	18.99	99.96

Source: Obtained from the IRESS Research Domain, 2024

TABLE 4.2: YEAR-ON-YEAR PERCENTAGE CHANGES IN THE SHARE PRICES, EARNINGS YIELD AND PRICE-TO-EARNINGS RATIOS

	2018 -2019	2019- 2020	2020-2021	2021-2022	2022-2023
SHARE PRICES					
Shoprite Holdings Ltd	-30.67%	-21.12%	36.75%	36.83%	4.83%
SPAR Group Ltd	0.05%	-7.17%	4.75%	-19.58%	-21.36%
Pick n Pay Stores Ltd	-6.66%	-19.87%	2.17%	2.47%	-33.15%
EARNINGS YIELD					
Shoprite Holdings Ltd	25.76%	-12.74%	-13.49%	-0.21%	-14.78%
SPAR Group Ltd	23.01%	4.72%	19.53%	42.74%	-49.61%
Pick n Pay Stores Ltd	3.58%	-2.85%	-1.67%	12.13%	-81.02%
PRICE-TO-EARNINGS RATIO					
Shoprite Holdings Ltd	-20.46%	14.69%	15.57%	0.09%	17.33%
SPAR Group Ltd	-18.61%	-4.52%	-16.35%	-29.99%	98.77%
Pick n Pay Stores Ltd	-3.51%	2.85%	1.67%	-10.68%	426.38%

Source: Obtained from the IRESS Research Domain, 2024

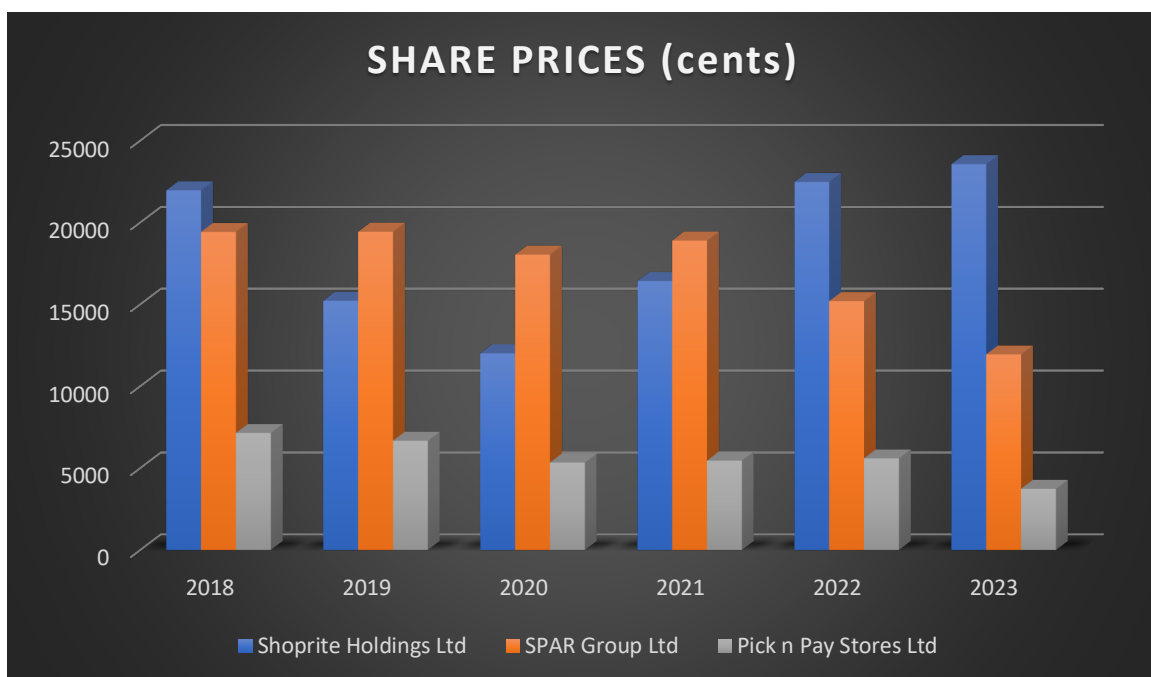
4.2.1 TREND ANALYSIS

The trend analysis indicates how the three performance indicators, namely the share prices, the earnings yield and the price-to-earnings ratios of the selected companies have fluctuated within a six-year period from 2018 to 2023. This analysis provides an indication of the impact of Covid-19 on the growth of the selected companies.

4.2.1.1 Share prices

Figure 4.1 summarises the share prices of the three selected companies, Shoprite Holdings Ltd, SPAR Group Ltd, Pick n Pay Stores Ltd. The figure provides a visual representation of the performance of the three selected companies based on their share prices.

FIGURE 4.1: SHARE PRICES FOR 2018 TO 2023



Source: Data obtained from the IRESS Research Domain, 2024

Shoprite Holdings Ltd: Prior to Covid-19 at the end of 2018 Shoprite Holdings Limited had a share price of 21 976c (R219.76). The share price decreased with 30.67% to 15 237c (R152.37) in 2019. The share price also decreased during Covid-19 from 2019 to 2020 with 21.12% from 15 237c (R152.37) to 12 019c (R120.19), but it increased from 2020 to 2021 with 36.75%. The share prices continued to increase from 2021 to 2022, from 16 436c (R164.36) to 22 490c (R224.90) with 36.83%. After Covid-19 the share prices still increased from 2022 to 2023, from 22 490c (R224.90) to 23 576c (R235.76) but at a lower rate of 4.83%.

SPAR Group Ltd: Prior to Covid-19 the share price of SPAR Group Ltd increased with 0.05% from 2018 to 2019, from 19 437c (R194.37) to 19 446c (R194.46). The share price went on to decrease during Covid-19 from 2019 to 2020 with 7.17%, from 19 446c (R194.46) to 18 051c (R180.51) but it increased the following year from 2020 to 2021 with 4.75%, from 18 051c (R180.51) to 18 908c (R189.08). The share price decreased from 2021 to 2022 with 19.58%, from 18 908c (R189.08) to 15 205c (R152.05). The share price decreased after Covid-19 from 2022 to 2023 with 21.36%, from 15 205c (R152.05) to 11 957c (R119.57).

Pick n Pay Stores Ltd: Pick n Pay's share price prior to Covid-19 decreased from 2018 to 2019 with 6.66%, from 7 159c (R71.59) to 6 682c (R66.82). During Covid-19 from 2019 to 2020 the share price continued to decrease with 19.87%, from 6 682c (R66.82) to 5 354c (R53.54). However, from 2020 to 2021 the share price increased with 2.17%, from 5 354c (R53.54) to 5 470c (R54.70) and continued to increase from 2021 to 2022 with 2.47%, from 5 470c (R54.70) to 5 605c (R56.05). After Covid-19 from 2022 to 2023, the share price decreased again with 33.15%, from 5 605c (R56.05) to 3 747c (R37.47).

Conclusion: Shoprite Holdings Ltd started off with the highest share price of R219.76 compared to R194.37 and R71.59 of SPAR Group Ltd and Pick n Pay Stores Ltd, respectively in 2018, which was prior to Covid-19. From 2019 to 2021 SPAR Group Ltd performed the best among the three companies with share prices of R194.46, R180.51 and R189.08 for 2019, 2021 and 2022, respectively. Shoprite Holdings Ltd, however took back their leading position during the period after Covid-19, with share prices of R224.90 and R235.76 from 2022 to 2023, respectively. Followed by SPAR Group Ltd and Pick n Pay Stores Ltd remaining in last place. The above-mentioned results imply that although Shoprite Holdings Ltd and SPAR Group Ltd both had the leading position for three years each, Shoprite Holdings Ltd still had the highest overall share prices for the period of six from 2018 to 2023.

4.2.1.2 Earnings yield

Figure 4.2 summarises the earnings yield of the three selected companies, Shoprite Holdings Ltd, SPAR Group Ltd, Pick n Pay Stores Ltd. The figure provides a visual representation of the performance of the three selected companies based on their earnings yield.

FIGURE 4.2: EARNINGS YIELD FOR 2018 TO 2023



Source: Data obtained from the IRESS Research Domain, 2024

Shoprite Holdings Ltd: Shoprite's earnings yield was 4.93% in 2018 prior to Covid-19 and increased with 25.76% in 2019 to 6.20%. At the end of 2020, during Covid-19, the earnings yield decreased from 6.20% to 5.41% with 12.74%. The earnings yield continued to decrease during the pandemic from 2020 to 2021 from 5.41% to 4.68% with 13.49%. Shoprite's earnings yield decreased further from 2021 to 2022, during Covid-19, from 4.68% to 4.67% with 0.21%. After Covid-19 the earnings yield continued to decrease from 2022 to 2023 with 14.78% from 4.67% to 3.98%.

SPAR Group Ltd: SPAR had an earnings yield of 4.65% at the end of 2018, prior to Covid-19. The earnings yield increased from 2018 to 2019 with 23.01% from 4.65% to 5.72%. During Covid-19 the earnings yield continued to increase from 2019 to 2020 with 4.72% from 5.72% to 5.99%. The earnings yield increased further from 2020 to 2021 with 19.53% from 5.99% to 7.16%. The earnings yield also increased from 2021 to 2022 with 42.74% from 7.16% to 10.22%. After Covid-19 the earnings yield decreased from 2022 to 2023 with 49.61% from 10.22% to 5.15%.

Pick n Pay Stores Ltd: Pick n Pay had an earnings yield of 4.75% at the end of 2018, prior to Covid-19. The earnings yield increased from 2018 to 2019 with 3.58% from 4.75% to 4.92%. During Covid-19 the earnings yield decreased from 2019 to 2020 with 2.85% from 4.92% to 4.78%. The earnings yield continued to decrease from 2020 to 2021 with 1.67% from 4.78%

to 4.70%. There was an increase in the earnings yield from 2021 to 2022 with 12.13% from 4.70% to 5.27%. After Covid-19 the earnings yield decreased from 2022 to 2023 with 81.02% from 5.27% to 1.00%.

Conclusion: Shoprite Holdings Ltd started with the highest earnings yield of 4.93% in 2018 followed by Pick n Pay Stores Ltd (4.75%) and SPAR Group Ltd (4.65%) in last place. SPAR Group Ltd had the highest earnings yield for four consecutive years from 2020 to 2023 (of 5.99%, 7.16%, 10.22% and 5.15%, respectively). Shoprite Holdings Ltd and Pick n Pay Stores Ltd both shared second and third place over the period of 2020 to 2023. Thus, the above-mentioned results imply that SPAR Group Ltd had the highest overall earnings yield.

4.2.1.3 Price-to-earnings ratio (P/E)

Figure 4.3 summarises the price-to-earnings ratio of the three selected companies, Shoprite Holdings Ltd, SPAR Group Ltd, Pick n Pay Stores Ltd. The figure provides a visual representation of the performance of the three selected companies based on their price-to-earnings ratio.

FIGURE 4.3: PRICE-TO-EARNINGS RATIO FOR 2018 TO 2023



Source: Data obtained from the IRESS Research Domain, 2024

Shoprite Holdings Ltd: Shoprite’s price-to-earnings ratio at the end of 2018, prior to Covid-19, was 20.28. The price-to-earnings ratio decreased from 2018 to 2019 with 20.46% from 20.28 to 16.13. During Covid-19 the price-to-earnings ratio increased from 2019-2020 with

14.69% from 16.23 to 18.50. The price-to-earnings ratio continued to increase from 2020 to 2021 with 15.57% from 18.50 to 21.38. The price-to-earnings ratio increased further from 2021 to 2022 with 0.09% from 21.38 to 21.40. After Covid-19 the price-to-earnings ratio continued to increase from 2022 to 2023 with 17.33% from 21.40 to 25.11.

SPAR Group Ltd: SPAR had a price-to-earnings ratio of 21.49 at the end of 2018, prior to Covid-19. The price-to-earnings ratio decreased from 2018 to 2019 with 18.61% from 21.49 to 17.49. At the end of 2020 the price-to-earnings ratio decreased further from 2019 to 2020 with 4.52% (from 17.49 to 16.70) this occurred during the first year of Covid-19. The price-to-earnings ratio decreased further from 2020 to 2021 with 16.35% from 16.70 to 13.97. The price-to-earnings ratio continued to decrease from 2022 to 2023 with 29.99% from 13.97 to 9.78. After Covid-19 the price-to-earnings ratio increase from 2022 to 2023 with 98.77% from 9.78 to 19.44.

Pick n Pay Stores Ltd: Pick n Pay had a price-to-earnings ratio of 21.07 at the end of 2018, prior to Covid-19. The price-to-earnings ratio decreased from 2018 to 2019 with 3.51% from 21.07 to 20.33. During Covid-19 the price-to-earnings ratio increased from 2019 to 2020 with 2.85% from 20.33 to 20.91. The price-to-earnings ratio increased further from 2020 to 2021 with 1,67% from 20.91 to 21.26. The price-earnings-ratio decreased from 2021 to 2022 with 10.68% from 18.99 to 99.96. After Covid-19 the price-earnings-ratio increased significantly from 2022 to 2023 with 426.38%.

Conclusion: SPAR Group Ltd started with the highest price-to-earnings ratio of 21.49 followed by Pick n Pay Stores Ltd with 21.07 and Shoprite Holdings Ltd with 20.28. For two consecutive years Pick n Pay did the best from 2019 to 2020 with 20.33c and 20.91, respectively. Shoprite Holdings Ltd took the leading position from 2021 to 2022 with price-to-earnings ratios of 21.38 and 21.40, respectively. Pick n Pay Stores Ltd once again had the highest price-to-earnings ratio in 2023 of 99.96. The above-mentioned results indicate that Pick n Pay Stores Ltd overall had the best performing price-to-earnings ratio from the period 2018 to 2023. Shoprite Holdings Ltd performed second best and SPAR Group Ltd were in last place.

4.2.2 COMPARATIVE ANALYSIS

The following section will compare the performance of the three selected companies based on the three performance criteria, namely share prices, earnings yield and the price-to-earnings ratio. The discussions to follow are based on Table 4.1.

4.2.2.1 Share price

At the end of the first year of this analysis which is 2018 Shoprite performed the best with a share price of R219.76, followed by SPAR with R194.37 and Pick n Pay with R71.59. At the end of 2019 SPAR had the highest share price of R194.46 followed by Shoprite with R152.37 and Pick n Pay in last place with R66.82. At the end of 2020 SPAR was still in the lead with a share price of R180.51 followed by Shoprite with R120.19 and Pick n Pay in last place with R53.54. At the end of 2021 SPAR remained in first place with a share price of R189.08 followed by Shoprite with a share price of R164.36 with Pick n Pay in last place with R54.70. At the end of 2022 Shoprite took first place again with a share price of R224.90 followed by SPAR with a share price of R152.05 and Pick n Pay remaining in last place with R56.05. At the end of the final year of this analysis, which is 2023, Shoprite remained in first place with a share price of R235.76 followed by SPAR with R119.57 and Pick n Pay remained in last place with a share price of R37.47.

4.2.2.2 Earnings yield

In the year 2018 Shoprite ended with the highest earnings yield of 4.93% followed by Pick n Pay with an earnings yield of 4.75% and lastly SPAR with an earnings yield of 4.65%. At the end of 2019 Shoprite had the highest earnings yield of 6.20% followed by SPAR with an earnings yield of 5.72% and Pick n Pay in last place with 4.92%. At the end of 2020 SPAR had the highest earnings yield of 5.99% followed by Shoprite with an earnings yield of 5.41% and in last place, Pick n Pay had an earnings yield of 4.78%. At the end of 2021 SPAR had the highest earnings yield of 7.16% followed by Pick n Pay with an earnings yield of 4.70% and lastly, Shoprite with an earnings yield of 4.68%. At the end of 2022 SPAR had the highest earnings yield of 10.22%, followed by Pick n Pay with an earnings yield of 5.27% and in last place is Shoprite with an earnings yield of 4.67%. At the end of 2023 SPAR had the highest earnings yield of 5.15% followed by Shoprite with 3.98% and in last place Pick n Pay with an earnings yield of 1.00%.

4.2.2.3 Price-to-earnings ratio (P/E)

When the year 2018 ended, SPAR had the highest price-to-earnings ratio of 21.49 followed by Pick n Pay which had a price-to-earnings ratio of 21.07 and lastly Shoprite with a price-to-earnings ratio of 20.28. At the end of 2019 Pick n Pay had the highest price-to-earnings ratio of 20.33 followed by SPAR with a price-to-earnings ratio of 17.49 and in last place, Shoprite with a price-to-earnings ratio of 16.13. At the end of 2020 Pick n Pay had a price-to-earnings

ratio of 20.91, which was the highest, followed by Shoprite with a price-to-earnings ratio of 18.50 and in last place SPAR with a price-to-earnings ratio of 16.70. At the end of 2021 Shoprite had the highest price-to-earnings ratio of 21.38 followed by Pick n Pay with a price-to-earnings ratio of 21.26 and in last place was SPAR with a price-to-earnings ratio of 13.97. At the end of 2022 Shoprite had the highest price-to-earnings ratio of 21.40 followed by Pick n Pay with 18.99 and SPAR in last place with a price-to-earnings ratio of 9.78. At the end of 2023 Pick n Pay had a price-to-earnings ratio of 99.96 followed by Shoprite with a price-to-earnings ratio of 25.11 and in last place SPAR had a price-to-earnings ratio of 19.44.

4.2.3 HYPOTHESES TESTING

The following section will provide the results of the t-tests conducted for the share prices of the three selected companies (Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd) for the six-year period from 2018 to 2023.

Three hypotheses were formulated for each of the three selected companies, namely:

$H_{0,1}$: There is no significant difference between share prices prior to and during Covid-19.

$H_{A,1}$: There is a significant difference between share prices prior to and during Covid-19.

$H_{0,2}$: There is no significant difference between share prices prior to and after Covid-19.

$H_{A,2}$: There is a significant difference between share prices prior to and after Covid-19.

$H_{0,3}$: There is no significant difference between share prices during and after Covid-19.

$H_{A,3}$: There is a significant difference between share prices during and after Covid-19.

TABLE 4.3: HYPOTHESES TESTING OF SHARE PRICES PRIOR, DURING AND AFTER COVID-19

Periods	Mean (share price in ZAR)	t- value	p-value
SHOPRITE HOLDINGS LTD			
2018-2019 (prior)	18 606.50	0.785	0.576
2020-2021 (during)	14 227.50		
2018-2019 (prior)	18606.50	-1.131	0.461
2022-2023 (after)	23 033.00		
2020-2021 (during)	14 227.50	-5.287	0.119
2022-2023 (after)	23 033.00		
SPAR GROUP LTD			
2018-2019 (prior)	19 441.50	2.269	0.264
2020-2021 (during)	18 479.50		
2018-2019 (prior)	19 441.50	3.599	0.173
2022-2023 (after)	13 581.00		
2020-2021 (during)	18 479.50	2.387	0.253
2022-2023 (after)	13 581.00		
PICK N PAY STORES LTD			
2018-2019 (prior)	6 920.50	5.088	0.124
2020-2021 (during)	5 412.00		
2018-2019 (prior)	6 920.50	3.250	0.190
2022-2023 (after)	4 676.00		
2020-2021 (during)	5 412.00	0.746	0.592
2022-2023 (after)	4 676.00		

4.2.3.1 Interpretation of results

Shoprite Holdings Ltd: The differences in the share prices for Shoprite for the periods prior to Covid and during Covid, prior to Covid and after Covid, and during Covid and after Covid were not statistically significant ($p < 0.05$). Therefore, hypotheses $H_{0,1}$, $H_{0,2}$, $H_{0,3}$ is accepted for Shoprite as no significant differences were found while the alternative hypotheses $H_{A,1}$, $H_{A,2}$, $H_{A,3}$ are rejected.

SPAR Group Ltd: The differences in the share prices for SPAR for the periods prior to Covid and during Covid, prior to Covid and after Covid, and during Covid and after Covid were not

statistically significant ($p < 0.05$). Therefore, hypotheses $H_{0,1}$, $H_{0,2}$, $H_{0,3}$ is accepted for SPAR as no significant differences were found while the alternative hypotheses $H_{A,1}$, $H_{A,2}$, $H_{A,3}$ are rejected.

Pick n Pay Stores Ltd: The differences in the share prices for Pick n Pay for the periods prior to Covid and during Covid, prior to Covid and after Covid, and during Covid and after Covid were not statistically significant ($p < 0.05$). Therefore, hypotheses $H_{0,1}$, $H_{0,2}$, $H_{0,3}$ is accepted for Pick n Pay as no significant differences were found while the alternative hypotheses $H_{A,1}$, $H_{A,2}$, $H_{A,3}$ are rejected.

4.3 SUMMARY

The results of the research study were presented in this chapter. Table 4.1 presents the data drawn from the IRESS database, which provides the three performance indicators, namely the share prices, earnings yield and the price-to-earnings ratio of the three selected companies (Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay) for the six-year period from 2018 to 2023. Table 4.2 presents the percentage changes based on the data presented in Table 4.1. The first section provides a discussion on the trend analyses based on the data presented in Table 4.1 and Table 4.2. The second section provides a comparative analysis of the data presented in table 4.1. The third section on this chapter provides the results of the three hypotheses that were formulated to determine whether Covid-19 had a statistically significant difference on the share prices of the three selected grocery store companies. The fourth and final section is a summary of the results chapter. In the final chapter to follow a summary of the study is presented, as well as in which chapters the research objectives were achieved. Thereafter a discussion of the results and recommendations is provided, followed by the limitations of the study and ending with a conclusion.

5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This is the final chapter of the study, and it will first provide a brief overview of the study. The sections to follow thereafter will provide a discussion of the results and recommendations will be made. Lastly, a conclusion will be provided.

5.2 OVERVIEW OF THE STUDY

Chapter One presented an introduction and a background to the study, followed by the problem statement and thereafter the primary, secondary, and methodological research objectives were given. The primary objective of this study was to investigate the share price fluctuations of companies within the grocery store sector prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023). Chapter One also included discussions of the key concepts used throughout the study, the significance of the study, and the structure of the study.

Chapter Two presented the literature review of the study. The chapter starts with definitions of the key concepts used throughout the study, such as shareholders' wealth maximisation, share prices, price-to-earnings ratio, earnings yield, grocery store sector and the Covid-19 pandemic. The following section provided a detailed description of the South African grocery store sector while also providing background information on the selected grocery store companies namely, Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. Thereafter a summary of the key performance indicators of the individual companies over a three-year period (2021-2023) were given in table format. The chapter concluded with a discussion on previous research that relate to this study, which indicated how Covid-19 has impacted the grocery store sector in multiple countries and caused high volatility in the food supply chain.

Chapter Three explained the research design and methodology used in this study. The chapter started with a description of each of the components applicable to this study. The approach used to analyse the data was the deductive approach. The study applied comparative research, archival research and made use of a longitudinal time-horizon. The chapter provided a discussion on the population and sampling techniques and indicated that non-probability sampling was employed during the study. The data collection method for this study was desk research and the measuring instrument include a template where data was drawn from the IRESS database based on the three performance indicators, namely, share prices, earnings yield and the price-to-earnings ratio. Statistica was also applied where t-tests were used to conduct the hypotheses testing. This chapter highlighted the ethical considerations that had to be

undertaken to conduct this study and concluded with a summary of the main key factors that form part of the research design of this study.

Chapter Four presented the results of this study. The chapter started with an introduction, followed by the data collected from the IRESS databases presented in table format. The following section includes a trend and comparative analysis of the performance indicators which are the share prices, earnings yield and the price-to-earnings ratios of three selected grocery store companies namely, Shoprite Holdings Ltd, SPAR Group Ltd and Pick n Pay Stores Ltd. In the third section of this chapter a hypotheses testing was conducted based on the share prices of three selected companies. The results of the tests are given in table format followed by an interpretation of the results.

Table 5.1 presents the primary, secondary and methodological objectives and in which chapters of the study it was achieved.

TABLE 5.1: RESEARCH OBJECTIVES ACHIEVED

Objectives		Chapters
Primary objective:		Achieved
The primary objective of this study is to investigate share price fluctuations of companies within the grocery store sector prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).		Chapters 1-5
Secondary Objectives:		
SO ¹	To determine the share prices of selected companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).	Chapter 4
SO ²	To compare the share prices of selected companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023).	Chapter 4
Methodological Objectives:		
MO ¹	To conduct a literature review on the selected companies in the grocery store sector.	Chapter 2
MO ²	To determine the most appropriate research design and methodology for the study.	Chapter 3
MO ³	To analyse and compare the share prices of the selected companies.	Chapter 4
MO ⁴	To make recommendations to the selected companies regarding the share price movements.	Chapter 5

5.3 DISCUSSION OF RESULTS AND RECOMMENDATIONS

The following section provides a discussion of the results from the study, which indicates how the secondary objectives were achieved, followed by recommendations.

5.3.1 SHARE PRICES, EARNINGS YIELD AND PRICE-TO-EARNINGS RATIO

The first secondary objective was to determine the share prices of the selected companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023). In the results chapter (Chapter Four), the share prices of the three selected companies were provided. This data was extracted from the IRESS databases. Along with the share prices, two other performance indicators were also extracted, namely the earnings yield and price-to-earnings ratios. The two additional performance indicators have a direct relation to the share prices and influences investors decision-making. The results indicate that Shoprite, SPAR and Pick n Pay's share prices became more volatile due to the Covid-19 pandemic. All three companies had a decrease in their share prices from 2019 to 2020 (before Covid-19) and an increase right after that from 2020 to 2021. There is however no consistent pattern of the fluctuations in the share prices because of Covid-19. The hypotheses that were formulated in Chapter One and tested in Chapter Four found that Covid-19 influenced the financial performance of the companies; however, the differences in the share prices were found not to be statistically significant for none of the three selected companies.

5.3.2 COMPARING THE SHARE PRICES OF THE THREE SELECTED COMPANIES

The second secondary objective was to compare the share prices of the selected companies prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023). The comparative study that was conducted based on the share prices as a performance indicator showed that Shoprite overall performed the best followed by SPAR with Pick n Pay in last place for the six-year duration from 2018 to 2023.

Shoprite's share prices were the most stable, as it decreased before Covid-19 from 2018 to 2020 and increased during and after the pandemic after 2020 and onwards. SPAR had an increase in their share prices from 2018 to 2019, a decrease from 2019 to 2020, an increase from 2020 to 2021 and a decrease in the share prices from 2021 to 2023. Pick n Pay also had unstable share price fluctuations where it decreased from 2018 to 2020, increased from 2020 to 2022 and decreased again from 2022 to 2023.

5.3.3 RECOMMENDATIONS

To avoid share price fluctuations in the grocery store sector, companies should ensure the following:

Supply chain resilience: Grocery stores should have measurements in place that will ensure that product availability will remain uninterrupted during crisis situations such as the Covid-19 pandemic. This can be done by making sure that the grocery store source their supply from a variety of suppliers and not just relying on a small group of suppliers. Grocery stores can also have back-up stock kept in warehouses of essential goods readily available. Grocery stores can also substitute fresh food with processed food when they are short in supply or find other alternative products that would also satisfy the same customer needs.

Investment in e-commerce and delivery infrastructure: Grocery stores should invest in e-commerce and delivery infrastructure. Covid-19 indicated the importance of online shopping and the increased demand for home delivery services. Grocery stores can meet the increased online demand from customers through implementing e-commerce platforms, efficient delivery logistics and through customer support systems. Shoprite Holdings Ltd have successfully implemented their Checkers sixty-60 initiative where customers can use their app, order their groceries online and have it delivered to their door within 60 minutes after payment. SPAR implemented their online shopping initiative named SPAR-2U and so did Pick n Pay with their Pick n Pay ASAP! app which provides customers with the convenience of buying groceries from the comfort of their home.

Transparency: Grocery stores should remain transparent towards shareholders in crisis situations such as the Covid-19 pandemic. Shareholders should be aware of the negative impact of the crisis on the value of their shares. Grocery stores should also put shareholders at ease with standards and measurements in place to ensure that the value of their shares do not deteriorate below a point that deems it worthless. Transparency builds trust and avoid an unnecessary sell-off of shares out of fear and uncertainty. The company can schedule an emergency online or face-to-face meeting with shareholders to discuss the impact of the crisis, but also discuss how the company will counteract occurring implications. The company should ensure an open line of communication through webinars and question-and-answer sessions with shareholders. Regular updates of the performance of the company should also be given to shareholders via emails, WhatsApp groups or weekly MS Teams/Zoom meetings.

5.4 LIMITATIONS TO THE STUDY

The first limitation includes how the study only focusses on the impact of Covid-19 on the grocery store sector. The study is only based on South-African companies. Thus, the results of the study cannot be generalised to other sectors of the economy or to other countries' grocery store sectors. It should be recommended that further studies should be conducted to also evaluate the impact on the complete vertical supply chain of grocery stores and not just the impact on the retailers. This will provide better insight in determining whether the pandemic did have a statistically significant difference on the grocery store sector.

The second limitation is that hypotheses testing was only conducted on share prices to determine whether Covid-19 had a statistically significant influence on the share prices of the three selected companies. Other performance indicators such as the earnings yield, price-to-earnings ratio, dividends per share etc could have also been tested. This could have provided a better view of the impact of Covid-19 on the performance of the three selected companies.

The maximum number of pages for this study is restricted to 40 pages. If more pages were allowed, more performance indicators could have been used and tested to investigate the influence of Covid-19 on the financial performance of the selected companies. A more in-depth literature review could have been done on the previous research related to this study. This would provide better insight of how the pandemic impacted different levels of the food supply chain, how shareholders reacted to the pandemic and how grocery store companies implemented measures to combat the impact of the pandemic.

5.5 CONCLUSION

The study achieved its primary objective which was to investigate the fluctuations of share prices of companies within the grocery store sector prior to (2018 and 2019), during (2020 and 2021) and after Covid-19 (2022 and 2023). This study serves as a foundation for further investigation of the impact of Covid-19 on the South-African grocery store sector, to determine whether companies selling essential goods will decline in their performance due to a crisis such as the pandemic. The recommendations provided can help companies in the grocery store sector to meet the needs of consumers if any similar situation to the Covid-19 pandemic may arise. The recommendations can ensure that sales do not decline, which will affect the performance of grocery store companies, thus deteriorating the value of shares.

LIST OF SOURCES

Abraham, R., Harris, J. & Auerbach, J. 2017. Earnings Yield as a Predictor of Return on Assets, Return on Equity, Economic Value Added and the Equity Multiplier. *Modern Economy*, 8(1):10-24.

Ahmad, A., Bello, M.U., Kasim, R. & Martin, D. 2014. Positivist and non-positivist paradigm in social science research: Conflicting paradigms or perfect partners? *Journal of Management and Sustainability*, 4(3):79-95.

Almashaqbeh, M., Islam, M.A., Bakar, R. & Ghazalat, A. 2020. The effect of audit quality on the share prices in Amman Stock Exchange. *International Journal of Multidisciplinary Sciences and Advanced Technology*, 1(9):10-22.

Aqdas, W., Munir, S and Mangi, Q.A. 2021. Determinants of Earning Yield and Its Impact on Equity Market Returns- KSE 2010-2020. *Turkish Online Journal of Qualitative Inquiry (TOJQI)*, 12(8):5509-5526.

Banerjee & Chaudhury, 2010. Statistics without tears: Populations and samples. *Industrial Psychiatry Journal*, 19(1):60-65.

Boyle, P., Bond, R., Carracedo, J.M., Simmons, G., Mulvenna, M. & Hollywood, L. 2021. The impact of the COVID-19 pandemic on grocery shopper behaviour: Analysis of shopper behaviour change using store transaction data. *Journal of Consumer Behaviour*, 21(2):259-271.

Brealey, R.A., Myers, S.C. & Allen, F. 2003. *Principles of corporate finance*. New York: McGraw-Hill Education.

Carpenter, J. & Moore, M. 2006. Consumer demographics, store attributes, and retail format choice in the US grocery market. *International Journal of Retail & Distribution Management*, 34(6):434-452.

Duffy, E.W., Wen, S., Bercholz, M., Davis, C.R., De Marco, M., Hall, M.G., Maselko, J. & Smith Taillie, L. 2024. Special supplemental nutrition program for women, infants, and children participant grocery store purchases during the COVID-19 pandemic in North Carolina. *Current Developments in Nutrition*, 8:1-9.

Furqaan, A. & Darmansyah, A. 2023. The effect of profitability, solvability, and liquidity on stock prices before and during the Covid-19 pandemic. *Journal of Social Science*, 2(10):958-984.

Gkirtsou, C., Konstantinidis, T., Cassimos, D., Konstantinidou, E.I., Kontekaki, E.G., Rekari, V., Bezirtzoglou, E., Martinis, G. & Stergiannis, P. 2022. Views and attitudes of blood donors toward blood donation during the COVID-19 pandemic in Thrace Region, Greece. *International Journal of Environmental Research and Public Health*, 19(9):1-9.

Hasibuan, D.H.M. & Rahman, M.S. 2023. The effect of earnings per share, current ratio, and debt to equity ratio on stock prices before and during the Covid-19 pandemic with price earning ratio as a moderating variable. *Journal of Economics, Finance and Management Studies*, 6(8 August):3630-3643.

Hohler, J. & Lansink, A.O. 2020. Measuring the impact of COVID-19 on stock prices and profits in the food supply chain. *South African Medical Research*, 37:171-18.

IRESS Research Domain. 2024. [ONLINE]. Available: <https://0-research.mcgregorbfa.com.wam.seals.ac.za/Default.aspx> (Accessed: 28 July 2024).

Kalama, D. J. 2013. *The relationship between earnings and share prices of firms listed at the Nairobi securities exchange*. Nairobi: University of Nairobi. (Unpublished M.Com dissertation).

Khan, Z.A. & Hussanie, I. 2018. Shareholders wealth maximization: Objective of financial management revisited. *International Journal of Enhanced Research in Management & Computer Applications*, 7(3):739-741.

Krauss, S.E. 2005. Research aradigms and meaning making: A primer. *The Qualitative Report*, 10(4):758-770.

Leedy, P.D. & Ormod, J.E. 2013. *Practical research: Planning and design*. New York: Pearson.

Meyer, F., Reardon, T., Davids, T., Van der Merwe, M., Jordaan, D., Delpport, M. & Van Den Burgh, G. 2022. Hotspots of vulnerability and disruption in food value chains during COVID-19 in South Africa: industry- and firm-level “pivoting” in response. *Agrekon*, 61(1):21-41.

Mmadubuobi, L., Okegbe, T. & Egbunike, F. 2022. Effect of cash flow management on share price volatility of oil and gas firms listed on the Nigerian Exchange Group. *Accounting Global Journal*, 8(3):110-127.

Njomane, L. & Telukdarie, A. 2022. Impact of COVID-19 food supply chain: Comparing the use of IoT in three South African supermarkets. *Technology in Society*, 71:1-10.

Ntege, J. & Nampeera, R. 2021. *The differences among research paradigms of "positivistic" and "interpretative"*. [ONLINE]. Available: https://www.researchgate.net/publication/356185799_the_differences_among_research_paradigms_of_positivistic_and_interpretative (Accessed: 6 May 2024).

Ogunmefu, G.T., Ojenike, J.O., Sanyaolu, W.A. & Shodiya, O.A. 2019. Shareholder wealth maximization and investment decisions of Nigerian Food and Beverage Companies. *Acta Univ. Sapientiae, Economics and Business*, 7(1):47-63.

Overview of Sampling Procedures. 2017. *Fairfax County Department of Management and Budget*. [ONLINE]. Available: [overview%20of%20sampling%20procedures%202017.pdf](#) (Accessed: 25 May 2024).

Pauwels, K. & Bruggemann, P. 2024. How attitudes and purchases differ between also-online versus offline-only grocery shoppers in online and offline grocery shopping. *Electronic Commerce Research*, 1-37.

Pick n Pay Stores Ltd. 2021. Annual Integrated Report. [ONLINE]. Available: <https://www.picknpayinvestor.co.za/pdf/annual-report/2021/pick-n-pay-iar-new.pdf> (Accessed: 1 May 2024)

Pick n Pay Stores Ltd. 2022. *Annual Integrated Report*. [ONLINE]. Available: <https://www.picknpayinvestor.co.za/pdf/annual-report/2022/fy22-integrated-annual-report-single-pages.pdf> (Accessed: 2 May 2024).

Pick n Pay Stores Ltd. 2023. *Annual Integrated Report*. [ONLINE]. Available: <https://www.picknpayinvestor.co.za/downloads/annual-report/2023/integrated-annual-report-2023-spreads.pdf> (Accessed: 4 May 2024).

Pick n Pay-AGE (African Growing Enterprises). 2010. *Institute of Developing Economies*. [ONLINE]. Available: https://www.ide.go.jp/English/Data/Africa_file/Company/southafrica06.html (Accessed: 4 May 2024).

Pillai, R., Purohit, H. & Sharif, T. 2015. Analysis of factors affecting share prices: The case of Bahrain Stock Exchange. *International Journal of Economics and Finance*, 7(30):207-216.

Profile's Stock Exchange Handbook – Issue 1. 2024. [ONLINE]. Available: <https://www.profile.co.za/shb/2023-1/index.html> (Accessed: 2 May 2024).

Reddy, N. & Ngqinani, P. 2023. *Retail foods*. USDA. [ONLINE]. Available: <https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Re>

tail%20Foods_Pretoria_South%20Africa%20-%20Republic%20of_SF2023-0019.pdf

(Accessed: 5 May 2024).

Rehman, A.A. & Alharthi, K. 2016. An introduction to research paradigms. *International Journal of Educational Investigations*, 3(8):51-59.

Reitz, J.M. 2024. *Introduction to Archival Research*. [ONLINE]. Available: <https://libguides.library.cofc.edu/archivalresearch> (Accessed: 25 May 2023).

Sahoo, P.K. 2021. COVID-19 pandemic and cryptocurrency markets: An empirical analysis from a linear and nonlinear causal relationship. *Studies in Economics and Finance*, 38(2):454-468.

Saunders, M., Lewis, P. & Thornhill, A. 2019. *Research Methods for Business Students*. New York: Pearson.

Sharma, S. 2011. Determinants of Equity Share Prices in India. *Journal of Arts, Science & Commerce*, 15(46):205-228.

Shoprite Holdings Ltd. 2021. Annual Integrated Report. [ONLINE]. Available: <https://www.shopriteholdings.co.za/docs/shoprite-ir-2021-ia.pdf> (Accessed: 4 May 2024).

Shoprite Holdings Ltd. 2022. Annual Integrated Report. [ONLINE]. Available: <https://www.shopriteholdings.co.za/docs/shp-ir-2022.pdf> (Accessed: 3 May 2024).

Shoprite Holdings Ltd. 2023. *Annual Integrated Report*. [ONLINE]. Available: <https://www.shopriteholdings.co.za/docs/shp-ir-2023> (Accessed: 4 May 2024).

Shoprite-AGE (African Growing Enterprises). 2010. *Institute of Developing Economies*. [ONLINE]. Available: https://www.ide.go.jp/English/Data/Africa_file/Company/zambia05.html (Accessed: 4 May 2024).

Shuaibu, S. & Mohammed, A.M. 2023. The effect of earnings management on shareholders' wealth maximization from the perspective of money deposit banks in Nigeria. *Recent Trends in Data Mining and Business Forecasting*, 4(1):43-49.

SPAR Group Ltd. 2021. Annual Integrated Reports. [ONLINE]. Available: https://thespargroup.com/wp-content/uploads/2021/12/SPAR_Annual_IR_2021_Interactive.pdf (Accessed: 2 May 2024).

- SPAR Group Ltd. 2022. Annual Integrated Reports. [ONLINE]. Available: https://thespargroup.com/wp-content/uploads/2022/12/SPAR_IAR_2022_Singles.pdf (Accessed: 1 May 2024).
- SPAR Group Ltd. 2023b. *Annual Integrated Reports*. [ONLINE]. Available: https://thespargroup.com/wp-content/uploads/2023/12/SPAR_IAR_2023_Interactive.pdf (Accessed: 4 May 2024).
- SPAR Group. 2023a. *History*. [ONLINE]. Available: <https://theSPARgroup.com/about-us/history/> (Accessed: 4 May 2024).
- Statistics Resources. 2024. *Academic Success Center*. [ONLINE]. Available: [https://resources.nu.edu/statsresources/DependentSamples#:~:text=The%20dependent%20samples%20t%2Dtest,\(group\)%20to%20the%20other.](https://resources.nu.edu/statsresources/DependentSamples#:~:text=The%20dependent%20samples%20t%2Dtest,(group)%20to%20the%20other.) (Accessed: 7 September 2024).
- Struwig, M. & Stead, G.B. 2023. *Conducting Research*. Pretoria: Wize Books.
- Taherdoost, H. 2016. Sampling methods in research methodology: How to choose a sampling technique for research. *International Journal of Academic Research in Management*, 5(2):18-27.
- Taubah, I.D., Roslina, N.Y., Damayanti, I. & Tansar, I.A. 2024. The Influence of Earning Per Share (EPS) and Price Earnings Ratio (PER) on Stock Prices in the Food and Beverage Sector on the Indonesian Stock Exchange (BEI) for the 2015-2019 Period. *Journal of Economics, Management, and Entrepreneurship*, 2(1):49-63.
- The Competition Commission. 2019. *The Grocery Retail Market Inquiry Final report*. [ONLINE]. Available: <https://www.compcom.co.za/wp-content/uploads/2019/12/GRMI-Non-Confidential-Report.pdf> (Accessed: 2 May 2024).
- Travis, 2016. *Desk research: The what, why and how*. [ONLINE]. Available: <https://www.userfocus.co.uk/articles/desk-research-the-what-why-and-how.html> (Accessed: 25 May 2024).
- Watson, D. & Head, A. 2010. *Corporate finance: Principles and practice*. Harlow: Pearson Education.
- Windsor, D. 2010. Shareholders' Wealth Maximisation. Chapter in *Finance ethics: Critical issues in theory and practice*, 437-455.

Yiyang, V.S., Liu, B. & Prodromou, T. 2022. The determinants of the covid-19 related stock price overreaction and volatility. *Studies in Economics and Finance*, 39(1):125-149.

Yusuf, L., Otu, J.A. & Apeh, I.I. 2024. A study of common errors in hypothesis formulation and testing among university students in social and management sciences. *Journal of Advanced Research and Multidisciplinary Studies*, 4(2):48-60.

Zaremba, A., Kizys, R., Aharon, D.Y. & Demir, E. 2020. Infected markets: novel coronavirus, government interventions, and stock return volatility around the globe. *Finance Research Letters*, 35:1-15.

APPENDIX A: DATA COLLECTION TEMPLATE

	Prior to Covid-19		During Covid-19		After Covid-19	
	2018	2019	2020	2021	2022	2023
SHARE PRICES (cents)						
Shoprite Holdings Ltd						
SPAR Group Ltd						
Pick n Pay Stores Ltd						
EARNINGS YIELD						
Shoprite Holdings Ltd						
SPAR Group Ltd						
Pick n Pay Stores Ltd						
PRICE-TO-EARNINGS RATIO						
Shoprite Holdings Ltd						
SPAR Group Ltd						
Pick n Pay Stores Ltd						



**FACULTY OF BUSINESS AND ECONOMIC SCIENCES
DEPARTMENT OF BUSINESS MANAGEMENT**

ETHICAL CONSIDERATION FOR HONOURS TREATISE

INSTRUCTIONS

- Should be completed by study leader and student.
- Must be signed off by the student, study leader and HoD.
- Submit completed form to Ms Kim Alexander.
- Please ensure that a summary of the research methodology section of the treatise is attached to this form (*Complete Annexure A*).
- ***Please note that by following this ethics route, the study will NOT be allocated an ethics clearance number.***

SECTION A – STUDENT ACKNOWLEDGMENT

- The student acknowledges that their research project is for academic qualification purposes only. As such, the research report or any sections thereof ***may not be published.***
- The student also acknowledges that their research project ***will be a desktop study*** and will ***make use of publicly available documents or secondary data.*** No human subjects will be involved in the study as primary sources of data.

Secondary data, in this instance, refers to data that was collected and processed by someone else for some other purpose but is now being used by the researcher for another reason (Tripathy, 2013). Research utilising secondary data that both exists and has been collected in a public, academic database, for example Google Scholar, is considered desktop research, and generally does not require full ethical approval (Creswell & Poth 2017).

SECTION B – STUDENT AND RESEARCH PROJECT DETAILS

Student name & surname	COURTNEY WALSH
Student number	224075861
Title of treatise	An analysis of share prices within the grocery store sector for the period 2018 to 2023
Qualification	BCOM HONOURS (BUSINESS MANAGEMENT)
Department	FACULTY OF BUSINESS AND ECONOMIC SCIENCES
Study leader	PROF. JANINE KRÜGER

APPENDIX B: ETHICS CLEARANCE

SECTION C – ETHICS CRITERIA

	<i>(Please tick the appropriate block)</i>	YES	NO
1.	Is there any risk of harm, embarrassment of offence, however slight or temporary, to the participant, third parties or to the communities at large?		<input checked="" type="checkbox"/>
2.	Is the study based on a research population defined as 'vulnerable' in terms of age, physical characteristics and/or disease status?		<input checked="" type="checkbox"/>
2.1	Are subjects/participants/respondents of your study:		
2.1.1	Children under the age of 18?		<input checked="" type="checkbox"/>
2.1.2	NMU staff?		<input checked="" type="checkbox"/>
2.1.3	NMU students?		<input checked="" type="checkbox"/>
2.1.4	The elderly/persons over the age of 60?		<input checked="" type="checkbox"/>
2.1.5	A sample from an institution (e.g. hospital/school)?		<input checked="" type="checkbox"/>
2.1.6	Handicapped (e.g. mentally or physically)?		<input checked="" type="checkbox"/>
3.	Does the data that will be collected require consent of an institutional authority for this study? (An institutional authority refers to an organisation that is established by government to protect vulnerable people)		<input checked="" type="checkbox"/>
3.1	Are you intending to access participant data from an existing, stored repository (e.g. school, institutional or university records)?		<input checked="" type="checkbox"/>
4.	Will the participant's privacy, anonymity or confidentiality be compromised?		<input checked="" type="checkbox"/>
4.1	Are you administering a questionnaire/survey that:		
4.1.1	Collects sensitive/identifiable data from participants?		<input checked="" type="checkbox"/>
4.1.2	Does not guarantee the anonymity of the participant?		<input checked="" type="checkbox"/>
4.1.3	Does not guarantee the confidentiality of the participant and the data?		<input checked="" type="checkbox"/>
4.1.4	Will offer an incentive to respondents to participate, i.e. a lucky draw or any other prize?		<input checked="" type="checkbox"/>
4.1.5	Will create doubt whether sample control measures are in place?		<input checked="" type="checkbox"/>
5.	Do you wish to publish any research output (i.e. article) from this study?		<input checked="" type="checkbox"/>

Please note that if ANY of the questions above have been answered in the affirmative (YES) the student will need to complete the full ethics clearance form (MEOS REC-H application) and submit it with the relevant documentation to the Faculty RECH (Ethics) committee.

The student hereby certifies that he/she has given his/her research careful ethical consideration and full ethics approval is not required.

SECTION D – INFORMATION TO BE INCLUDED INTO THE RESEARCH REPORT

(The section below should be edited and aligned to the specifics of the study)

1. ETHICAL CONSIDERATIONS

This study will follow the ethical research considerations that apply to all research in the social sciences, which are defined as moral rules and professional codes of conduct to the collection, analysis, reporting, and publication of information about research subjects (Pietilä, Nurmi, Halkoaho & Kyngäs, 2020:49). The research will, at all times, adhere to the following ethical considerations:

1.1 Informed Consent

Where data is freely available on the Internet, books or other public forum, permission for further use and analysis is implied, however, the ownership of the original data must be acknowledged (Tripathy, 2013).

1.2 Anonymity and Confidentiality

To ensure privacy and to protect individuals or institutions within the secondary data, a privacy plan or protocol will be in place to protect the confidentiality of the users. This may include removing identifiable information, securely storing the data and removing any sensitive information prior to distribution of the outcome of the study (where needed).

1.3 Action and Competence of Researchers

The study will be undertaken in an ethically correct manner. Under no circumstances would the researcher in this study make judgments about data, falsify data or plagiarise.

1.4 Respect of Intellectual Property

Intellectual property is the creation arising from intellectual activity, and this study will acknowledge and reference all ideas and sources used in the study.

1.5 Beneficence

The study topic being researched is for degree purposes only and will not be published.

1.6 Non-Maleficence

Non-maleficence makes sure that what is being done is not harmful and that harm is not done by omitting care or treatment. This study will make sure that no harm will come to anyone connected to the study. This body of work and the documents consulted will also adhere to the Protection of Personal Information Act (PoPIA). POPIA governs the collection, processing and sharing of personally identifiable information (PII).

1.7 Applying for ethical consideration

The researcher will apply for ethical consideration from the **Department of Business Management** (Nelson Mandela University) to have the right to research within the intended domain. The research process, in particular data collection, may only be conducted once ethical clearance has been granted, i.e., the ethics form has been signed by the student, the study leader and the Head of Department.

SECTION E – SIGNATURES AND DATES



STUDENT

18/04/2024
DATE



STUDY LEADER

19 April 2024
DATE



HEAD OF DEPARTMENT

2024/04/22
DATE

REFERENCES

- Cilliers, L. & Viljoen, K. (2021). A framework of ethical issues to consider when conducting internet-based research. *South African Journal of Information Management*, 23(1).
- Creswell, J.W. & Poth, C.N. (2017). *Qualitative inquiry and research design: Choosing among five approaches*, Sage, London.
- Pietilä, A. M., Nurmi, S. M., Halkoaho, A. & Kyngäs, H. (2020). Qualitative research: Ethical considerations. In *The application of content analysis in nursing science research*, Cham. Springer, 49-69.
- Tripathy, J.P. (2013). Secondary Data Analysis: Ethical Issues and Challenges. *Iran Journal of Public Health*. 42(12): 1478–1479.

C Walsh 224075861

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**APPENDIX D: GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN
WRITING PROCESS – USAGE DECLARATION**

Student declaration:

During the undertaking of preparing and writing this mini treatise, I **Courtney Walsh**, with student number **224075861**, declare that *I have not used AI in an unacceptable manner as described by Nelson Mandela University's Institutional Position Statement on the use of Generative Artificial Intelligence.*

I further declare that *I have used ChatGPT in order to* gain insights, clarify complex topics, and to improve my understanding to produce more well-informed and structured work.

I *also acknowledge* that I am ultimately responsible and accountable for the contents of this mini treatise.

SIGNATURE STUDENT:



DATE:

09/09/2024