Gordon Institute of Business Science
University of Pretoria

Stakeholder Value derived from Competitive Strategy in South African listed companies

23013665

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Philosophy (Corporate Strategy).

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Abstract

Historically, it was acceptable for management teams to focus solely on maximising shareholder value (i.e. focus on the needs of one stakeholder being the shareholder). In the past decade however, management teams solely aiming to maximise shareholder returns has become more and more inappropriate. United Nations, business leaders, regulatory authorities, customers, certain group of shareholders and retirement funds require managers to focus on generating value for all stakeholders (with the shareholder being one of the stakeholders) and not prioritise shareholders' interests.

This study focuses on how management actions as reflected in their choice of generic competitive strategy (low-cost or differentiation) impacts stakeholder outcomes. A multivariate linear regression was performed on companies listed on the Johannesburg Stock Exchange to determine this impact. Environment Social and Governance (ESG) indices were used to assess stakeholder outcomes (excluding shareholders), and Return on Assets (ROA) and Tobin's Q were used to assess shareholder outcomes. Main findings are that differentiation strategy generally produces positive stakeholder outcomes whereas implementing a low-cost strategy does not always produce positive outcomes for all stakeholders. In addition, it was found that ESG performance and financial performance relationship is dependant on the financial performance metric that is used.

Keywords

Stakeholder

Value

Low-cost strategy

Differentiation strategy

ESG performance

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Philosophy (Corporate Strategy) at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Student Number: 23013665

25 November 2024

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1. Introduction

1.1 Business relevance of the research

Historically, it was acceptable for management teams to focus solely on maximising shareholder value (i.e. focus on the needs of one stakeholder being the shareholder). This view is reflected in the Business Roundtable (forum of leaders of largest companies in the world) statement in 1997 which stated that companies should solely focus on the interests of shareholders (Business Roundtable, 2022).This focus on shareholders by managers has continued despite many scholars and institutions recommending that interests of other stakeholders need to be taken into account (Smith & Ronnegard, 2016). The practice of managers focusing on shareholders is referred to as shareholder primacy. Main reasons that shareholder primacy has continued is due to managers remuneration mainly being linked to value added to shareholders, and the power that shareholders have over companies (Smith & Ronnegard, 2016).

In the past decade however, management teams solely aiming to maximise shareholder returns has become more and more inappropriate. The latest Business Roundtable view is that managers should manage companies for the benefit of all stakeholders (Business Roundtable, 2022). The remainder of this section explains the reasons it is important for companies to provide value for all stakeholders in South Africa.

The United Nations has set 17 Sustainable Development Goals (SDGs) to ensure that all people live in a world that that has good economic growth, free from conflict, minimal inequality and where human rights and the environment are protected (United Nations, 2024). United Nations (2023) highlights that developing countries are bearing large negative impacts from failures to invest in SDGs. Therefore, the United Nations has called on companies to be held accountable for the SDGs and to deliver its goals (United Nations, 2023).

The implication of this is that the United Nations is calling on companies to implement strategies that will support the 17 SDGs. The SDGs can be interpreted as calling on companies to ensure that their actions benefit all stakeholders (environment, communities, employees, suppliers etc). As a developing country, it is important that South African companies make progress on the SDGs to limit the large negatives impacts referred to by the United Nations.

In line with the United Nations' call, South African pension regulatory authority have highlighted the importance of sustainable business practices. In respect of the regulation of pension funds, the Financial Services Conduct Authority (FSCA) has issued a guidance note highlighting that Regulation 28 of the Pensions Funds Act requires that management of retirement/pension funds (i.e. trustees) should assess Environment, Social and governance(ESG) impact of an asset before investing in it (Financial Services Conduct Authority, 2019). The intention of this requirement is to ensure that retirement fund members also obtain benefit from a good environment and society in addition to the monetary benefits that they will receive from the retirement fund, and all stakeholders of society derive benefits from investments made by retirement funds.

The FSCA guidance note also requires that retirement funds make its investment policy statement available for review by stakeholders on its website (Financial Services Conduct Authority, 2019). This will motivate trustees to invest according to appropriate ESG guidelines, and for the benefit of all its stakeholders to avoid criticism or any sanctions from the FSCA. Evidence that trustees are making investment decisions based on ESG outcomes is provided in the survey conducted by the International Finance Corporation (IFC) and FCSA (International Finance Corporation, 2020). The retirement funds that responded represented 74% of South African retirement assets (International Finance Corporation, 2020). 99% of respondents have investment policy statements that include ESG as a criteria when assessing investments, and 82% are willing to increase allocations to green and climate friendly investments (International Finance Corporation, 2020).

The implication of the FSCA guidance note and IFC and FSCA survey is that if management strategies lead to bad ESG outcomes for companies' various stakeholders, less money will be invested in their companies by trustees of retirement funds. This is important for South African companies as pension funds have large amount of money to invest. According to International Finance Corporation (2020), the total asset under management for the retirement industry is R4.26 trillion.

Funding of companies in the form of equity and debt is important for a company to fund its initiatives to meet its strategic objectives. Limited funding from pension funds will negatively impact the likely success of companies that produce poor ESG outcomes for its various stakeholders.. The role of the management team will be to implement strategies that result in good ESG outcomes to maximise the likelihood of future success for their companies.

Institute of Directors Southern Africa (2016) provides recommendations of good corporate governance practices (i.e. King IV). An important recommendation made by Institute of Directors Southern Africa (2016) is that the development of corporate strategy needs to take into account the impact on society and the environment (i.e. provide value for other stakeholders in addition to shareholders). The Johannesburg Stock Exchange (JSE) encourages listed companies to voluntarily comply with all aspects of King IV (JSE, 2019). This has resulted in many companies including disclosures (for example ESG disclosures) in their integrated reports.

Institute of Directors Southern Africa (2016) also highlights that Millennials (people born after 1980) are a sizeable population and prefer to do business with companies that take sustainability/ESG seriously. This implies that millennials will comprise a large percentage of many companies' customer base. Therefore, to ensure continued sales and profits, companies will need to take actions that result in good ESG outcomes.

Several big companies in South Africa have ESG or sustainability targets as key components of scorecards for executives. Examples of such companies include Naspers, FirstRand and Standard Bank. Naspers (2023) has sustainability as a performance metric that drives remuneration of its executives. FirstRand (2023) performance assessments include stakeholder management, climate risk and shared prosperity. FirstRand (2024) defines shared prosperity as conducting business such that value is generated for shareholder, customers, employees and societies. Standard Bank Group (2023) has non-financial conditions for remuneration which include client focus, employee engagement and positive impact. To obtain good performance assessments, increase their remuneration and build their careers, managers will need to take the interests of all stakeholders seriously.

Many shareholders are demanding that companies take the interests of all stakeholders seriously. an example of such a demand was the cancellation of Sasal's Annual General Meeting (AGM) (Daily Maverick, 2023). The AGM was cancelled due to certain groups of shareholders not being happy with Sasol's client change report (Daily Maverick, 2023).The main reason for shareholders' unhappiness was Sasol's decarbonisation plan which many shareholders believed lacked ambition. The cancellation negatively impacted Sasol's reputation.

In the United Kingdom (UK), the consumer duty rules came into force from 31 July 2023 (FCA, 2024). The consumer duty require financial products and services to provide fair value to customers, and for financial services providers to pay special attention to

customers that are vulnerable (FCA, 2024). This implication that the Financial Conduct Authority (FCA) requires financial services providers to ensure positive customer outcomes.

Many of the rules and regulations adopted by the South Africa financial services regulations have been adopted from rules from the UK. For example, twin peaks model in South Africa of a prudential regulator (Prudential Authority) and conduct regulator (Financial Services Conduct Authority) was adopted from the regulation regime in operation in the UK (i.e. Prudential Regulatory Authority for prudential matters, and FCA for conduct matters) (Qumba, 2022). This means that it is likely that South Africa adopts the consumer duty rules. Therefore, managers of financial services providers need to consider adopting these rules in their strategy to avoid any possible sanctions in future.

The importance of good ESG and stakeholder outcomes is becoming more evident from the demands of the United Nations, FSCA, trustees of retirement funds, boards, shareholders and customers. Managers will need to satisfy the demands of these groups to ensure the continued success of their companies. To do this, managers will need to make choices of how best to use the resources available to them to achieve good ESG and stakeholder outcomes. These choices will be reflected in companies' strategies. When making choices on strategy, managers will need to understand the likely impact on all stakeholders before they implement specific strategies.

1.2 Grounding of research from a theoretical perspective

Even though shareholder primacy is currently the norm among managers, many scholars started to find that managers should focus on the needs of all stakeholders (Harrison et al., 2020; Smith & Ronnegard, 2016). This focus on all stakeholders (in addition to shareholders) is referred to stakeholder theory. The current widely accepted core idea of stakeholder theory is that managers should not prioritise any stakeholder, and aim to generate value for all stakeholders (Smith & Ronnegard, 2016; Freeman et al, 2020; Dmytriyev, et al., 2021; Stoelhorst & Vishwanathan, 2024).

An important event that brought stakeholder theory into focus was the 2008 global financial crisis (Smith & Ronnegard, 2016). The 2008 global financial crisis resulted in a large amount of shareholder value being destroyed (Smith & Ronnegard, 2016). This resulted in many experts questioning the appropriateness of shareholder primacy, and suggesting that alternative frameworks needed to be developed (Smith & Ronnegard, 2016).

Stakeholder theory was the theory that resonated with many scholars/ Reasons that many scholars and experts supported stakeholder theory were as follows:

- Value creation for all stakeholders will ensure that a company is sustainable and successful over the long term (Harrison et al., 2020; Stoelhorst and Vishwanathan, 2024).
- Stakeholder focused companies continuously work to understand stakeholder needs, and therefore are well positioned to adapt to changes in competitive environment which increases the likelihood of survival (Vurro et al, 2022).
- Stakeholder focused companies have access to valuable information and resources due to their interaction with stakeholders (Vurro et al, 2022). This is likely to promote innovation which increases survival rates and therefore creates value for a company (Vurro et al, 2022).
- Stakeholder focused companies create a desire for all stakeholders to work for the company to succeed (Vurro et al, 2022). Therefore, stakeholders will work together to deal with any threats to a company (Vurro et al, 2022).

Based on the evidence of previous studies and the declaration made by the Business Round Table 2019, Harrison et al. (2020) believe that using performance measures linked to utility of a group of stakeholders as dependent variables will provide valuable insights. The norm is for managers to be rewarded for shareholder performance (Smith & Ronnegard, 2016). The impact is a lack of performance metrics linked to the value derived by a group of stakeholders. In relation to this, Harrison et al. (2020) pose the following question “If, indeed, the purpose of a corporation is envisioned as providing value to broad set of stakeholders, is it not also essential to understand how this same group might be adversely affected by the firm’s decisions and behavior” (p. 1233).

The implication of Harrison et al. (2020) statement is that there is a need to understand how managers actions as reflected in their chosen strategies impact a group of stakeholders. To understand this, empirical evidence is required on the nature of the relationship between management actions and stakeholder value. This will enable managers to develop appropriate strategies that will deliver stakeholder value.

He and Chittoor (2023) and Freeman et al. (2020) agree with Harrison et al. (2020). He and Chittoor (2023)’s article explores how the combination of stakeholder strategies and competitive strategies (either low-cost or differentiation) affect the financial performance of a company. The main findings are that it is more likely to produce positive financial performance by implementing differentiation strategies and good stakeholder practices

compared to low-cost strategies and good stakeholder practices. He and Chittoor (2023) highlight that a limitation of their study is that traditional measures of company performance (Tobin's Q and Return on Assets) were used. He and Chittoor (2023) recommend that future studies should incorporate broader measures of company performance which include Environmental, Social and Governance (ESG) factors which is consistent with Harrison et al. (2020)'s recommendation.

Freeman et al. (2020) believe that using profit as a measure of total company performance is inadequate. Freeman et al. (2020) recommend that a company value should be measured as a function of customer, employee, supplier, community and financier value (i.e. measuring the impact on broad group of stakeholders). To measure value for all these stakeholders, performance metrics are required that measure the value added to various stakeholder groups. Freeman et al. (2020) recommend that accounting systems will need to be developed to measure and track value created for stakeholders. Freeman et al. (2020) further recommend that it needs to be further understood how management decisions on stakeholder practices impact the value of a company.

The major constructs arising from the need expressed by Harrison et al. (2020) , Freeman et al. (2020) and He and Chittoor (2023) are competitive strategy and stakeholder value. The need expressed requires the relationship between these constructs to be ascertained. For competitor strategy, from Danso et al. (2019) Lee et al. (2021) and He and Chittoor (2023), possible competitive strategies are low-cost, differentiation, focused and integration. He and Chittoor (2023) provide appropriate methodology on how to measure low-cost and differentiation strategies. Therefore, at a minimum, low-cost and differentiation strategies should be able to be measured in a research study.

Definition of which individuals or groups are stakeholders is important when considering stakeholder value. Based on the literature, there is broad consensus that shareholders, customers, community, suppliers, government, environment and employees (refer to section 2.2.4 for more details). Shareholders are most concerned about maximising returns as presented by financial performance (Harrison et al, 2020). He and Chittoor (2023) use Return on Assets (ROA) and Tobin's Q to measure financial performance. Harrison et al. (2020) argue that it is appropriate to use available ESG indices to assess stakeholder (excluding shareholder) performance. Therefore, there are measures that can used to assess the performance of all stakeholders.

The availability of data to measure competitive strategy and stakeholder values means that a research study can be conducted in respect of the need expressed by Harrison et al. (2020) , Freeman et al. (2020) and He and Chittoor (2023). Crane et al. (2016) recommend that it is useful to develop new theories in specific contexts. By using specific contexts, relationships can be ascertained which may be unique to a specific setting (Crane et al., 2016). Therefore, it is appropriate to conduct research study in South Africa. Scope will be limited to listed companies is information on listed companies is widely available.

1.3 Research question

The current literature and business environment point to a need for a theoretical contribution in respect of how management actions impact all stakeholders (including shareholders, customers, community, suppliers, government, environment and employees). Specifically the management actions of interest is the chosen competitive strategy that management has selected to create value. The anchoring theory is the Stakeholder theory.

Therefore, the selected research question is as follows:

Research question: How does competitive strategy influence the value derived by various stakeholders in South African listed companies?

1.4 Research aims

The aim of the research was to understand the impact of competitive strategy on the value derived by various stakeholders in South African listed companies. To understand the impact, the nature of the relationship between competitive strategy and stakeholder value needs to be evaluated. The research aims to determine if this relationship is positive and negative for the various competitive strategy, and the strength of relationship. In addition, this study will determine if there are other relevant factors that have an impact on stakeholder value.

This research study aims to add to the body of knowledge in respect of stakeholder theory. In particular, it provides empirical evidence in a South African context.

1.5 Research contribution

This study provides evidence of the impact of management actions (as measured by competitive strategy) on the value derived by various stakeholders. Currently, existing studies do not measure stakeholder value as a dependent variable. Therefore, this study will provide a valuable addition to the literature.

The research conducted will also guide managers on the impact of different competitive strategies on stakeholder value. The conclusions obtained from this study will assist managers determine appropriate strategies that are appropriate for their companies, and that will prolong their careers.

1.6 Research scope

The competitive strategies that will be investigated are low-cost and differentiation strategies. Financial performance (ROA and Tobin's Q) and ESG indices will be used to measure performance of other stakeholders. The research will be conducted on South African listed companies as objective and accurate is available for these companies, and this data is widely available.

1.7 Roadmap

The practical and theoretical need for the proposed research study has been discussed in this chapter. Chapter 2 discusses the review of relevant literature whilst chapter 3 proposes the hypotheses based on the literature review. Chapter 4 describes the proposed research methodology and chapter 5 presents the results of the statistical analysis conducted. Chapter 6 provides a discussion of the results. Finally, Chapter 7 outlines the conclusions.

2. A review of relevant literature

2.1 Introduction

This section reviews the literature of the key constructs relating to the research question and provides insight into the reasons that the research question is relevant from a theoretical point of view. The constructs that are reviewed are Stakeholder theory, Resource Based View (RBV) and Environmental, Social and Governance (ESG) performance and financial performance. The final section of the review of the literature contains concluding remarks of the academic work that has been reviewed. Figure 1 shows the roadmap of the review of the relevant literature:

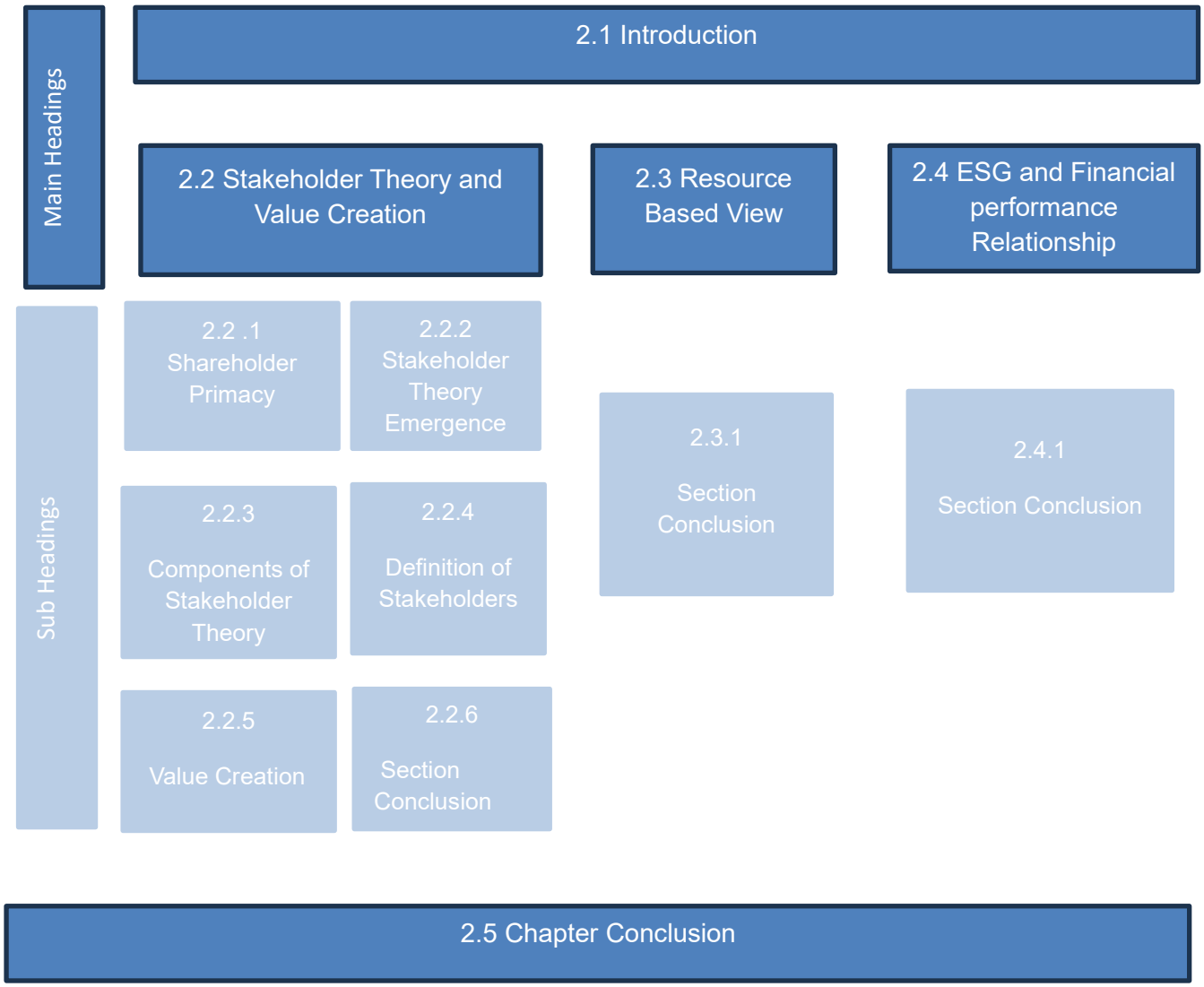

Figure 1: Structure of Review of Literature

Source: Researcher's compilation

2.2 The Relevance of Stakeholder Theory in understanding Value Creation

2.2.1 Shareholder Primacy Norm

Managers are elected by the board of directors (Smith & Ronnegard, 2016). Historically, board of directors main requirement was to increase shareholder wealth as a result of their appointment by shareholders (Smith & Ronnegard, 2016). The resultant impact is that managers have focused on shareholders' interests due to the need to satisfy board of directors requirements, their belief there is a moral requirement to support shareholders' interests, management remuneration being linked to the value added to shareholders, and shareholder focus being widely taught in business schools (Smith & Ronnegard, 2016). In addition, lack of reliable performance metrics for other stakeholder groups has contributed to managers' shareholder focus.

The theory that supported managers' focus on shareholders is referred to as shareholder primacy. Shareholder primacy theory was popularised by Milton Friedman in the 1970s (Harrison et al., 2020). In 1970, Friedman declared that companies have a social responsibility to increase profits (Harrison et al., 2020; Smith & Ronnegard, 2016). From 1970s, shareholder primacy became a norm among managers, board of directors and academics (Harrison et al., 2020; Smith & Ronnegard, 2016; Wicks et al., 2019).

The shareholder primacy norm in companies was justified by

- Common law in United States of America (USA) and United Kingdom (UK) which specified that managers must support shareholders (Smith & Ronnegard, 2016)
- The ease of making shareholder returns as the dependent variable in statistical studies to understand the drivers of performance (Harrison et al., 2020)
- The Business Roundtable 1997 declared that companies exist to serve the requirements of shareholders and that the needs of other stakeholders are secondary (Harrison et al., 2020). (The Business Roundtable is a forum of executives of many of the largest companies in the world ((Harrison et al., 2020)).

Shareholder primacy is not legally enforceable in the USA and UK (Smith & Ronnegard, 2016). In addition, the business judgement rule gives managers' discretion to manage companies to the benefit of other stakeholders (Smith & Ronnegard, 2016). Despite this, shareholder primacy has remained a practice amongst managers (Harrison et al, 2020; Smith & Ronnegard, 2016).

2.2.2 Emergence of Stakeholder Theory

Even though shareholder primacy was prominent since 1970s, many scholars started to find that managers should focus on the needs of all stakeholders (Harrison et al., 2020; Smith & Ronnegard, 2016). Freeman's book written in 1984 was instrumental in

developing stakeholder theory (He & Chittoor, 2023, Smith & Ronnegard, 2016; Donaldson & Preston, 1995).

Freeman (1984) argued that due to the growing activism of various stakeholders (e.g. regulators, unions etc), managers can no longer solely focus on developing products and services to satisfy shareholders' profit requirements only. What was needed for companies to be successful is for managers to adjust their systems, processes and values to focus more on a group of stakeholders (Freeman, 1984). If managers did not make these adjustments, failure of their companies would be guaranteed (Freeman, 1984).

Freeman (1984) believed that an important area of research was developing a theory based on the "concept of management whereby the manager must act in the interests of the stakeholders in the organization" (p. 249). In developing such a theory, it is important to under how different strategies impact the value derived for each stakeholder group (Freeman, 1984). Freeman (1984) highlighted that developing this theory would be difficult to achieve.

The global financial crisis of 2008 resulted in a large amount of shareholder value being destroyed (Smith & Ronnegard, 2016). This resulted in many experts questioning the appropriateness of shareholder primacy, and suggesting that alternative frameworks needed to be developed (Smith & Ronnegard, 2016). This was a catalyst for further research on how stakeholder theory could further be developed. One example of this is conference held in Barcelona in 2011 which was sponsored by Strategic Management Society and European Institute for Advance Studies in Management (Harrison et al. , 2020).

Shareholder primacy is valid when markets are perfectly competitive (Stoelhorst and Vishwanathan, 2024). Perfectly competitive markets are markets where all participants are rational and there is no asymmetry of information (Stoelhorst and Vishwanathan, 2024). Companies working to maximise profits, and participants responding to price changes will maximise value for all stakeholders in perfect markets (Stoelhorst and Vishwanathan, 2024).

However, in reality, markets are not perfect (Stoelhorst and Vishwanathan, 2024). Therefore, shareholder primacy is not valid and an alternative theory is required to maximise the value for all stakeholders (Stoelhorst and Vishwanathan, 2024).

The current widely accepted core idea of stakeholder theory is that managers should not prioritise any stakeholder, and aim to generate value for all stakeholders (Smith & Ronnegard, 2016; Freeman et al, 2020; Dmytriyev, et al., 2021; Stoelhorst & Vishwanathan, 2024). Shareholders are just one of the stakeholders whose requirements need to be met (Smith & Ronnegard, 2016; Dmytriyev, 2021). Value creation for all stakeholders will ensure that a company is sustainable and successful

over the long term (Harrison et al., 2020; Stoelhorst and Vishwanathan, 2024). For example, management action of reducing employee salaries may have short term increase in profits (Harrison et al., 2020). However, this may lead to negative consequences over the long term as customer service declines which will likely result in lower sales and lower profits (Harrison et al., 2020). In this example, both the utility of employees, customers and shareholders has declined. This highlights how the needs of all stakeholders are related and the importance of generating value for all stakeholders.

Stakeholder focus increases the chances that a company survives (i.e. continues to operate in future) and hence increases value created (Vurro et al, 2022). Reasons for this are as follows:

- Stakeholder focused companies continuously work to understand stakeholder needs, and therefore are well positioned to adapt to changes in competitive environment which increases the likelihood of survival (Vurro et al, 2022).
- Stakeholder focused companies have access to valuable information and resources due to their interaction with stakeholders (Vurro et al, 2022). This is likely to promote innovation which increasing survival rates and creates value for a company (Vurro et al, 2022).
- Stakeholder focused companies create a desire for all stakeholders to work for the company to succeed (Vurro et al, 2022). Therefore, stakeholders will work together to deal with any threats to a company (Vurro et al, 2022).

The importance of value creation for all stakeholders was further emphasised by the Business roundtable declaration of 2019. In contrast to the 1997 statement, the 2019 statement declared that the needs of all stakeholders are important (Harrison et al., 2020). The 2019 statement declared that companies should add value to customers, employees, suppliers, communities and shareholders (Harrison et al., 2020). The Business roundtable 2019 declaration is a clear signal that shareholder primacy is being replaced by stakeholder theory (Harrison et al., 2020).

This replacement was further explained by Shin et al. (2021). In this study, Shin et al. (2021) conduct a study on the large United States companies over the period 1980-2015 to determine the influence of shareholder and stakeholder practices on the decision to dismiss Chief Executive Officers (CEOs). What was found by Shin et al. (2021) was that CEOs of poor performing companies were less heavily punished for lack of Corporate Social Responsibility (CSR) prior to 2000 compared to the period after 2000. Implication is board of directors shifted from focusing primarily on shareholders to focusing on all stakeholders. Leaders and management need to be aware of this shift to ensure that they take actions to provide value for all stakeholders to avoid dismissal and prolong their careers. According to Fu et al. (2020), managers should employ a Chief Sustainability Officer (CSO) to increase the likelihood of positive impact on all stakeholders.

2.2.3 Components of Stakeholder Theory

Donaldson and Preston (1995) is a very influential article in respect of Stakeholder Theory (Freeman et al., 2020; Harrison et al., 2020). Donaldson and Preston (1995)

argue that stakeholder theory can explained based on descriptive, instrumental ,normative and managerial perspectives. Donaldson and Preston (1995) explain these components as follows:

- Descriptive – Stakeholder theory describes how managers manage companies, and the impact of company actions (as a result of management decisions) on various stakeholders in the real world (Donaldson & Preston, 1995) . To provide support to the descriptive argument, Donaldson and Preston (1995) provide evidence of laws in the United States of America (USA), Germany, Japan and European Union (EU) which require managers to explicitly consider the interests of various stakeholders. Descriptive aspect is based on observing actual functioning of companies and their environment (Donaldson & Preston, 1995) . Descriptive basis can form the basis for of testing hypotheses (Donaldson & Preston, 1995).
- Instrumental – Provides evidence through statistical analysis in respect of the relationship between stakeholder management strategies and the achievement of various company objectives (viz financial objectives) (Donaldson & Preston, 1995). According to Donaldson and Preston (1995), there is insufficient evidence to justify stakeholder theory from an instrumental perspective. However, in a later article, Gras and Krause (2020) suggest the instrumental aspect predicts a positive relationship between ESG and financial performance.
- Normative – Philosophical argument that it the right thing to do for managers to focus on all stakeholders (not just shareholders) of a company because all stakeholders obtain a certain amount of value from a company Donaldson & Preston, 1995). Donaldson and Preston (1995) argue this is the most important component of stakeholder theory.
- Managerial – Provides recommendations on how manages should pay attention to all stakeholders' needs (Donaldson & Preston, 1995).

Descriptive, instrumental and normative aspects are inter-related (Donaldson & Preston, 1995). Descriptive arguments are made on how the world operates, and the instrumental aspects provides evidence of the descriptive arguments (Donaldson & Preston, 1995). The descriptive arguments assume validity of normative framework (Donaldson & Preston, 1995)..

Descriptive and instrumental arguments maybe insufficient to justify stakeholder theory (Donaldson & Preston, 1995). The normative argument is the most important aspect in

justifying stakeholder theory (Donaldson & Preston, 1995; Stoelhorst & Vishwanathan, 2024).

Donaldson and Preston (1995) argue that its managers' responsibility to manage and allocate resources such that stakeholders' interests are met. This view is consistent with the RBV articulated by Barney (1991) and Lee et al. (2021) where managers have the responsibility of allocating resourcing to generate value (further explanation in section 2.4).

According to Harrsion et al. (2020), Donalson and Preston (1995) article does not discuss the managerial aspect in enough detail. Understanding management implications is important to provide a guide to managers on which actions are the most appropriate. For example, managers need to understand the impact of different strategies on various stakeholders and their careers. Instrumental stakeholder theory studies like He and Chittoor (2023) are valuable in gaining more of an understanding of the management perspective.

2.2.4 Definition of stakeholders

Freeman (1984), Kujala et al. (2022), Shi and Veenstra (2021) and Stoelhorst and Vishwanathan (2024) defines a stakeholder is any individual or group of individuals that is affected or can be affected by the actions of a company. Examples of stakeholders include shareholders, customers, competitors, media, employees, suppliers, environmentalists, governments and local community organisations (Freeman, 1984). According to Donaldson and Preston (1995), stakeholders include shareholders, customers, communities, employees, trade unions, suppliers and government.

McGahan (2021)'s argues that the two categorises for stakeholders are human capital (i.e. employees) and external stakeholders (communities, investors, suppliers, government and customers).Harrison et al. (2020) make reference to employees, shareholders, suppliers, customers and communities as stakeholders.

In He and Chittoor (2023)'s article, stakeholders are categorized into primary and secondary stakeholders. Primary stakeholders are employees, customers, managers and shareholders who derive economic benefits from the company (He & Chittoor ,2023). Secondary stakeholders don't have a direct economic benefit from company which are resource use, emissions, environmental innovation, human rights, community and ESG practices. He & Chittoor (2023). Boaventura et al.(2020) and Vurro et al. (2022) consider shareholders, customers, suppliers, community and employees as stakeholders.

Shareholders, customers, community, suppliers, government, environment and employees have been defined by two or more sources in the literature reviewed. This suggest that there is consensus in the literature that these groups are valid stakeholders of companies. Therefore, stakeholders in this research paper will refer to these groups.

Donaldson and Preston (1995) recommend that applicable legislation and managers' judgement should be considered when deciding which stakeholders a company should serve. Harrison et al.,(2020) recommend that more work needs to be done on what criteria determine whether an individual or group is a legitimate stakeholder of a company.

2.2.5 Value creation measurement in Stakeholder Theory framework

It is important to measure the value added for each stakeholder, and the overall value added for a group of stakeholders (Freeman, 1984). Simple metrics need to developed to assess stakeholder value (Freeman, 1984). This section outlines value metrics for stakeholders that have been recommended by various scholars.

Traditionally, value creation was viewed as creation of value for customers with economic value generated for companies as a result of providing products or/and services (Freudenreich et al., 2020). This approach is now inappropriate, and value must be created by and for different stakeholders (Freudenreich et al., 2020). Without the support of stakeholders in creating value , a company will cease to exist (Freudenreich et al., 2020). In addition, if value is not sufficiently created for all stakeholders, a company will fail (Freudenreich et al., 2020). This implies that managers need to understand how their actions create value for each stakeholder group, and need a measurement system to understand of value created for a particular action. This will enable managers to monitor value created for stakeholders. If the value created is not sufficient based on certain measurements, then actions can be altered to attempt to create more value.

Freudenreich et al. (2020) provides value metrics for the below stakeholders:

- Customers must have a sense that a particular need is satisfied by purchasing a product. In addition, customers can provide valuable data for companies which can be monetised.
- Providers of financial resources (e.g. shareholders) are most concerned about financial returns
- Employees value fair wages
- Suppliers require fair payment for their services and opportunity for recurring contracts
- Communities are concerned that business activities are done legally and ethically

According to Boaventura et al. (2020), managers create value for the company and then value is distributed amongst stakeholders. Managers need to take into account the ability

for stakeholders to harm the company when distributing value (Boaventura et al., 2020). However, prioritising value distribution to one stakeholder does not mean other stakeholders are harmed (Boaventura et al., 2020).

Boaventura et al.(2020)'s study focused on how power and strategic importance impacted the value distributed to stakeholders The stakeholders that were analysed were customers, shareholders, community, employees and suppliers (Boaventura et al., 2020).

The utility function (i.e. value derived) for each stakeholder can be summarised as follows: (Boaventura et al., 2020):

- Customers – Value for money, quality product and quality service
- Shareholders – return on capital
- Community – Jobs created, infrastructure built and social programmes
- Employees – High wages, good safety, work-life balance and good working environment
- Suppliers – Long-term relationship and good price charged -

Based on statistical analysis of Initial Public Offerings (IPOs) in Brazil from 2003 to 2017, it was found that company performance was improved if more value is distributed to strategically important stakeholders than to those stakeholders who have more power (Boaventura et al., 2020).

The objective of He and Chittoor (2023)'s article was to understand how competitive strategy and stakeholder management practices impact a company's financial performance. The strategies that He and Chittoor (2023) compared were low-cost and differentiation strategies. The Thomas Reuters Eikon ESG database is used to assess stakeholder outcomes, and Return on Assets (ROA) and Tobin's Q to assess financial performance (He & Chittoor, 2023). S&P 500 companies were analysed over a period of 15 years (2005-2019).

The main findings are that it is more likely to produce positive financial performance by implementing differentiation strategies and good stakeholder practices compared to low-cost strategies and good stakeholder practices (He & Chittoor, 2023). The implication is that companies' implementing differentiation have a better chance of producing good outcomes to various stakeholders when compared to companies pursuing a low-cost

strategy (He & Chittoor, 2023). He and Chittoor (2023) found that the correlation between low-cost strategy and ESG was negative.

A call is made by He and Chittoor (2023) for future researchers to include broader measure of company performance (in addition to financial performance) which include ESG factors. This is in line with the rationale that if companies purpose is to meet the needs of all stakeholders, then there should be performance metrics that measure the value added by managers to various stakeholders groups. He and Chittoor (2023)'s call imply that using ESG indices is appropriate in assessing value derived by various stakeholders.

Freeman et al. (2020) argue that stakeholder theory was formulated by observing how companies created value. According to Freeman et al. (2020), stakeholder theory originated from the strategic planning where stakeholder information impacted the decision-making process. Freeman et al. (2020) define stakeholder theory as managers understanding how they can create value for stakeholders. Managers need to understand outcomes that each stakeholder values for them to implement strategies that will add value for various stakeholder groups.

Using profit as a measure of total company performance is inadequate (Freeman et al., 2020). Freeman et al. (2020) recommend that a company value should be measured as a function of customer, employee, supplier, community and financier value (i.e. measuring the impact on broad group of stakeholders). Important in measuring stakeholder value created will be the development of accounting system to measure and track value created for stakeholders (Freeman et al., 2020).

Harrison et al. (2020) argue that due to the creation of asset management funds that focus on social causes, many databases have been created that reflect companies' performance on ESG matters. Harrison et al. (2020) suggest that despite the benefits and the wide use of KLD and other databases to measure stakeholder value, there are short comings of these databases when measuring stakeholder value. Shortcomings of the KLD data are that it does not measure the impact of suppliers which are an important stakeholder of a company, and customer relevant data does not include other areas outside of products' safety and reliability (Harrison et al.,2020). These shortcomings are as a result of these databases purpose being to measure social responsibility and not specifically stakeholder value (Harrison et al.,2020).

Crane et al. (2018) also highlight some benefits and shortcomings of using ESG indices. Benefit of ESG indices is stakeholder relevant metrics including income inequality, emissions and work injuries can be measured (Crane et al., 2018). However, it is difficult to determine the impact on the overall system (Crane et al., 2018).

Harrison et al. (2020) argue that ISO 1400 standards, Social Accountability International SA8000 and Global Reporting initiatives can be adapted to measure stakeholder value. Annual reports can also be used to ascertain value added to shareholders, customers, employees and suppliers (Harrison et al.,2020). More research needs to be performed on producing appropriate performance metrics to measure stakeholder value (Harrison et al.,2020).

Using stakeholder holder value metrics as dependent variables will have important implications for management research (Harrison et al.,2020). This will enable the stakeholder impact of specific management actions to be ascertained (Harrison et al.,2020). For example, impact on various stakeholders of retrenchments and acquisitions can be determined (Harrison et al.,2020). Harrison et al. (2020) emphasize the important of this research by posing the following question “If, indeed, the purpose of a corporation is envisioned as providing value to broad set of stakeholders, is it not also essential to understand how this same group might be adversely affected by the firm’s decisions and behavior” (p. 1233).

Remuneration of managers is usually linked to the value added to shareholders (Harrison et al.,2020). The result of this is managers’ actions are focused on improving shareholders’ circumstances. Therefore, Remuneration packages will need to be altered to ensure focus on other stakeholders in addition to shareholders (Harrison et al.,2020). This will likely improve the circumstances of other stakeholders. However, it is difficult to determine the value created for each stakeholder (Barney et al, 2021).

Another initiative that may improve is the composition of board of directors. Board of directors is usually elected by shareholders in UK and USA (Smith & Ronnegard, 2016). In Germany, there are two boards with one consisting of the employee stakeholder group (Harrison et al.,2020). Research will need to done on whether including other stakeholder groups (other than shareholders) on the board of directors will improve various stakeholder groups outcomes (Harrison et al.,2020).

The main focus of DesJardine et al. (2023)’s article is addressing how shareholder influence managers actions in respect of meeting the needs of stakeholders. DesJardine

et al. (2023) argue that shareholders have easier access to the management team than other stakeholders, and therefore can exert influence on how management act. DesJardine et al. (2023) categorises shareholders into 4 categories:

- Transactional ownership – Shareholders are mainly concerned about short term financial performance
- Durable Investment – Shareholders are mainly concerned about long term financial performance and close working relationship with managers
- Purpose-driven ownership – Shareholders are mainly concerned about improving non-financial returns (i.e. ESG performance)
- Sustainable Investment - Shareholders are concerned both about financial and non-financial outcomes.

Different categories of shareholders will influence managers to act in certain ways. For example, short term focused shareholders will prioritise short term financial gains over the welfare of other stakeholders (for example lowering salaries which negatively impacts employees), and may use the threat of selling their shares to incentivize managers to act according to their priorities (DesJardine et al., 2023).

Another example is that purpose-driven ownership will influence managers to consider the ESG impact when deciding on possible actions. Since shareholders usually have great amount of power, the type of shareholder a company can influence the outcomes of other stakeholders. The methods that shareholders can influence stakeholder outcomes are as follows (DesJardine et al.,2023):

- Shareholders voicing their preference to managers or/and threatening to sell their shares if they are not happy about certain issues
- Shareholders owning shares in certain companies signals intent;
- Shareholder providing resources for managers to attend to stakeholder needs; and
- Shareholders make management decisions. This is when relevant when there is one very influential shareholder

Although managers may intend to implement a stakeholder approach, managers actions might be restricted when implementing a strategy that benefits all stakeholders (Bridoux & Vishwanathan, 2020). These actions might can be restricted by powerful stakeholders (stakeholders with access to resources) who may provide incentives for managers not to implement a strategy that benefits all stakeholders. (Bridoux & Vishwanathan, 2020). This implies that the impact on stakeholders may not be the intended impact that managers had desired.

Managers actions are heavily influenced by shareholders (Smith & Ronnegard, 2016). Therefore the nature of shareholder a company has can have a direct impact on other stakeholders. Therefore, it might be necessary to influence shareholders to change their objectives to have the desired management actions and stakeholder outcomes.

Another perspective of value creation is considering the impact of managers being stakeholder on the chances of a company surviving (i.e. continuing to operate). Based on statistical analysis of 733 USA companies in the S & P 500 from 2003 to 2018, the following was ascertained:

- The more stakeholder focused a company is, the more chances that it survives in future (Vurro et al., 2022)
- Positive benefit of stakeholder focused will be more when the company is older (Vurro et al., 2022)
- Positive benefit of stakeholder focused will be more where industries have less resources (Vurro et al., 2022)

Crane (2020) argues that in the current environment, information is readily available to all stakeholders of a company. This means that management should not prioritise the interests of the one stakeholder over another stakeholder as information flows freely, and a trust deficit may result from the stakeholder when they find out about management actions that they don't agree with (Crane, 2020). This trust deficit may have negative impact on the financial performance of a company (Crane, 2020). To build trusting relationships with all stakeholders, Crane (2020) suggests that companies should focus on the "fundamental need of all stakeholders" (p. 280).

The implication of Crane (2020) arguments is that when developing strategy, managers must not prioritise the needs of any stakeholders, and aim to all value for all stakeholders. If managers can succeed in taking into account the needs of all stakeholders, companies will have a higher probability of success over the long term.

2.2.6 Section Conclusion

Despite arguments for stakeholder theory existing since 1980s, shareholder primacy has continued to be prominent in companies (Harrison et al., 2020; Smith & Ronnegard, 2016; Wicks et al., 2019). One of the major reasons for this is the influence of shareholders over companies and managers (DesJardine et al.,2023; Bridoux & Vishwanathan, 2020). The lack of performance metrics for other stakeholders has not

assisted as managers did not previously have a stakeholder value assessment metric to determine the impact of their actions.

In recent years, the importance of stakeholder theory has been further emphasised by scholars (Smith & Ronnegard, 2016; Freeman et al, 2020; Dmytriyev, et al., 2021; Stoelhorst & Vishwanathan, 2024) , business community (Business Round table statement 2019) (Harrison et al., 2020). and events such as the global financial crisis (Smith & Ronnegard, 2016) . Harrison et al. (2020) argue that using stakeholder value metrics as dependent variables will have important implications for management research. In addition, Harrison et al. (2020) recommend that the impact of manager actions on stakeholder value will be important to understand if the purpose of a company is to add value for all stakeholders.

Harrison et al. (2020) recommendations point to a need to understand how managers' actions impact stakeholder value created. He and Chittoor (2023) and Freeman et al. (2020) agree with the need expressed by Harrison et al. (2020).

There is broad consensus that stakeholders are individuals and groups that are affected by company (Freeman (1984); Kujala et al., 2022; Shi & Veenstra, 2021; Stoelhorst & Vishwanathan, 2024), and consist mainly of shareholders, customers, community, suppliers, government, environment and employees. There have been numerous studies in the past on how shareholder value is impacted by management actions. What is missing how other stakeholders are impacted by management actions.

ESG indices have been developed, and despite some shortcomings, provide benefits in assessing stakeholder value derived from companies. This implies that ESG indices can be used in study to meet the need expressed by Harrison et al. (2020), He and Chittoor (2023) and Freeman et al. (2020). Such a study will also assist in developing managerial aspect of stakeholder theory which Harrison et al. (2020) believe has not been developed extensively.

2.3 Explanation of Stakeholder value generated based on Resource-Based View (RBV) theory

Barney is widely seen as the originator of RBV based on his article in 1991. In recent years, Barney has admitted that profit maximization of RBV must include stakeholders' requirements (Freeman et al., 2021).

Stakeholders must be willing to contribute to company activities for positive outcomes in respect of financial performance and competitive advantage to be obtained (Kujala et al., 2022). This implies stakeholders will allocate their resources to a company if they believe their outcomes will improve as a result (McGahan, 2021). These resources (e.g. employees) are critical for companies to succeed. Therefore, it is important to consider RBV in the context of generating value for various stakeholders.

RBV theory states that companies with better resources and processes compared to competitors possess an advantage which is likely for these companies to generate more economic value (Lee et al, 2021; Barney et al, 2021). Barney (1991) argues that companies' resources need to be valuable, rare, inimitable and no equivalent substitutes to make it possible to gain a competitive advantage. Economic value is measured as the difference between customers willingness to pay and the cost of producing the product (Lee et al, 2021). In seeking to have an advantage over competitors, Lee et al. (2021) argues that a company can follow a low-cost strategy (producing products at lower cost than competitors), differentiation strategy (producing unique products that customers are willing to pay for) and focused strategy (focusing efforts on particular segments of the market).

The intention of Lee et al. (2021)'s study is to determine whether combination of low-cost and focused strategy is detrimental to company profitability based on data in the USA airline industry. According to Lee et al. (2021), there is significant evidence that companies that have cost advantage are likely to produce higher performance as measured by profitability. This mainly is due to these companies having the ability to lower price when required whilst still maintaining profits (Lee et al., 2021).

Awaysheh et al. (2020), Bhandari et al. (2021) and Danso et al. (2019) provides an alternative view that investing in Corporate Social Responsibility (CSR) projects may improve the long term competitive advantage of a company. In addition, Danso et al. (2019) argue that the success of an environmental sustainable strategy is dependent on implementing a competitive strategy (low-cost, differentiation or integration) outlined by Porter (Integration strategy is a combination of low-cost and differentiation strategies).

To test how environmental sustainable strategies impact on company performance when implementing a competitive strategy, Danso et al. (2019) analysed data of small and medium sized companies in Ghana. One of the main findings of the study was that companies implementing environmental sustainable strategies are likely to achieve superior financial outperformance regardless of the competitive strategy implemented

(Danso et al., 2019). Danso et al. (2019) call for similar studies to be done on both small and medium companies and large companies in other developing countries using objective financial data.

Management actions depend on the competitive environment (Gras & Krause, 2020). Krakowski et al. (2022) suggest that adoption of Artificial Intelligence is a source of competitive advantage. This suggests that these factors will need to be considered in managers' strategies in future.

Freeman et al. (2021) compares RBV and Stakeholder theories. Similarities found include:

- Both theories are concerned with strategic management practices (Freeman et al., 2021; Barney et al., 2021).
- "Both theories are concerned with people and profit, positivism and practicality" (Freeman et al., 2021, p 1760).

Main difference is that RBV focuses on how management should maximise profits for shareholders whereas stakeholder theory focuses on the stakeholder performance as the main objective (Freeman et al., 2021). Freeman et al. (2021) believe that to make RBV a more complete theory, elements of stakeholder theory need to be incorporated into RBV. McGahan (2021) and Stoelhorst (2021) agree with this view of integrating stakeholder theory and RBV. Integration of RBV and stakeholder theory would mean that the shareholder primacy of RBV would need to be replaced by value creation for all stakeholders (including shareholders) (Freeman et al., 2021).

The 4 stakeholder theory elements that Freeman et al. (2021) recommend for inclusion in RBV for are

- Normativity- Companies need to value ethics (Freeman et al., 2021). The normative aspect of stakeholder theory will guide managers to manage resources appropriately in the interest of all stakeholders (Freeman et al., 2021). Barney disagrees with normative argument and believes less emphasis should be placed in normativity (Freeman et al., 2021) ;
- Sustainability needs to be considered in relation to competitive advantage and stakeholder relationships (Freeman et al., 2021). Currently, RBV does include the stakeholder relationship aspect (Freeman et al., 2021);

- People - recognizing people are stakeholders and not just resources a company can exploit (Freeman et al., 2021); and
- Co-operation - managers must build a co-operation advantage in addition to competitive advantage (Freeman et al., 2021). Co-operation refers to how companies relate with other stakeholders (Freeman et al., 2021). An example of poor co-operation is General Motors cancelling contracts with suppliers which lead to tensions and loss of market share to Japanese competitors (Freeman et al., 2021)

These elements provide guidance on how management can behave to act more in the interests of stakeholders which is consistent with the research question.

Barney et al. (2021) agree with Freeman et al. (2021) that stakeholders can be included in RBV However, there are challenges in respect of fixed claimants (Barney et al., 2021). Fixed claimants are stakeholders that do not participate in the economic value generated by a company (Barney et al., 2021). The Business Round table statement is not meaningful for fixed claimant stakeholders (Barney et al., 2021). This is because the interests of fixed claimant and residual claimants stakeholders are different (Barney et al., 2021). For example, fixed claimants are likely to be risk adverse to protect their fixed claim whereas residual claimants may be more risk adverse to increase the possibility of increasing economic value (Barney et al., 2021). The implication is that managers would find it difficult to simultaneously increase value for both fixed and residual claimant stakeholders.

McGahan (2021) suggest integration of RBV and stakeholder theory under the following themes:

- Organisational Formation – Stakeholders should have sufficient incentive to participate in companies' activities (McGahan, 2021). In addition, valid agreements with stakeholders and the company should unlock value (McGahan, 2021).
- Resource Development – Companies will need to develop or acquire resources that will result in a competitive advantage (McGahan, 2021).
- Claims on Value – It is important to decide which stakeholders have a valid claim to value derived from a company, and how value should be distributed to each stakeholder (McGahan, 2021).

- Governance – Governance refers to the decision making process for developing and acquiring resources (McGahan, 2021). Governance processes will need to take into account various stakeholders' perspectives (McGahan, 2021).
- Performance – Companies need to create value for each stakeholder for them to continuing participating in the company (McGahan, 2021). It is important that stakeholders relevant to a company's performance interact effectively (McGahan, 2021).

2.3.1 Section Conclusion

The implication of RBV is that managers need to decide how best to use resources to meet the company's objectives. There is need to replace the profit objective of RBV with a value creation objective that incorporates all stakeholders (Freeman et al., 2021; McGahan, 2021; Stoelhorst, 2021). Therefore, understanding of how managers actions impact stakeholder value will assist in making RBV more complete. This required understanding is consistent with the need expressed in section 2.2.6 which requires an understanding of how management actions impact various stakeholders.

The 3 types of generic competitive strategy that a company can consider are low-cost, differentiation and focus strategies (Lee et al., 2021). Danso et al. (2019) consider low-cost, differentiation and integration in their study. The types of competitive strategy that a company can pursue will be helpful in considering what types of management actions should be considered when answering the need expressed above and in section 2.2.6.

2.4 ESG performance and financial performance relationship

How a company Environmental, Social and Governance (ESG) performance affects a company's financial outcomes has been of particular interest of many instrumental stakeholder studies (ESG performance can be used as a proxy on how company impacts various stakeholders as discussed in Section 2.2). The reason for the focus on such studies is that if ESG and financial performance have a strong positive relationship, then managers can produce either good ESG performance or financial performance in the knowledge that the other performance metric will be met. Therefore, managers can more likely satisfy the needs of all stakeholders if there is a strong positive relationship between ESG and financial performance (stakeholders will more likely value ESG performance whereas shareholders will more likely value financial performance).

Shin et al. (2023) , Awaysheh et al. (2020), Gras and Krause (2020), Shi and Veenstra (2021) and Gillan et al. (2021) state that the findings of previous studies provide inconclusive results in respect of the relationship between ESG and financial performance. The focus of Shin et al. (2023)'s study is to determine the impact of a country's cultural characteristics (as measured by Hofstede's 6 cultural dimensions) on the relationship between ESG performance and financial performance. Shin et al. (2023) found that whether good ESG performance results in good financial performance depends on a country's culture as measured by Hofstede's 6 cultural dimensions. The implication is that a country's culture score needs to be considered as a moderating variable for ESG financial performance studies, and when managers make decisions of approaches to ESG for different countries.

According to Gras and Krause (2020), external factors may have an influence on the ESG performance and financial performance outcomes which explain some reasons why findings have been inconclusive. The impact of the competitive environment has attracted a lot of attention from strategic management researchers (Gras & Krause, 2020). Similarly, Gras and Krause (2020) believe that investigating the influence of industry (as a representative measure of the competitive environment) is a worthwhile study.

Gras and Krause (2020)'s study had the following findings in respect of the moderating industry factors that were investigated:

- High level of industry munificence negatively influences the positive relationship between ESG and financial performance;
- High industry dynamism negatively influences the positive relationship between ESG and financial performance;
- High industry complexity has no significant impact on the positive relationship between ESG and financial performance;
- High industry social orientation positively influences the positive relationship between ESG and financial performance; and
- High tech industries positively influences the positive relationship between ESG and financial performance.

Important conclusion of Gras and Krause (2020)'s study is that managers need to take into account the characteristics of the industry they operate in when considering whether good ESG practices will result in a competitive advantage that will produce superior financial outcomes. The implication is that stakeholders value from ESG policies is

dependent on the particular characteristics of the relevant industry. Gras and Krause (2020) study was performed on North American companies. Gras and Krause (2020) recommend that it will be beneficial to performance a similar study in other countries that have different characteristics to North America.

Similar to Gras and Krause (2020)'s article, Shi and Veenstra (2021)'s article examines the impact of a country's cultural values on the relationship between ESG performance and financial performance. Shi and Veenstra (2021) state that managers are required to improve both ESG performance due to pressure from activist groups, and financial performance due to investors' needs.

Cultural metrics used are individualism and flexibility based on Minkov's adjustment of Hotstede's dimensions (Shi & Veenstra, 2021). In High individualistic cultures, each person does tasks on their own without support from society (Shi & Veenstra, 2021). In contrast, low individualistic (i.e. collectivistic) cultures are environments where people work together and have a mindset of helping each other (Shi & Veenstra, 2021).

Cultures that have high flexibility are cultures where the offer of help is contextual and requires specific reasons to provide the offer (Shi & Veenstra, 2021). Whereas cultures that have low flexibility (i.e. monumentalism) are cultures where people selflessly help each other unconditionally (Shi & Veenstra, 2021). East Asia are high flexible society whereas Asia, Latin America, Africa and Middle East are low flexible (Shi & Veenstra, 2021).

Shi and Veenstra (2021) find that both individualism and flexibility negatively influence the relationship of ESG performance and company financial performance (as measured by ROA or Tobin's Q). This means for countries that categorised by high levels of individualism or/and flexibility, increasing ESG performance will negatively impact company financial performance (Shi & Veenstra, 2021).

Understanding under which cultural contexts that good ESG outcomes will deliver superior financial outcomes will provide valuable insight for managers. African countries have low level of flexibility (Shi & Veenstra, 2021). This implies that South Africa as an African country will have low level of flexibility, and therefore producing good ESG performance for stakeholders will likely result in producing good financial performance. This insight is relevant to answering the research question. To prove the relationship for South Africa empirically, a similar study to Shi and Veenstra (2021) will have to be performed in South Africa (South African companies were not included in their study).

In contrast to Shi and Veenstra (2021)'s study, Shin et al. (2023) find that societies that are individualistic and masculine have a positive impact on the ESG performance and financial performance (measured using ROA). Shin et al. (2023) measured performance of 4978 companies in 48 countries from 2002 to 2018. USA and Japanese companies contributed 30% and 13% to the data collected (Shin et al., 2023). Shi and Veenstra (2021)'s study measured performance of 5 334 companies in 41 countries from 2002 to 2016. USA and Japanese companies contributed 30% and 14% to the data collected (Shi & Veenstra, 2021). One reason for the difference observed for the impact of individualism could be that Shi and Veenstra (2021) used Minkov's framework compared to Shin et al. (2023) who used Hofstede's framework.

Awaysheh et al. (2020) recommend that a more appropriate way to understand the ESG and financial performance relationship is to compare the performance of high performing ESG companies to low performing ESG companies. The main finding of Awaysheh et al. (2020)'s study is that high performing ESG companies achieve higher operating performance and higher market valuations when compared to low performing ESG companies.

2.4.1 Section Conclusion

Shin et al. (2023) , Awaysheh et al. (2020), Gras and Krause (2020), Shi and Veenstra (2021) and Gillan et al. (2021) state that the findings of previous studies provide inconclusive results. The various studies by Shin et al. (2023), Gras and Krause (2020) and Shi and Veenstra (2021) suggest that the type of culture, competitive environment and industry that companies operate will influence the ESG and financial performance relationship. The implication is when answering the need expressed in both sections 2.2 and 2.3, these factors may have an influence on the impact of management actions on various stakeholders. Therefore, it will be important to allow for these factors when conducting a research study on this topic. It will important to assess the value derived for shareholders separately as they are an important stakeholder, and results of previous ESG performance financial performance relationship studies can not be relied on as the results of these investigations have proved to be inconclusive.

2.5 Literature Review Conclusion

The review of the literature reveals that there is a gap in respect of the understanding of how management actions impact a group of stakeholders (not just shareholders) (Harrison et al. , 2020; He & Chittoor, 2023; Freeman et al. , 2020). Harrison et al. (2020) and He and Chittoor (2023) request that this gap needs to be further investigated. Freeman et al. (2020) recommend that broader measures of company value are

required, and that it needs to further understood how management decisions on stakeholder practices impact the value of a company.

One of the main objectives of managers is decision on a strategy that will result in a competitive advantage. RBV provides insights into how competitor advantage can be obtained. Freeman et al. (2021), McGahan (2021) and Stoelhorst (2021) believe that the integration of RBV and stakeholder theory is valuable. Integration of these theories will mean that management decisions on resources in creating value stakeholders will need to be further understood. The need to integrate RBV and stakeholder theory is consistent with the need to understand how managers actions impact stakeholders.

Understanding this relationship is very important given the continued focus of managers on shareholders. Fulfilling the need identified will assist managers in deciding on most appropriate actions to meet stakeholders' requirements. Furthermore, Harrison et al. (2020) expressed that the managerial aspect of stakeholder theory needs to be developed.

Shin et al. (2021) find that board of directors have become more stakeholder focused. This means that for managers to excel in their careers, they need to understand how their actions impact various stakeholders (not just those of shareholders).

DesJardine et al. (2023) provides insight into how shareholders influence managers actions which will have an impact on other stakeholders. Crane (2020) recommend that since information is more readily available, management need to take careful consideration of how their actions affect all stakeholders to prevent any negative impacts.

There is broad consensus that stakeholders are individuals and groups that are affected or can be affected by a company (Freeman (1984); Kujala et al., 2022; Shi & Veenstra, 2021; Stoelhorst & Vishwanathan, 2024), and consist mainly of shareholders, customers, community, suppliers, government, environment and employees. There have been numerous studies in the past on how shareholder value is impacted by management actions. What is missing how other stakeholders are impacted by management actions.

ESG indices have been developed and despite some shortcomings, provide benefits in assessing stakeholder value derived from companies. This implies that ESG indices can be used in study to meet the need expressed by Harrison et al. (2020), He and Chittoor (2023) and Freeman et al. (2020).

The inconclusive results of previous studies of the relationship between ESG performance and financial performance implies further studies can contribute to understanding this relationship. Understanding this relationship is important for managers as it gives insights to how actions that impact shareholders (as represented by financial performance) will impact other stakeholders (as represented by ESG performance). This will aid manages in meeting the needs of all stakeholders. The various studies by Shin et al. (2023), Gras and Krause (2020) and Shi and Veenstra (2021) suggest that the type of culture, competitive environment and industry that companies operate will influence the ESG and financial performance relationship.

3. Research Question and Hypotheses

3.1 Introduction

This chapter proposes the research question and hypotheses based on the analysis of the literature. In section 3.3, a conceptual framework for the research question and hypotheses is presented.

3.2 Research question and hypotheses

The focus on shareholders by managers and companies is still currently the norm (Harrsion et al., 2020). The widely accepted view among many scholars is that managers should not priortise any stakeholder, and aim to generate value for all stakeholders (Smith & Ronnegard, 2016; Freeman et al, 2020; Dmytriyev, et al., 2021; Stoelhorst & Vishwanathan, 2024). Given the norm of shareholder primacy and the requirement for managers to provide value for all stakeholders, there is a need to understand how managers impact the value added to all stakeholders (Harrison et al, 2020; He & Chittoor, 2023; Freeman et al. , 2020).

In pursuing the objective of gaining a competitive advantage, managers will usually employ a competitive advantage. Based on the literature, possible competitive strategies to follow are low-cost, differentiation, focus and integration. Therefore, competitive strategy will be used as a proxy for management actions in this research study.

Crane et al. (2016) recommend that it is useful to develop new theories in specific contexts. By using specific contexts, relationships can be ascertained which may be unique to a specific setting (Crane et al., 2016). Based on Crane et al. (2016)'s recommendation, the setting of the study will be South Africa. As objective data is required, only companies listed in the Johannesburg Stock Exchange (JSE) were considered for this study. This is because listed company information is widely available, updated regularly and verified by independent experts.

Based on the need identified in the literature in the context of South Africa, the research question will be as follows:

Research Question: How does competitive strategy influence the value derived by various stakeholders in South African listed companies?

3.3 Hypotheses

To answer the research question, measures of competitive strategy and stakeholder value are required for South African listed companies. From Danso et al. (2019) Lee et al. (2021) and He and Chittoor (2023), possible competitive strategies are low-cost, differentiation, focused and integration. He and Chittoor (2023) provide appropriate methodology on how to measure low-cost and differentiation strategies. In line with He and Chittoor (2023)'s study, low-cost and differentiation strategies will be considered.

He and Chittoor (2023) use The Thomas Reuters Eikon ESG database is used to assess stakeholder outcomes (excluding shareholders), and use financial performance measures (ROA and Tobin's Q) to determine shareholder performance. Harrison et al. (2020) argue that it is appropriate to use ESG indices to assess stakeholder performance. Shareholders are most concerned about maximizing returns as presented by financial performance (Harrison et al, 2020). As creating value for all stakeholders is important (Smith & Ronnegard, 2016; Freeman et al, 2020; Dmytriyev, et al., 2021; Stoelhorst & Vishwanathan, 2024), ESG indices (for stakeholders excluding shareholders) and financial performance will be used to assess performance for the shareholder stakeholder.

The proposed set of hypotheses to address the research problem are as follows:

3.3.1 Hypothesis 1: Competitive strategy impact on stakeholders (excl shareholders)

Hypothesis 1 will focus on how stakeholders (excluding shareholders) are impacted by low-cost and differentiation strategy. Low-cost strategies will benefit customers due to lost prices for products. However, suppliers and employees are likely to get lower compensation for their products and services. In addition, there is a conflict in pursuing low-cost strategy and positive stakeholder outcomes (He & Chittoor, 2023). Therefore, it is expected that low-cost strategy will have a negative impact on ESG performance.

Customers for differentiation strategy will obtain value based on purchasing a product that other companies are not able to produce. Suppliers and customers are likely to fairly compensated to ensure company is able to produce high quality good and services. In addition, differentiation strategies and positive stakeholder outcomes are likely to be complementary. Therefore, it is expected that differentiation strategy will have a positive impact on stakeholder performance.

Hypothesis 1: Stakeholders of South African listed companies – as represented by ESG performance:

H1.1:… are negatively impacted by a low-cost strategy

H1.2… are positively impacted by a differentiation-based strategy

3.3.2 Hypothesis 2: Competitive strategy impact on shareholders

Hypothesis 2 will focus on how shareholders are impacted by low-cost and differentiation strategy. Lee et al. (2021) argue that using either low-cost and differentiation strategy is likely to result in superior profits. Therefore, it is expected that financial performance will be positively impacted by either low-cost strategy or differentiation strategy.

Hypothesis 2: The financial performance of South African listed companies:

H2.1… is positively impacted by a low-cost strategy

H2.2.. is positively impacted by a differentiation-based strategy.

3.3.3 Hypothesis 3: ESG and financial performance relationship

Hypothesis 3 will focus on the nature of the relationship between ESG and financial performance. Shin et al. (2023) , Awaysheh et al. (2020), Gras and Krause (2020), Shi and Veenstra (2021) and Gillan et al. (2021) state that the findings of previous studies provide inconclusive results in respect of the relationship between ESG and financial performance. Gras and Krause (2020) argue that the instrumental aspect of stakeholder theory predicts a positive relationship between ESG and financial performance. Relying on this prediction, a positive relationship is expected for ESG and financial performance.

Hypothesis 3: The ESG performance of a company is positively correlated with its financial performance

3.4 Conceptual framework

The hypotheses are visually shown in the diagram below. Key constructs are competitive strategy and stakeholder value:

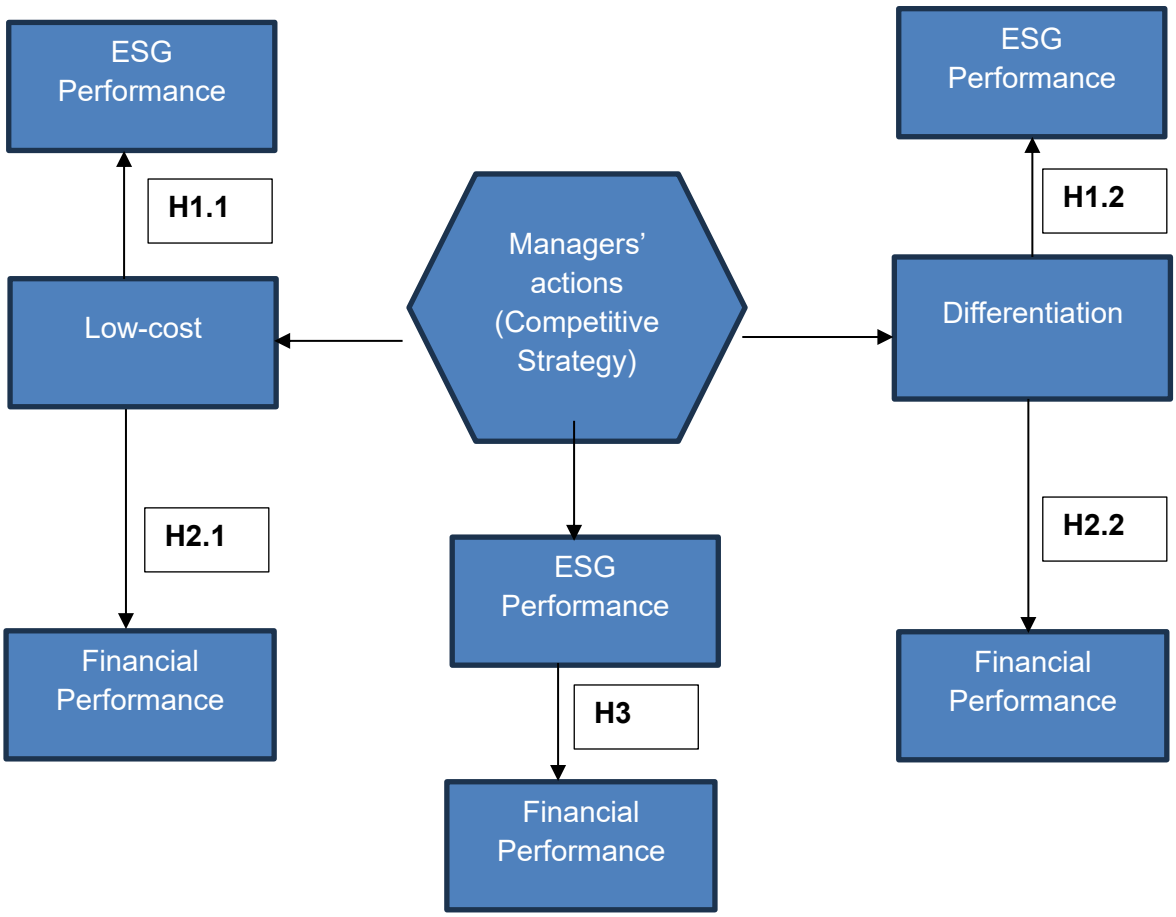

Figure 2:Visual representation of hypotheses

Source: Researcher's compilation

3.5 Summary of research question and hypotheses

The research question for this study will be as follows:

Research Question: How does competitive strategy influence the value derived by various stakeholders in South African listed companies?

The hypotheses that are required for the research question are as follows:

Hypothesis 1: Stakeholders of South African listed companies – as represented by ESG performance:

H1.1:… are negatively impacted by a low-cost strategy

H1.2… are positively impacted by a differentiation-based strategy

Hypothesis 2: The financial performance of South African listed companies:

H2.1… is positively impacted by a low-cost strategy

H2.2.. is positively impacted by a differentiation-based strategy.

Hypothesis 3: The ESG performance of a company is positively correlated with its financial performance

4. Research Methodology

4.1 Research Aims

The aim of the research is to understand how competitive strategy influences the welfare of all stakeholders of JSE listed companies in South Africa. As discussed in Chapters 1 and 2, there is both a theoretical and business need for this research.

4.2 Research Paradigm/Choice of methodology

Saunders et al. (2019) propose a good way to differentiate between research paradigms is based on the assumptions underlying each paradigm. These assumptions are ontology (assumptions in respect of how the real world functions), epistemology (assumptions on what constitutes legitimate evidence) and axiology (impact of value and ethics of research participants) (Saunders et al., 2019). Positivism, critical realism, interpretivism, Postmodernism and pragmatism are the five prominent paradigms in management studies (Saunders et al., 2019).

The aim of the research is to understand the relationship between competitive strategy and the value derived by a variety of stakeholders. To do this, 5 hypotheses have been proposed in chapter 3. Bell et al. (2019) propose that the positivism paradigm involves proposing hypotheses, collecting and testing the hypotheses to determine if the null hypothesis should not be rejected or rejected. In addition, Bell et al. (2019) argue that positivism is “informed by an objectivist ontological position” (p. 14).

Saunders et al (2019) argue that the positivism paradigm has one truth (ontology perspective), is based on measurable observations (epistemology perspective) and has no value or ethical bias (axiology perspective). In addition, the analysis method is quantitative (Saunders et al., 2019).

The requirements of this research are consistent with the features of a positivism paradigm based on Bell et al. (2019) and Saunders et al. (2019)’s analyses. Therefore, a positivism paradigm has been selected for the research question.

4.3 Approach to theory development

Saunders et al. (2019) state that it is important to consider whether the research project will test a theory (i.e. deduction) or build a theory (i.e. induction). The deductive approach

is associated with verifying or falsifying certain propositions. Certain hypotheses have been proposed as part of this research proposal which means that a deductive approach is appropriate. Saunders et al. (2019) outline the following six steps for a deductive approach:

1. Propose a set of hypotheses;
2. Based on literature, determine circumstances when the propositions are likely to be true;
3. Analyse the logic for these propositions and determine if to improves the understanding of existing theories;
4. Test the propositions using relevant data;
5. If the results from the data falsify the hypotheses, then the proposed theory is false; and
6. If the results are consistent with the proposed hypotheses, then theory is verified.

Saunders et al. (2019) argue that an appropriate theory development will assist in developing a good research design, provide good information of what research methodology should be used, and enable researcher to change research design based on certain constraints. The researcher has followed the above steps when undertaking the research study.

4.4 Research Design

Bell et al. (2019) define research design as “a framework for the collection and analysis of data” (p. 38). Saunders et al. (2019) describes research design as “the general plan of how you will go about answering your research question(s)” (p. 173). Bono and McNamara (2011) and Eisenhardt (2021) argue that its important that the research design addresses the research question. Therefore, the research design will be done with specific reference to the research question.

The paradigm is positivism. This implies objective data is required on competitive strategy and performance of various stakeholders. The measures of management action will be low-cost strategy, differentiation and ESG strategies. The performance of various stakeholders will incorporate ESG and financial performance factors. The aim of the research is to explain the relationship between competitive strategy, and the value derived by various stakeholders. Therefore, an explanatory study will be conducted.

4.5 Research setting

Crane et al. (2016) recommend that it is useful to develop new theories in specific contexts. By using specific contexts, relationships can be ascertained which may be unique to a specific setting (Crane et al., 2016). Based on Crane et al. (2016)'s recommendation, the setting of the study will be South Africa. As objective data is required, only companies listed on the Johannesburg Stock Exchange (JSE) were considered for this study. This is because listed company information is widely available, updated regularly and verified by independent experts.

4.6 Sampling method

The required data relates to information of JSE listed companies. Listed company information is publicly available through a variety of sources including company reports, media reports and Google searches. The researcher's employer has a subscription to the Bloomberg platform which contains a repository of JSE listed company information. The researcher has access to the Bloomberg platform as a result of being employed with his employer. The researcher obtained permission from Bloomberg to use data from the Bloomberg platform in this study. To ensure the required public data is gathered efficiently and with minimal errors (using one source for collecting data instead of using a variety of public sources), the Bloomberg platform will be used to collect the required information of JSE listed companies.

The intention will be to collect the required information of JSE listed companies over a period of 5 years. In collecting the data, there might be errors and/or omissions for certain companies. Companies with errors and/or omissions will be excluded from the analysis. Therefore, the remaining companies without errors and omissions will define the sample for the research project.

4.7 Unit of analysis and level of analysis

Crane et al. (2018) state that the wide availability of company ESG information opens up many research opportunities. In addition, Crane et al. (2018) argue that combining financial information of companies with company level ESG information presents good opportunity to test existing theories and develop new theories. Therefore, the use of available ESG and financial secondary data available for listed companies in South Africa will be used for this study. As the study will be performed on listed companies, this means that the level and unit of analysis is at a company (i.e. organisational) level.

4.8 Research Instrument

The required data was collected from the Bloomberg platform after ethical clearance was received from Master's Research Ethics Committee on 10 July 2024. The research project is a desktop study and did not involve responses from any individual or institution.

4.9 Data gathering process

In He and Chittoor (2023)'s study, measures of low-cost and differentiation strategies are provided. He and Chittoor (2023) make the comment that these measures are line with prior studies. For low-cost strategy, the degree of low-cost strategy is measured as 1 minus total operating expenses related to production of good and services divided by net sales (He & Chittoor, 2023). For differentiation strategy, the ratio used will be sales, general and administrative expenditure divided by net sales (He & Chittoor, 2023). Ratios for JSE listed companies will be computed to determine the degree of low-cost strategy and differentiation strategy at a company level.

Similar to the availability of ESG information at a company level in the United States of America (USA) and Canada (Crane et al., 2018), the researcher has found that ESG databases for South African listed companies do exist. Bloomberg ESG scores are data driven (therefore objective) and provide information into of over 14 000 institutions' ESG performance (Bloomberg Professional Services, 2023). ESG scores provide a performance measurement tool to assess the performance of companies in the areas of environment, social and governance (Bloomberg Professional Services, 2023).

The intention of using ESG performance scores and financial performance information is to provide a proxy for the performance of various stakeholder groups. Harrison et al. (2020) argue that it is appropriate to use ESG indices to assess stakeholder performance. Financial performance information will provide a proxy for the performance of shareholder groups. ESG performance information will provide insight into the performance of other stakeholder groups as follows:

- Environment – Measurement of the impact on the environment (S&P global, 2024).
- Social – Measurement of the impact on employees, customers and communities (S&P global, 2024).
- Governance – Measurement of impact on various regulatory bodies (S&P global, 2024).

Hypotheses 2 and 3 require financial performance to be measured. Financial performance will be used as a proxy for shareholder performance in line with shareholder wealth maximisation concept (i.e. shareholders obtain the most utility of financial performance is good) and insights gained from DesJardine et al. (2023)'s article. He and Chittoor (2023) use Return on Assets (ROA) and Tobin's Q to measure financial performance. ROA is defined as net income before no-recurring items divided by total assets (Shin et al., 2021), and Tobin's Q is defined as the ratio of market value of assets to book value (He & Chittoor, 2023). Definition of market value to book value implies the price to book ratio can used to estimate Tobin's Q. Similarly, Shi and Veenstra (2021) use ROA and Tobin-Q to measure financial performance.

Advantage of using Tobin's Q is that all relevant information that affects the financial performance of a company is incorporated (He & Chittoor, 2023). Though ROA is widely used, the disadvantage of using ROA is that it is based on historical measures of performance and can adjusted by managers (He & Chittoor, 2023). In line with previous studies, both ROA and Tobin's Q will be used to measure financial performance.

Table 1 shows the independent and dependent variables for each of the hypotheses (included as how these variables will be measured):

Table 1:Structure of hypotheses

	Independent Variable			**Dependent Variable**		
Hypothesis	**Variable**	**Measure**	**Data Source**	**Variable**	**Measure**	**Data Source**
Hypothesis 1.1	Low-cost	Financial Ratio	Bloomberg	Stakeholders excl Shareholder	ESG Score	Bloomberg
Hypothesis 1.2	Differentiation	Financial Ratio	Bloomberg	Stakeholders excl Shareholder	ESG Score	Bloomberg
Hypothesis 2.1	Low-cost	Financial Ratio	Bloomberg	Shareholder	ROA, Tobin's Q	Bloomberg
Hypothesis 2.2	Differentiation	Financial Ratio	Bloomberg	Shareholder	ROA, Tobin's Q	Bloomberg
Hypothesis 3	ESG performance	ESG Score	Bloomberg	Shareholder	ROA, Tobin's Q	Bloomberg

Source: Researcher's compilation

Control variables need to be allowed for to ensure changes in the dependent variables are not incorrectly attributed to the independent variables. •Cuervo-Cazurra et al. (2016) argue that inclusion of appropriate control variables is important for the validity of

the findings of a research study. In line with He and Chittoor (2023)'s study, the following control variables have been allowed for in each of the hypotheses:

- Company size to measure impact of access to resources and ability to scale. This has been calculated as the natural logarithm of revenue for each company
- Age of company to measure experience. This has been calculated as number of years since company listing
- Financial leverage which may have an impact on performance. This has been calculated as the ratio of total debt to total assets.
- Industry competition which may impact ability of companies to generate profits. Degree of industry competition has been calculated using the Herfindahl Index. The Herfindahl Index is calculated as the sum of the squared market share of each industry constituent. Companies' revenue has been used to determine market share.

To ensure the efficiency and accuracy of the data collection process, all data required for the hypotheses testing will be collected from the Bloomberg platform.

In conclusion, the following information was extracted for each JSE constituent from Bloomberg for this research study:

- Revenue
- Operating expenses for production of goods and services (i.e. Cost of Sales)
- Sales, general and administrative expenditure
- ROA
- Price to book ratio (to measure Tobin's Q)
- ESG Score
- Listing Date
- Debt to assets ratio
- Sector/Industry

4.10 Data Analysis approach

As discussed in section 4.6, data will be gathered from Bloomberg. The financial data and ESG information will be combined at a company level using Microsoft Excel. The researcher sought to obtain relevant current and prior information in respect of the financial information and ESG scores. The aim was to obtain history of at least 5 years.

The current and historical information was combined into one database to enable the analysis to be performed by statistical methods. The Excel spreadsheet of the combined data was inputted into the IBM SPSS Statistics statistical package ("SPSS"). SPSS will be used to performance descriptive statistics and the relevant tests required for the research project. Given the positivism paradigm, the nature of the data and use of statistical methods, a quantitative approach was adopted.

Data analysis was performed according the following steps:

Table 2: Data Analysis steps

Step	Method	Rationale
1. Data Checking	Excel formulae	Ensure no errors or missing values in database
2. Descriptive Statistics	Mean, standard deviation and histogram	Understand features of data
3. Normality test	Kolmogorov-Smirnov Test	Determine appropriate statistical tests
4. Hypotheses testing	Multivariate linear regression	Determine Strength of relationship between variables
5. Robustness	Pearson Correlation ;Standardised Residual histogram, Normal Probability-P Plot and Scatterplot;	Ascertain appropriateness of using linear regression

4.10.1 Data Checking

Using Excel, the data was first be checked for errors and/or missing values. Any errors or missing values were removed from the database. The intention was to obtain data over a 5 year period. When extracting the required information from Bloomberg, the researcher was only able to extract valid information for 3 years.

4.10.2 Descriptive Statistics

Bell et al. (2019) defines interval/ratio variables as numerical variables that can be ranked and measured. All the variables in the proposed hypotheses meet the interval/ratio variable definition. Therefore, it was appropriate to calculate mean and standard deviation and produce histograms (Bell et al.,2019). Main of objectives of

descriptive statistics is to understand the features of the data. Descriptive statistics were also done for control variables as recommended by Nielsen and Raswant (2018).

4.10.3 Normality Test

The normality assessment of underlying data is important in determining which statistical techniques should be used to test the hypotheses (Bettany-Saltikov and Whittaker,2013; De Winter et al., 2016). The Kolmogorov-Smirnov Test was used to assess normality.

4.10.4 Hypotheses Testing

As hypotheses focus on assessing relationships between variables, performing multivariate linear regression was appropriate in testing the hypotheses (Montgomery et al., 2012; Yan & Su, 2019). The dependent, independent and control variables have been outlined in section 4.9. The conclusions of the linear regression was based on the standardised regression coefficients. This is because standardised regression coefficients remove the impact of differences in units of measurements between the independent and control variables (Montgomery et al., 2012). This allows for the impact of the independent and control variables to be accurately ascertained.

The significance of the regression will be tested using the analysis of variance (ANOVA) test (Montgomery et al., 2012). A significant value for this test implies that the coefficients are not equal to zero (Montgomery et al., 2012).

4.10.5 Robustness

According to Montgomery et al. (2012) and Yan and Su (2009), the assumptions underlying linear regression are as follows:

- Error terms (i.e. difference between actual values and predicted values) are normally distributed;
- Error terms are independent;
- Error terms have zero mean and constant variance; and
- Relationship between the dependent variables and predictor variables is approximately linear.

Plotting the error terms is an appropriate method to verify the above assumptions (Montgomery et al., 2012). Normality of the error terms will be assessed using

- A histogram of the error terms (i.e. residuals) and;
- Normality probability plot. The cumulative normal distribution (i.e. a straight line) is plotted against cumulative distribution of residuals. The plot of the residuals should be approximately straight if residuals are normally distributed; and
- Scatterplot of residuals to determine if a linear relationship exists between dependent variables and predictor variables.

Bettany-Saltikov and Whittaker (2013) and Bell et al. (2019) recommend Pearson correlation test to be performed when variables are interval/ratio. Person correlation will assess strength of linear relationship that exists between the variables (Bell et al, 2019). It is important that correlation between control variables and other variables be analysed to ensure significantly low or high correlated control variables do not compromise the validity of the research study (Nielsen and Raswant, 2018).

VIF tests were performed to ascertain if variables are independent. If VIF results are greater than 5 or 10 for any variable, then there is likely to be co-linearity amongst the variables (Montgomery et al., 2012). Strong relationships have correlations closer to -1 or 1, and weaker relationships have correlation result closer to 0 (Bell et al.,2019).

Scatterplots of standardised residuals will be done to determine if there are outliers. Outliers are standardised residuals that are greater than 3 or 4 standard deviations from the mean (Montgomery et al., 2012). Outliers are extreme values of the dataset and may negatively impact the performance of the regression model (Montgomery et al., 2012).

4.11 Research Quality and Rigour

To ensure that the results of the study are of high quality, it is important that results are reliable, replicable and valid (Bell et al., 2019). In respect of reliability, the main 3 factors considered according to Bell et al. (2019) are:

- Stability. Measurement of observations need to be is stable over time.
- Internal stability. The indicators that make up an overall score need to be coherent.
- Inter-rater reliability. This relates to subjectivity of the decision made when recording responses.

Replicability refers to whether the results of the study can be replicated (Bell et al., 2019). The researcher has explained in detail all steps performed in the study to get to the results/findings that will be presented.

4.12 Limitations of the research design and methods

Potential limitations of this study are as follows:

- Missing data for ESG scores and financial measures may reduce the number of companies included study which may reduce ability to generalise any results
- Specific time period were looked into for the study. Different conclusions may result if a different time period is analysed

- This study relies on the accuracy of data sourced from secondary sources. Any errors or omissions in this data will impact the validity of the conclusions reached for this study

5 Results

This chapters sets out the results of the data analysis methods that were outlined in chapter 5. Discussion of the results will be done in chapter 6.

5.1 Sample

According to JSE (2023), there are 284 listed companies. The researcher has found that detailed information of listed companies only exists for constituents of the FTSE/JSE All Share Index. FTSE JSE (2024) outline the rules for companies to be included in the FTSE/JSE All Share Index. The main rules are that the FTSE/JSE All Share Index should comprise 99% of the total market value of the JSE, companies should be included if their market capitalisation is greater than or equal to 0.5% of the FTSE/JSE Small Cap Index, and companies should be deleted if their market capitalisation falls below to 0.2% of the investible market capitalisation of the FTSE/JSE Small Cap Index (FTSE JSE, 2024).

Based on information gathered from Bloomberg, there were 123 companies in the FTSE/JSE All Share Index as at 30 June 2024. The 123 companies were obtained by extracting the constituents of the JALSH Index (abbreviation for FTSE/JSE All Share Index) on the Bloomberg platform. Not all of the 123 companies had available ESG scores for the intended research period of 5 years. Out of the 123 companies, 88 companies had daily ESG scores for a period of 3 years from 1 July 2021 to 30 June 2024. Of these 88 companies, 1 company had a constant ESG score over this 3 year period. Without variability, this company would not contribute to the understanding of the hypotheses. Therefore, this company was excluded and the base sample was 87 companies

For each hypothesis, the sample may have needed to be adjusted based on the availability of data required for other variables. The descriptive and inferential statistics are provided in the sections below.

5.2 Hypothesis 1.1: Low-Cost Strategy negatively impacts ESG performance

5.2.1 Hypothesis 1.1 Sample

Of the 87 companies, 47 companies had data for the Cost of Sales and ESG scores required for this hypothesis. Data for the control variables was available over the 3 year period. Based on data checks performed, the researcher found that the variables did not

vary daily. Therefore, monthly data points were used over the 3 year period. The number of company observations used was 1 692.

5.2.2 Hypothesis 1.1: Descriptive Statistics

The mean, standard deviation and frequencies for each variable is shown in the diagrams below (Herf is abbreviation for the calculated Herfindahl Index). The Normal curve has also been plotted against the relevant frequencies.

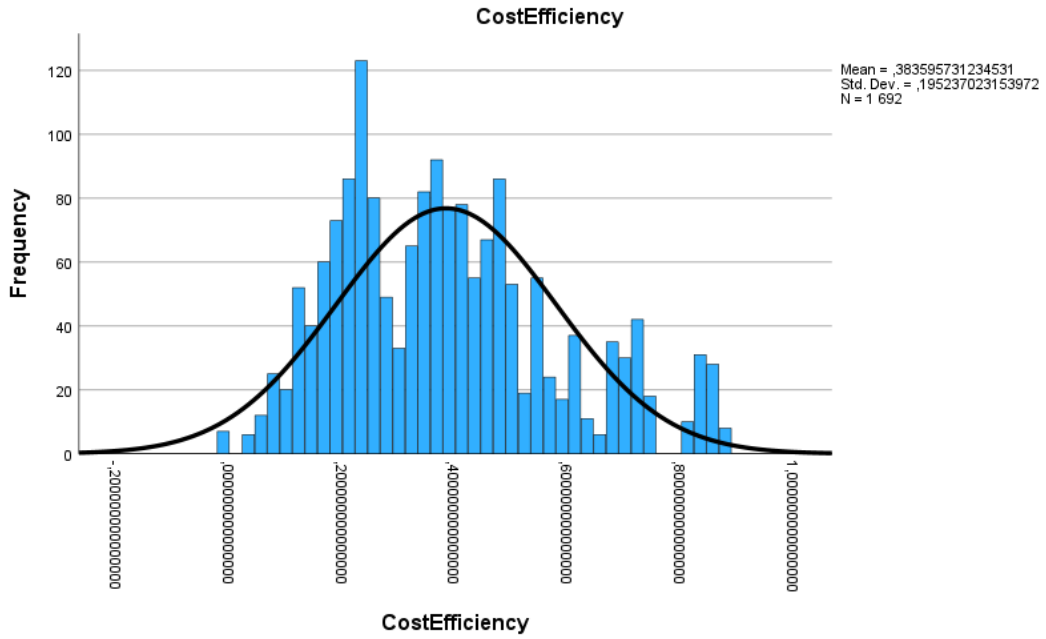

Figure 3: Hypothesis 1.1 Cost Efficiency Histogram

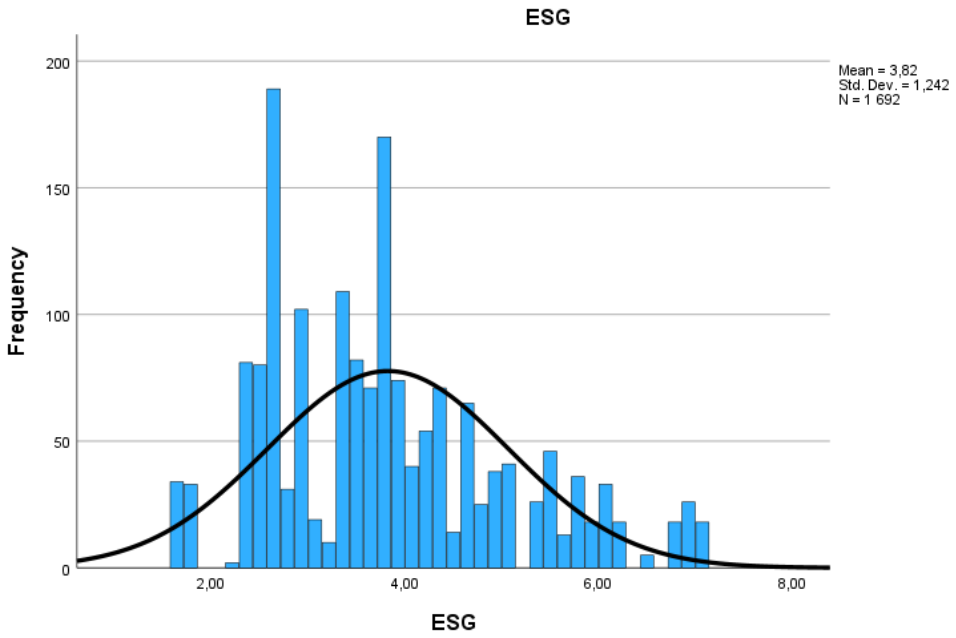

Figure 4: Hypothesis 1.1 ESG Histogram

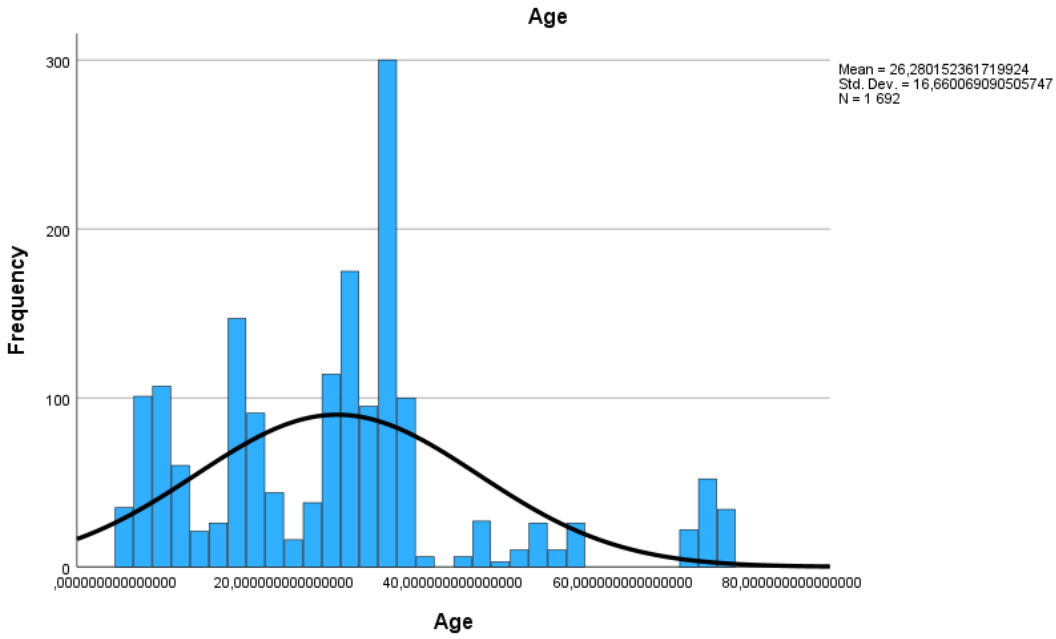

Figure 5: Hypothesis 1.1 Age Histogram

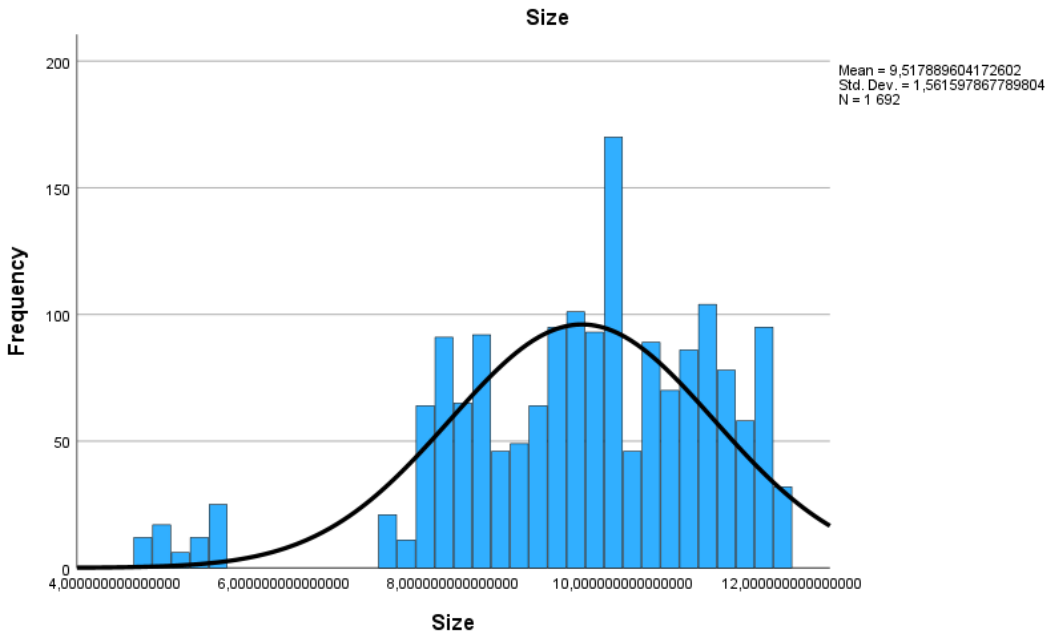

Figure 6: Hypothesis 1.1 Size Histogram

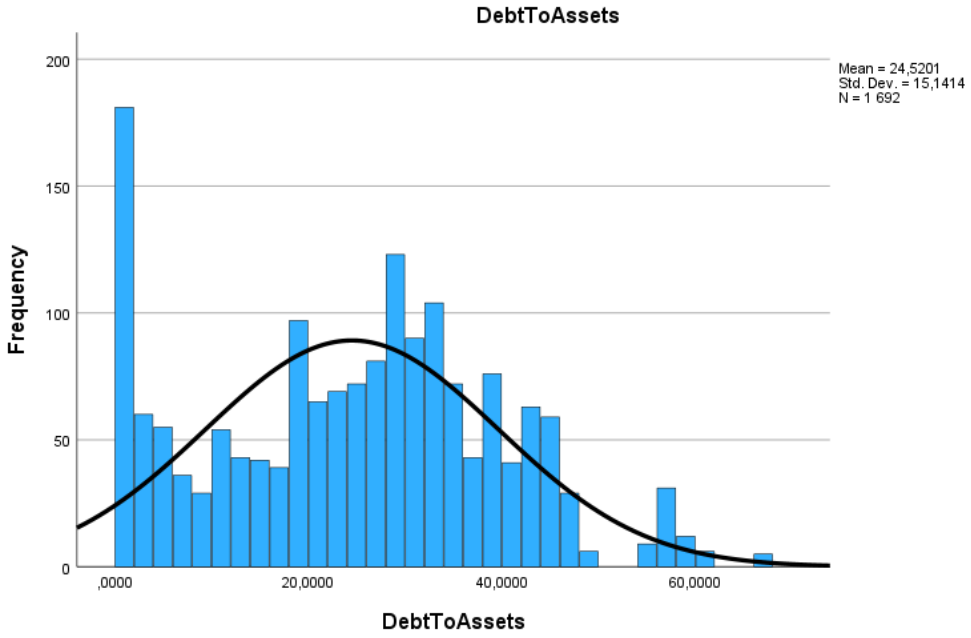

Figure 7: Hypothesis 1.1 DebtToAssets Histogram

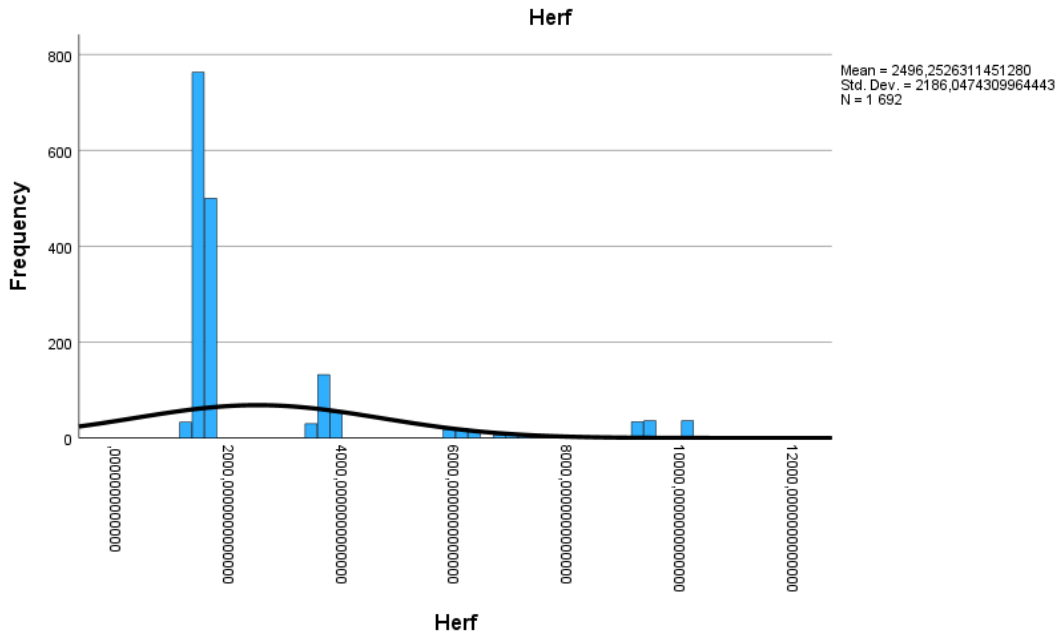

Figure 8: Hypothesis 1.1 Competition Histogram

The Cost Efficiency score ranges from 0 to 1. A higher score indicates a higher degree of a low-cost strategy. Average observed value is 0.38 which is below the mid-point of 0.5. The Bloomberg ESG score can range from 0 to 10 with a higher score indicating a better score. The average ESG score is 3.82 which is below the mid-point of 5.

Companies have an average age of 26.28 years. Average size is 9.57 based on natural logarithm of revenue. Average debt to assets is 24.5 (i.e. 24.5%) and average Herfindahl Index is 2496 (Herfindahl Index ranges from 0 to 10 000 with a lower competition industries taking higher values). Herfindahl Index values indicate there is a high degree of competition amongst companies.

5.2.3 Hypothesis 1.1: Tests of underlying assumptions of linear regression

The tests performed to ensure that the underlying assumptions of the linear regression were not materially violated were as follows:

- Kolmogorov-Smirnov test which that the distributions for dependent, independent and control variables are likely to be normally distributed;
- VIF which tested independence and collinearity;
- Analysis of Variance (ANOVA) which tested that coefficients were not zero
- Normality distribution tests for the residuals
- Partial regression plots to determine if relationship between independent variables and dependent variables is approximately linear.

The results of the above tests are shown in the annexure. Results of tests show that assumptions underlying linear regression are valid.

5.2.4 Hypothesis 1.1:Coefficients

Table 3: Hypothesis 1.1 Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	4.443	0.219		20.289	0.000
CostEfficiency	0.246	0.149	0.039	1.659	0.097
Age	-0.011	0.002	-0.147	-6.202	0.000
Size	0.039	0.021	0.049	1.883	0.060
DebtToAssets	-0.022	0.002	-0.266	-11.037	0.000
Herf	0.000	0.000	-0.185	-7.383	0.000

The equations for the regression model are as follows:

Unstandardised equation

ESG = 4.443 + 0.246*CostEfficiency*- 0.011*Age*+ 0.039*Size*-0.022*DebtToAssets*+ 0.000*Herf*

Standardised equation

ESG = 0.039*CostEfficiency*- 0.0147*Age*+ 0.049*Size*-0.266*DebtToAssets*-0.185*Herf*

The independent variable CostEfficiency has a positive relationship (β=0.039) with dependent variable ESG performance (which is not expected), and the relationship is insignificant (p >0.05). This implies that Hypothesis 1.1 can be rejected.

The control variable age has a negative and insignificant relationship with ESG performance (β=-0.147; p >0.05) . This is unexpected as older companies should have a better ability to obtain good ESG performance.

5.2.5 Hypothesis 1.1:Model summary

Table 4: Hypothesis 1.1 Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,329[a]	,108	,106	1,17416	,065

a. Predictors: (Constant), Herf, CostEfficiency, DebtToAssets, Age, Size

b. Dependent Variable: ESG

Based on the model results, only 11% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

5.2.6 Hypothesis 1.1: Robustness

5.2.6.1 Hypothesis 1.1:Pearson correlation coefficients

Table 5: Hypothesis 1.1 Pearson correlations

Pearson Correlation	ESG	CostEfficiency	Age	Size	DebtToAssets	Herf
ESG	1.0					
CostEfficiency	,047*	1.0				
Age	-,131**	-,165**	1.0			
Size	0.02	-0.03	,166**	1.0		
DebtToAssets	-,224**	,049*	0.0	,290**	1.0	
Herf	-,143**	0.01	-,119**	-,391**	-,163**	1.0

*. Correlation is significant at the 0.05 level (1-tailed)

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between independent and control variables is low which implies there is very low level of collinearity in the data.

5.2.7 Hypothesis 1.1:Conclusion

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 11% implies the model is not a good fit. The independent variable CostEfficiency (measure of degree of low-cost strategy) has a positive relationship (β=0.039) with dependent variable ESG performance (which is not expected), and the relationship is insignificant (p >0.05). This implies that Hypothesis 1.1 can be rejected.

5.3 Hypothesis 1.2: Differentiation Strategy positively impacts ESG performance

5.3.1 Hypothesis 1.2 Sample

Of the 87 companies, 24 companies had data for Selling, General and Administrative Expense and ESG scores that were required for this hypothesis. Data for the control variables was available over the 3 year period. Based on data checks performed, the researcher found that the variables did not vary daily. Therefore, monthly data points were used over the 3 year period. The number of company observations used was 864.

5.3.2 Hypothesis 1.2: Descriptive Statistics

The mean, standard deviation and frequencies for each variable is shown in the diagrams below (Herf is abbreviation for the calculated Herfindahl Index and Diff for differentiation strategy). The Normal curve has also been plotted against the relevant frequencies.

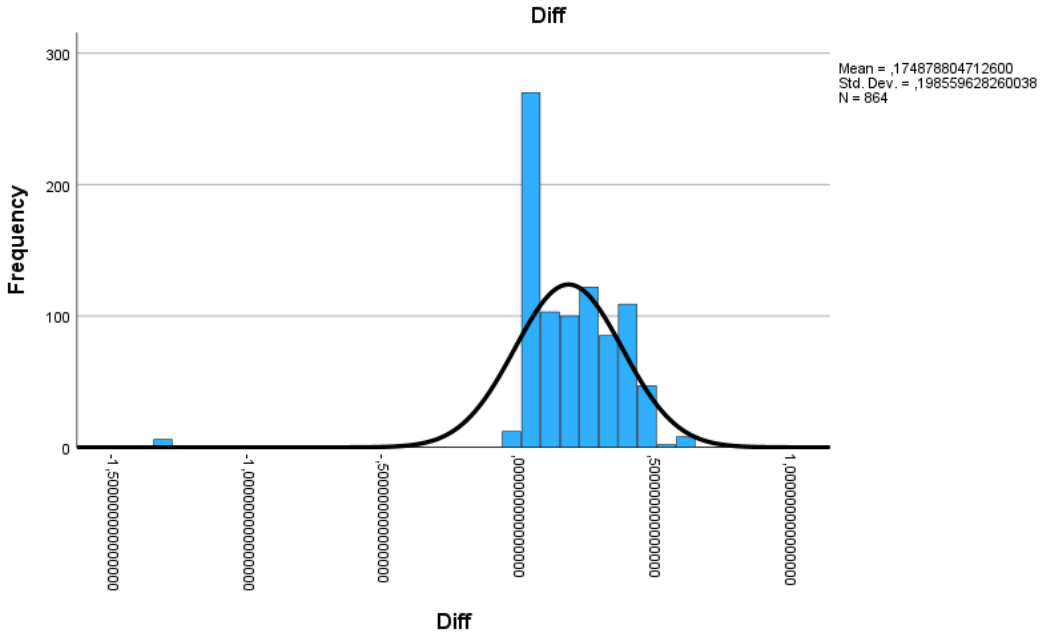

Figure 9: Hypothesis 1.2 Differentiation Histogram

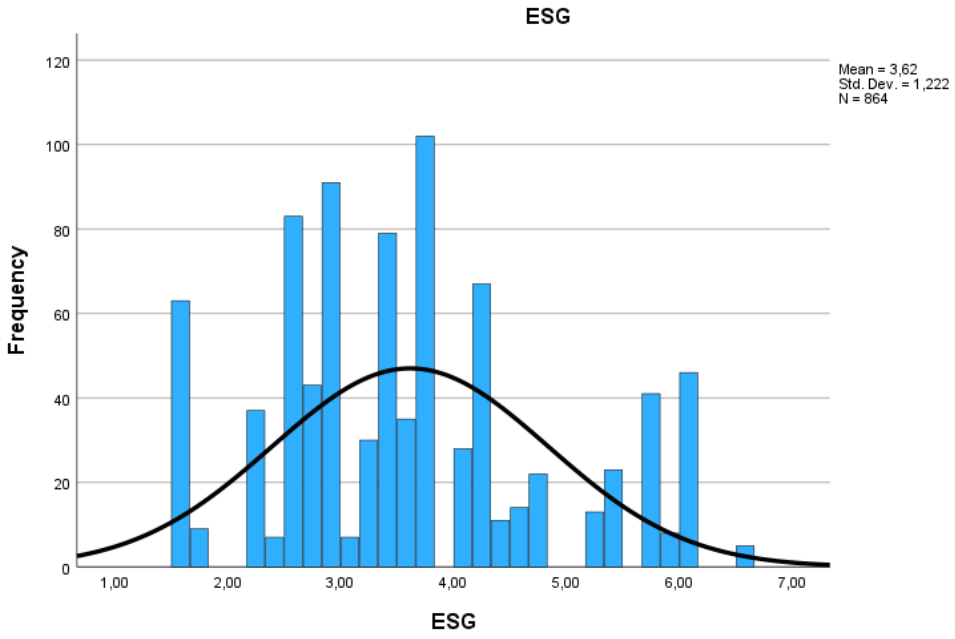

Figure 10: Hypothesis 1.2 ESG Histogram

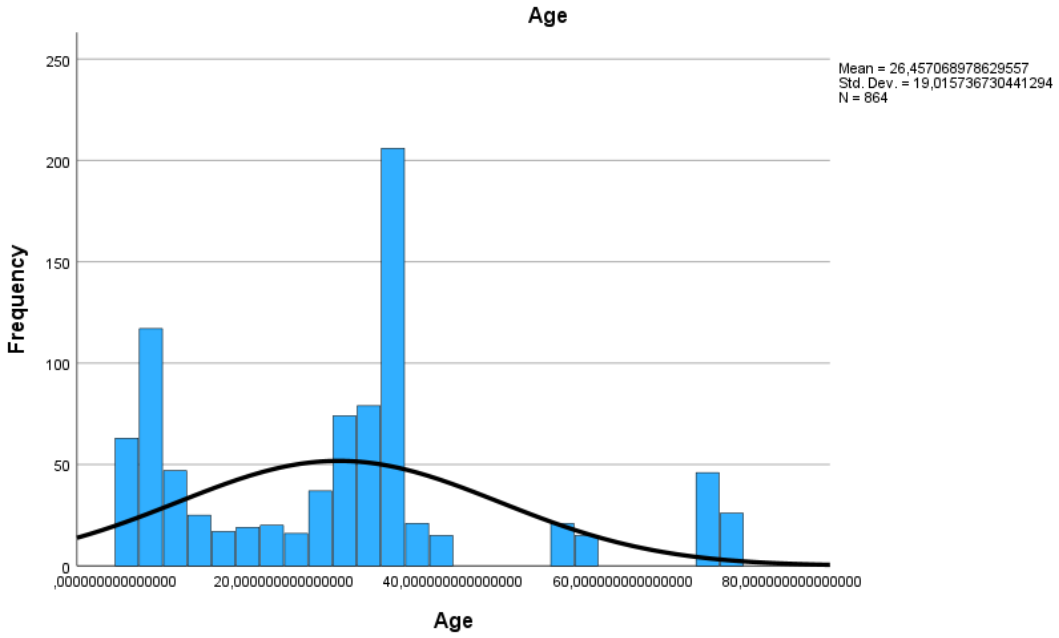

Figure 11: Hypothesis 1.2 Age Histogram

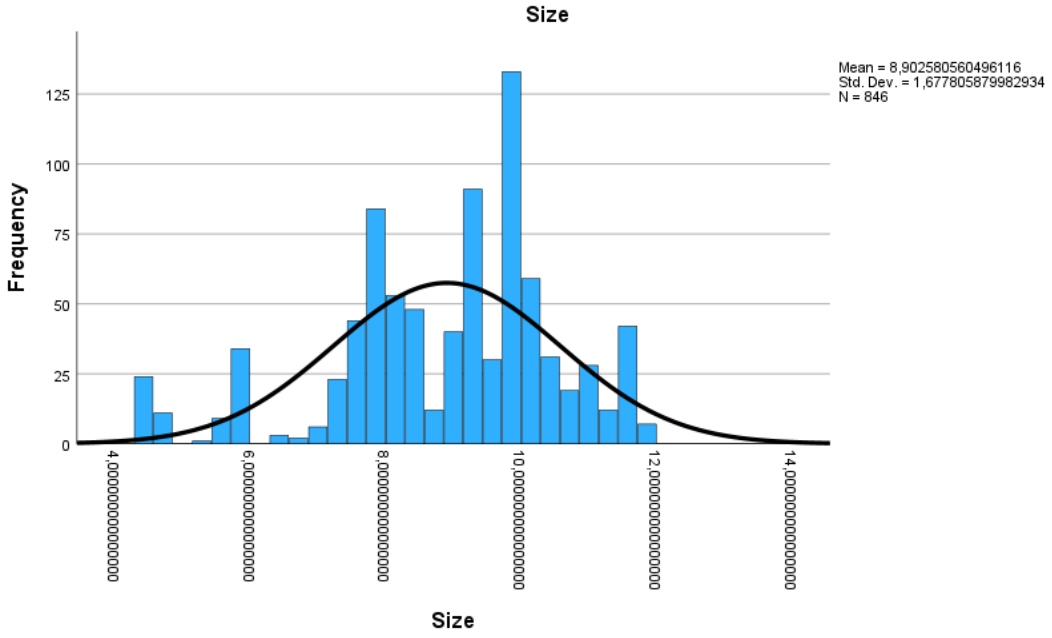

Figure 12: Hypothesis 1.2 Size Histogram

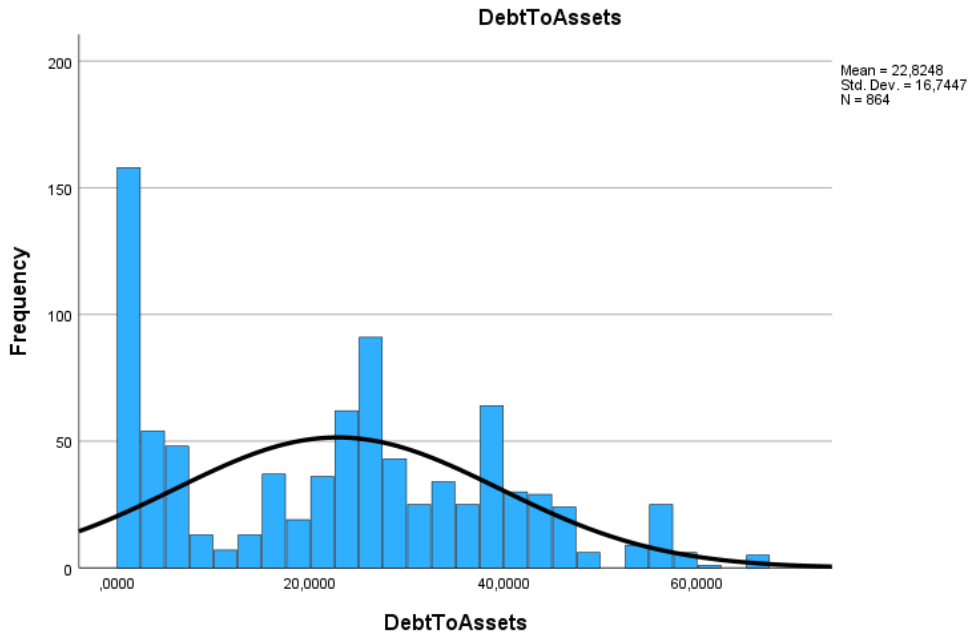

Figure 13: Hypothesis 1.2 DebtToAssets Histogram

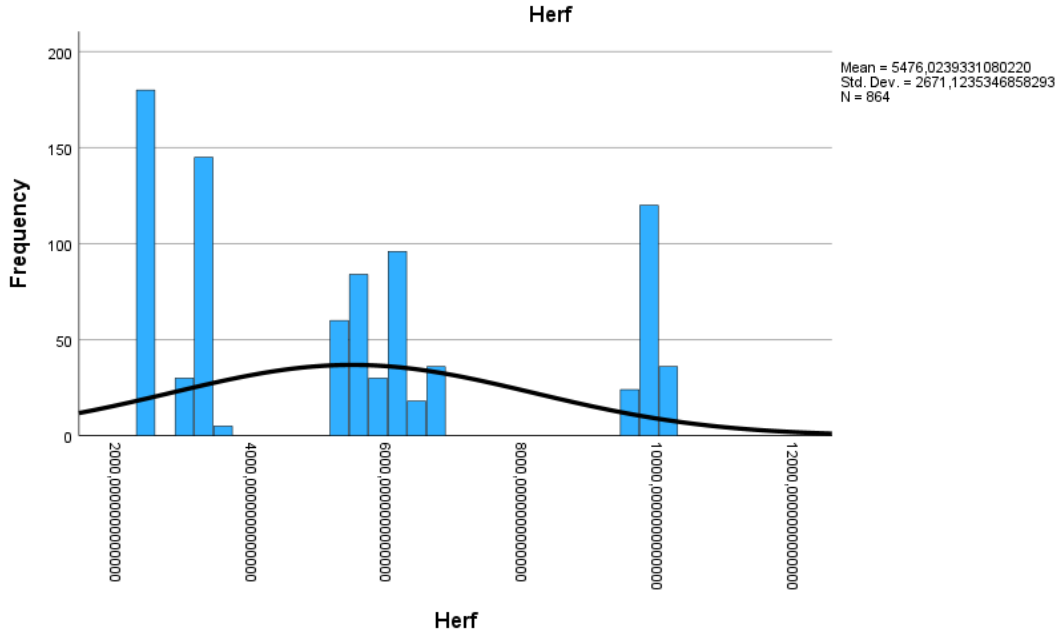

Figure 14: Hypothesis 1.2 Competition Histogram

The Differentiation score ranges from 0 to 1. A higher score indicates a higher degree of a differentiation strategy. Average observed value is 0.17 which is below the mid-point of 0.5. The Bloomberg ESG score can range from 0 to 10 with a higher score indicating a better score. The average ESG score is 3.62 which is below the mid-point of 5.

Companies have an average age of 26.45 years. Average size is 8.9 based on natural logarithm of revenue. Average debt to assets is 22.8 (i.e. 22.8%) and average Herfindahl

Index is 5 476 (Herfindahl Index ranges from 0 to 10 000 with a lower competition industries taking higher values). Herfindahl Index values indicate there is a low degree of competition amongst companies.

5.3.3 Hypothesis 1.2:Coefficients

Table 6: Hypothesis 1.2 Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	3.310	0.360		9.203	0.000
Diff	0.641	0.307	0.082	2.091	0.037
Age	-0.011	0.002	-0.172	-4.571	0.000
Size	0.079	0.032	0.111	2.454	0.014
DebtToAssets	-0.004	0.003	-0.062	-1.501	0.134
Herf	0.000	0.000	-0.032	-0.741	0.459

The equations for the regression model are as follows:

Unstandardised equation

ESG = 3.310 + 0.641*Diff*- 0.011*Age*+ 0.079*Size*-0.004*DebtToAssets*+ 0.000*Herf*

Standardised equation

ESG = 0.082*Diff*- 0.0172*Age*+ 0.111*Size*-0.062*DebtToAssets*-0.032*Herf*

The independent variable Diff (Differentiation) has a positive relationship (β=0.082) with dependent variable ESG performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 1.2 can not be rejected.

The control variable age has a negative and significant relationship with ESG performance (β=-0.172; p <0.05) . This is unexpected as older companies should have a better ability to obtain good ESG performance.

5.3.4 Hypothesis 1.2:Model summary

Table 7: Hypothesis 1.2 Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,191[a]	,037	,031	1,17718	,070

a. Predictors: (Constant), Herf, Diff, Age, DebtToAssets, Size

b. Dependent Variable: ESG

Based on the model results, only 3.7% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

5.3.5 Hypothesis 1.2: Robustness

5.3.5.1 Hypothesis 1.2: Pearson correlation coefficients

Table 8: Hypothesis 1.2 Pearson correlations

Pearson Correlation	ESG	Diff	Age	Size	DebtToAssets	Herf
ESG	1					
Diff	,183**	1				
Age	-,106**	-,129**	1			
Size	0.01	-,299**	,388**	1		
DebtToAssets	0.03	,185**	,193**	,435**	1	
Herf	-,085**	-,223**	-,262**	-,454**	-,516**	1

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between independent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

5.3.6 Hypothesis 1.2: Conclusion

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 3.7% implies the model is not a good fit. The independent variable Differentiation (measure of differentiation strategy) has a positive relationship (β=0.082) with dependent variable ESG performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 1.2 can not be rejected.

5.4 Hypothesis 2.1: Low-cost Strategy negatively impacts financial performance

5.4.1 Hypothesis 2.1 Sample

Of the 87 companies, 47 companies had data for Cost of Sales and ROA and 39 companies had data for Cost of Sales and Tobin's Q that were required for this hypothesis. Data for the control variables was available over the 3 year period. Based on data checks performed, the researcher found that the variables did not vary daily. Therefore, monthly data points were used over the 3 year period. The number of

company observations were 1 692 when using ROA to measure financial performance, and 1 404 when using Tobin's Q to measure financial performance.

5.4.2 Hypothesis 2.1: Descriptive Statistics

The mean, standard deviation and frequencies for each variable is shown in the diagrams below (Herf is abbreviation for the calculated Herfindahl Index). The Normal curve has also been plotted against the relevant frequencies.

ROA as dependent variable

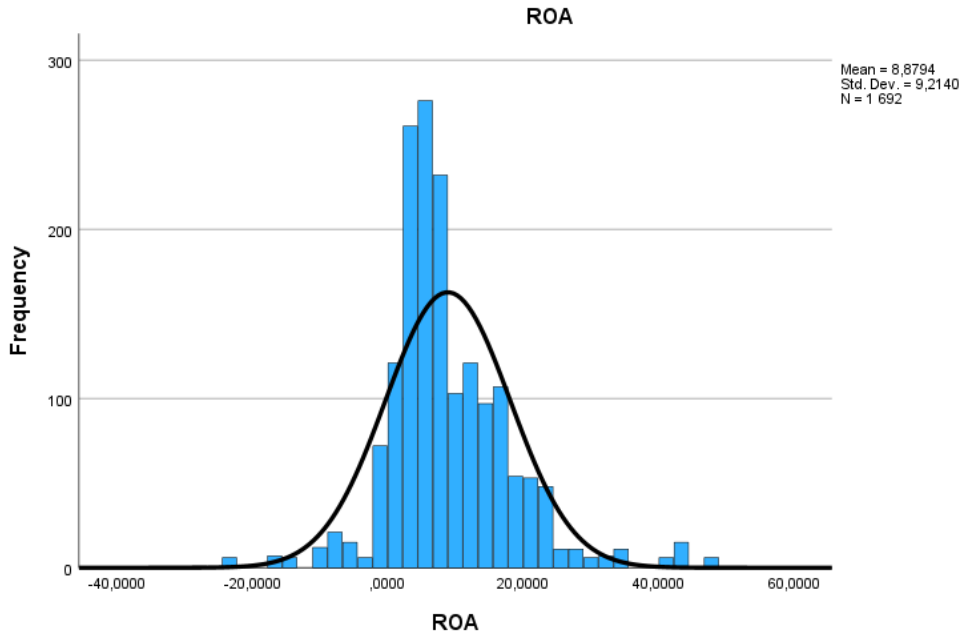

Figure 15:Hypothesis 2.1 ROA Histogram (ROA Dependent Variable)

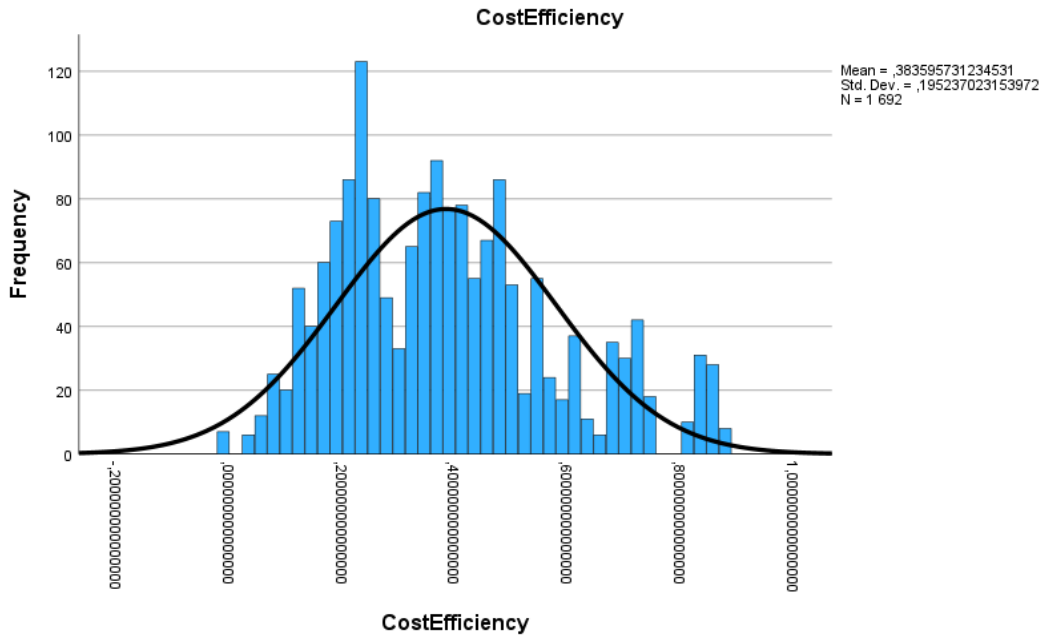

Figure 16:Hypothesis 2.1 CostEfficiency Histogram (ROA Dependent Variable)

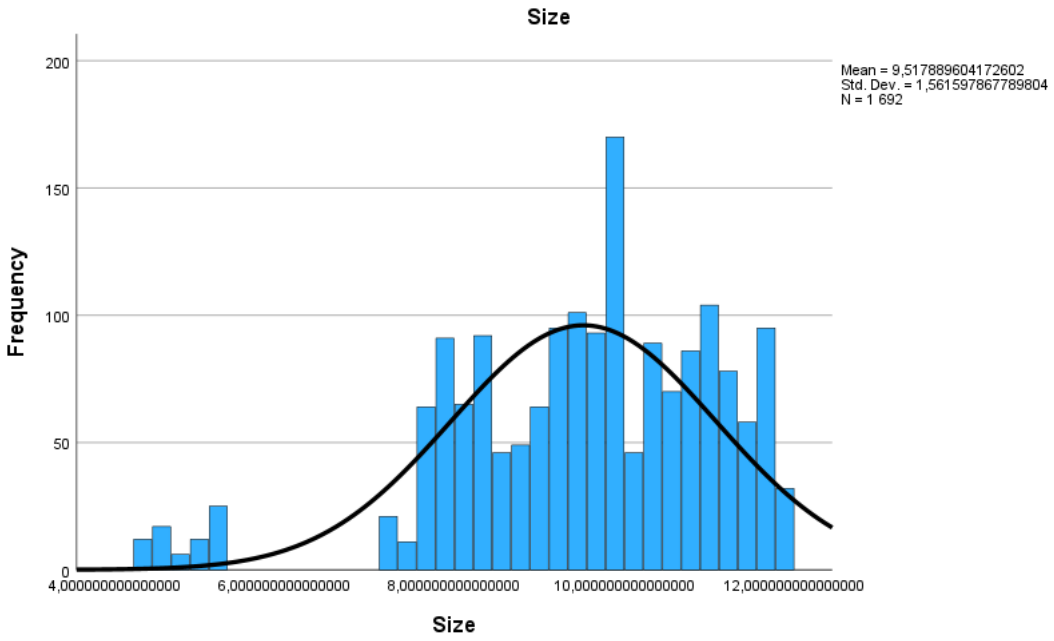

Figure 17:Hypothesis 2.1 Size Histogram (ROA Dependent Variable)

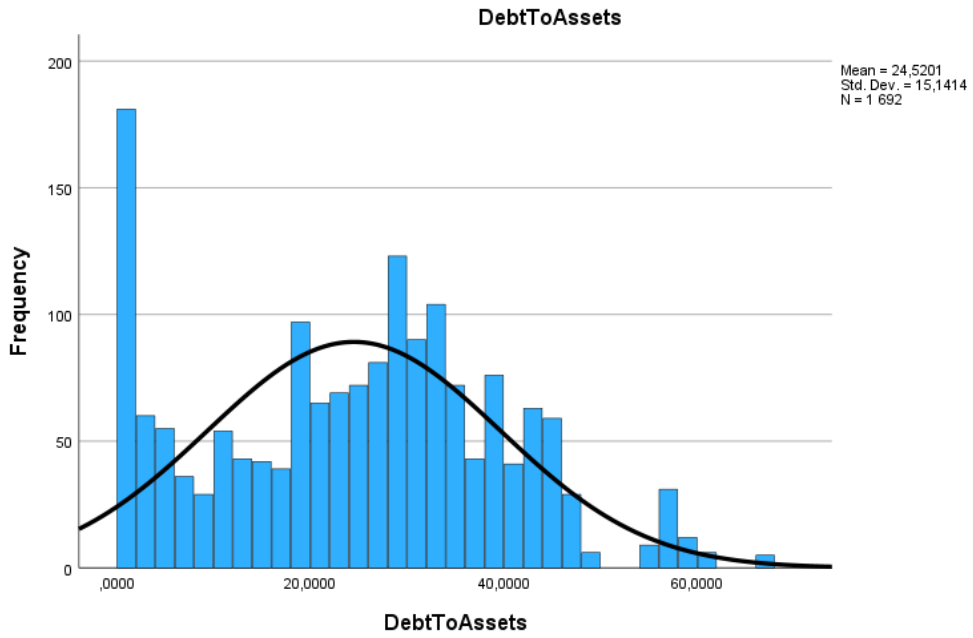

Figure 18:Hypothesis 2.1 DebtToAssets Histogram (ROA Dependent Variable)

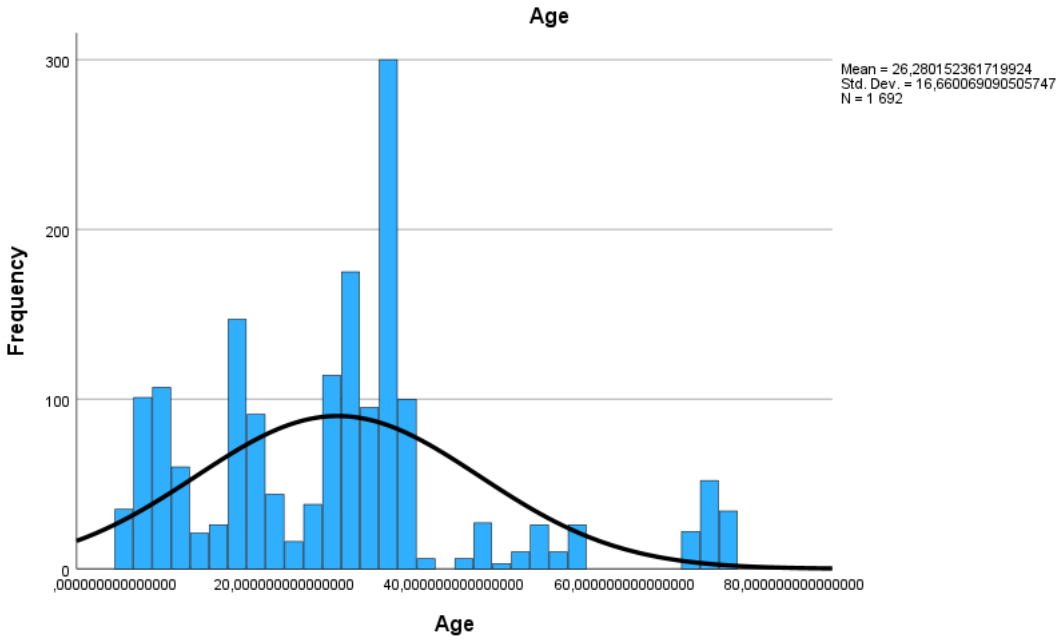

Figure 19:Hypothesis 2.1 Age Histogram (ROA Dependent Variable)

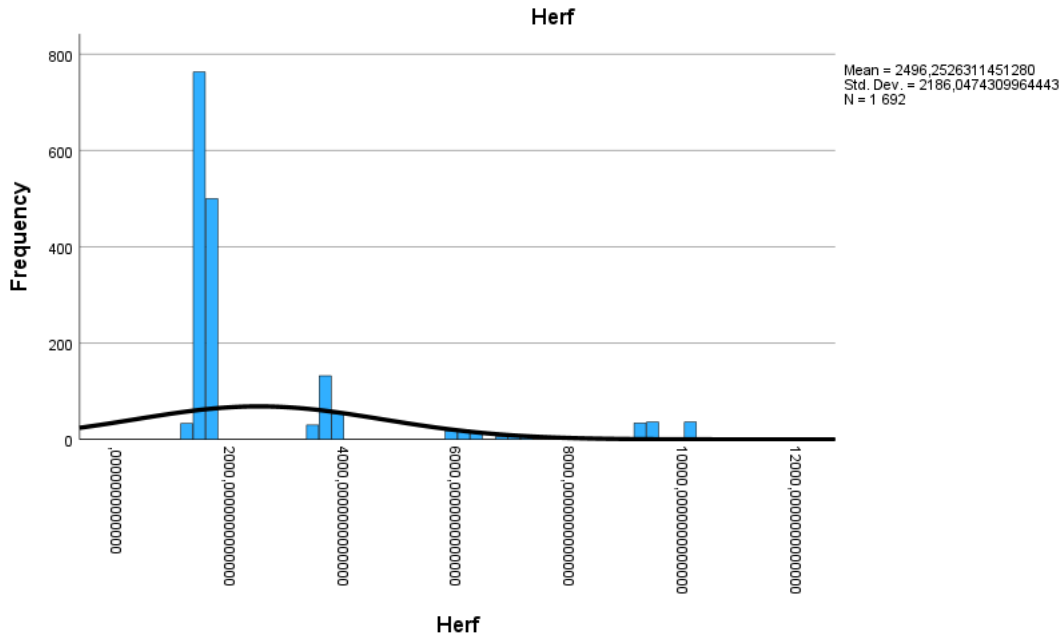

Figure 20:Hypothesis 2.1 Competition Histogram (ROA Dependent Variable)

The Cost Efficiency score ranges from 0 to 1. A higher score indicates a higher degree of a low-cost strategy. Average observed value is 0.38 which is below the mid-point of 0.5. Average ROA is 8.87 (i.e. 8.87%).

Companies have an average age of 26.28 years. Average size is 9.51 based on natural logarithm of revenue. Average debt to assets is 26.3 (i.e. 26.3%) and average Herfindahl Index is 2496 (Herfindahl Index ranges from 0 to 10 000 with a lower competition industries taking higher values). Herfindahl Index values indicate there is a good degree of competition amongst companies.

Tobin's Q (Price to Book) as dependent variable

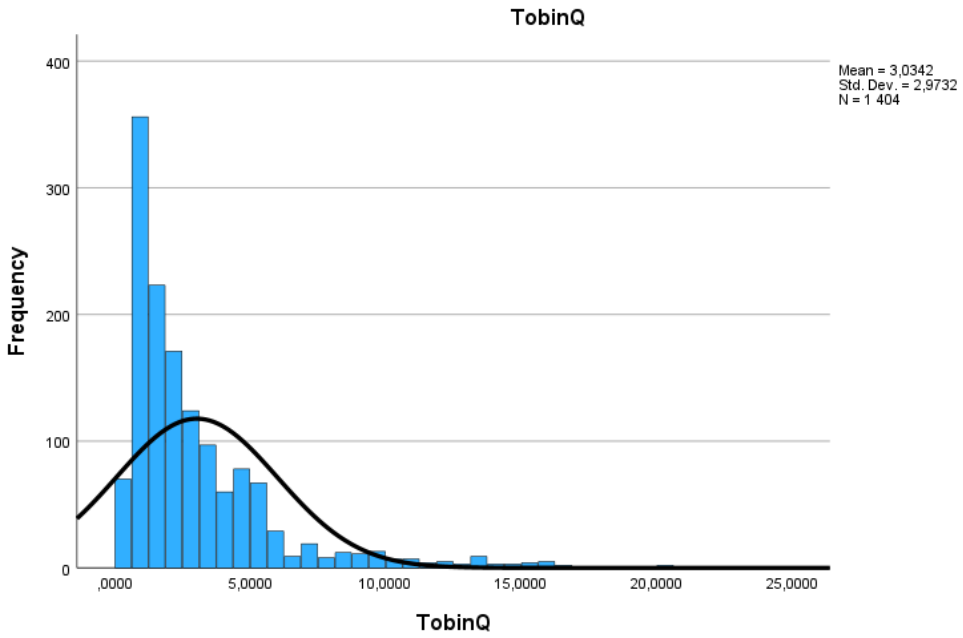

Figure 21:Hypothesis 2.1 Tobin's Q Histogram (Tobin's Q Dependent Variable)

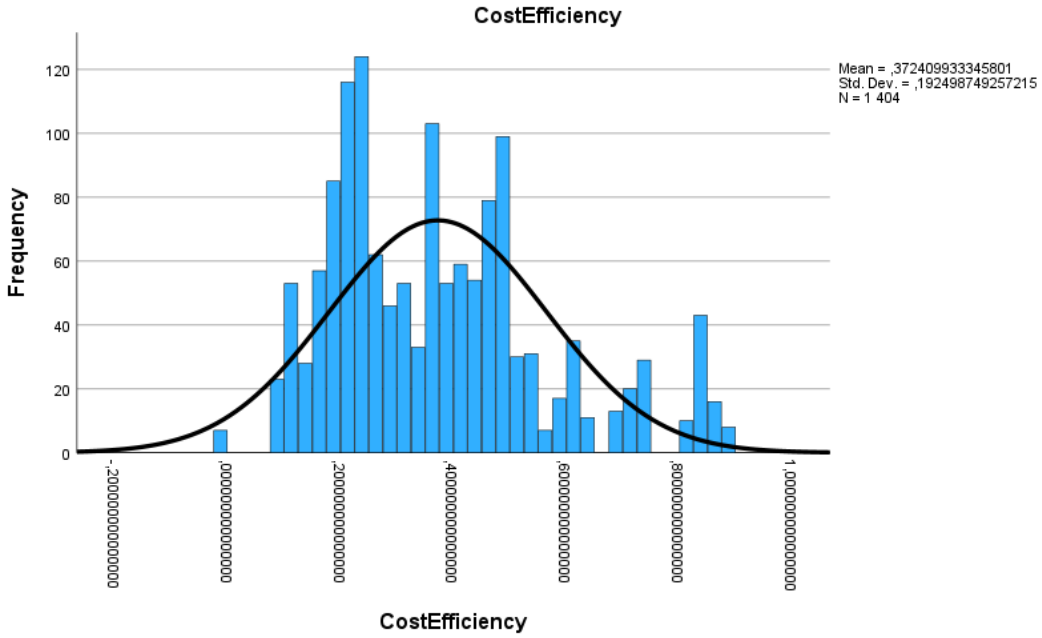

Figure 22:Hypothesis 2.1 CostEfficiency Histogram (Tobin's Q Dependent Variable)

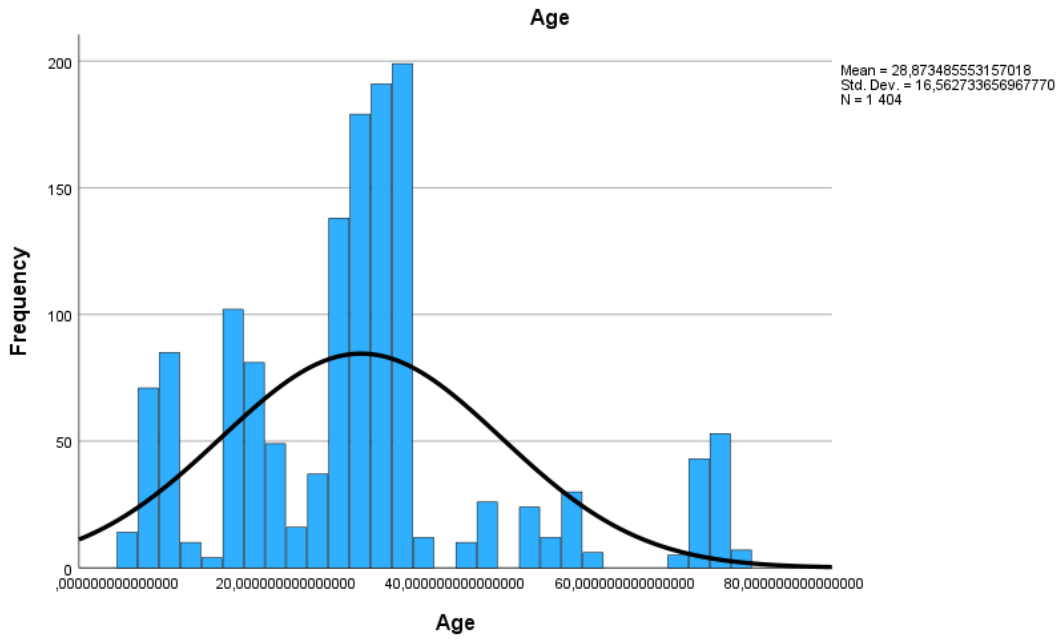

Figure 23:Hypothesis 2.1 Age Histogram (Tobin's Q Dependent Variable)

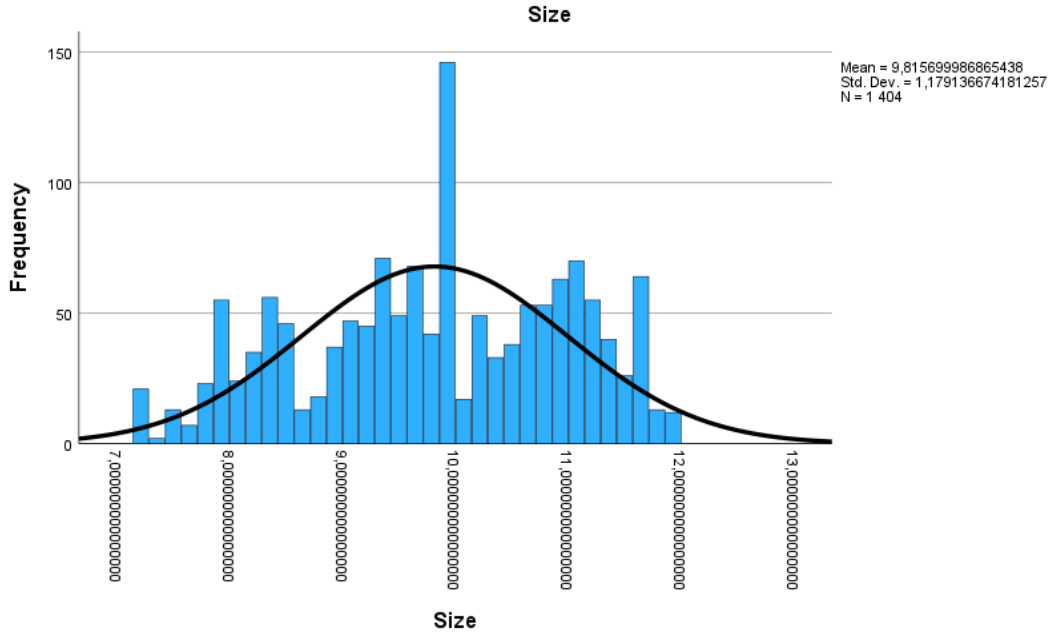

Figure 24:Hypothesis 2.1 Size Histogram (Tobin's Q Dependent Variable)

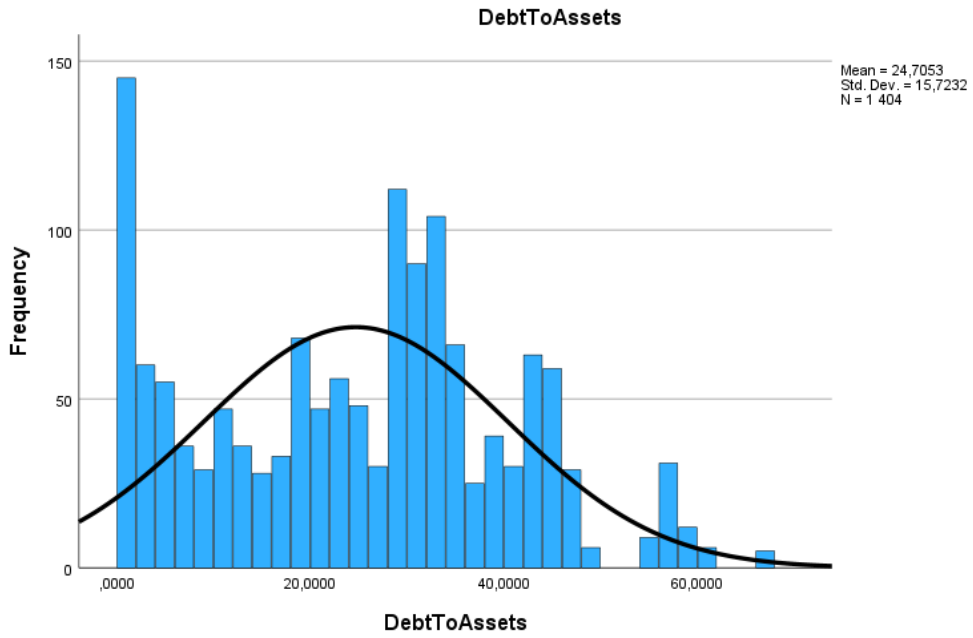

Figure 25:Hypothesis 2.1 DebtToAssets Histogram (Tobin's Q Dependent Variable)

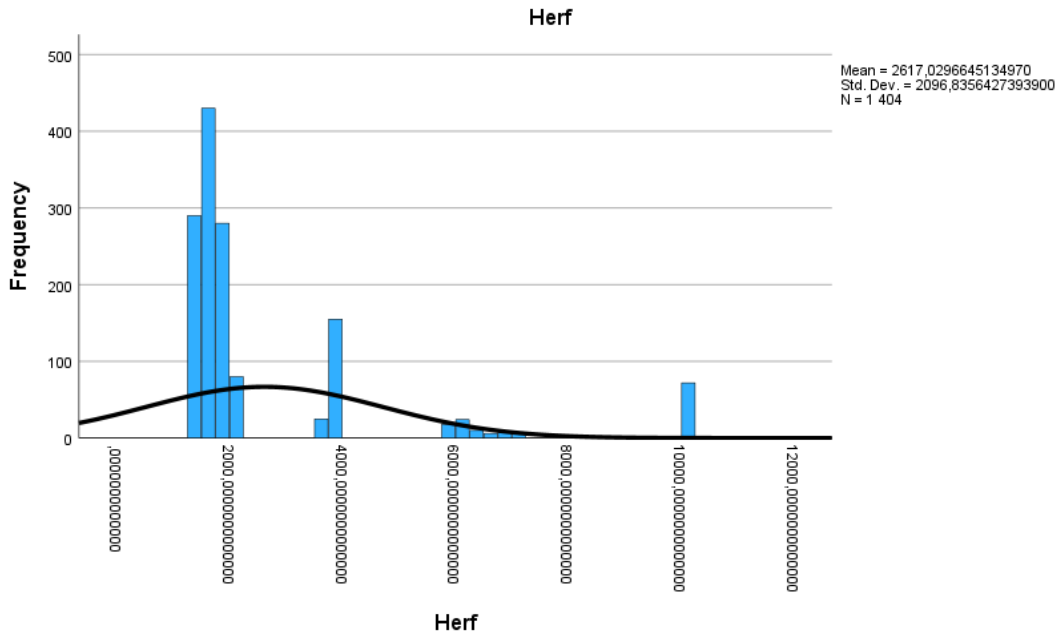

Figure 26:Hypothesis 2.1 Competition Histogram (Tobin's Q Dependent Variable)

The Cost Efficiency score ranges from 0 to 1. A higher score indicates a higher degree of a low-cost strategy. Average observed value is 0.38 which is below the mid-point of 0.5. Average Tobin's Q score is 3.03. Higher Tobin's Q score indicates better performance.

Companies have an average age of 28.87 years. Average size is 9.81 based on natural logarithm of revenue. Average debt to assets is 24.7 (i.e. 24.7%) and average Herfindahl Index is 2 617 (Herfindahl Index ranges from 0 to 10 000 with a lower competition

industries taking higher values). Herfindahl Index values indicate there is a good degree of competition amongst companies.

5.4.3 Hypothesis 2.1:Coefficients

ROA as dependent variable

Table 9: Hypothesis 2.1 Regression coefficients (ROA Dependent Variable)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	14.776	1.476		10.010	0.000
CostEfficiency	7.798	1.001	0.165	7.789	0.000
Age	0.033	0.012	0.059	2.735	0.006
Size	-0.123	0.140	-0.021	-0.878	0.380
DebtToAssets	-0.302	0.013	-0.497	-22.670	0.000
Herf	0.000	0.000	-0.111	-4.872	0.000

The equations for the regression model are as follows:

Unstandardised equation

ROA = 14.776 + 7.798*CostEfficiency*+0.033*Age*- 0.123*Size*-0.302*DebtToAssets*+ 0.000*Herf*

Standardised equation

ROA = 0.165*CostEfficiency*+ 0.059*Age*- 0.021*Size*-0.497*DebtToAssets*-0.111*Herf*

The independent variable CostEfficiency has a positive relationship (β=0.059) with dependent variable financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.1 (ROA as dependent variable) can not be rejected.

Tobin's Q (Price to Book) as dependent variable

Table 10: Hypothesis 2.1 Regression coefficients (Tobin's Q Dependent Variable)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	5.005	0.704		7.108	0.000
CostEfficiency	-2.365	0.399	-0.153	-5.919	0.000
Age	-0.012	0.005	-0.065	-2.584	0.010
Size	-0.161	0.068	-0.064	-2.353	0.019

DebtToAssets	0.059	0.005	0.311	12.234	0.000
Herf	0.000	0.000	-0.168	-6.398	0.000

The equations for the regression model are as follows:

Unstandardised equation

Tobin's Q = 5.005 -2.365*CostEfficiency*-0.012*Age*- 0.161*Size*+0.059*DebtToAssets*+ 0.000*Herf*

Standardised equation

Tobin's Q = -0.153*CostEfficiency*- 0.065*Age*- 0.064*Size*+0.311*DebtToAssets*-0.168*Herf*

The independent variable CostEfficiency has a negative relationship (β=-0.153) with dependent variable financial performance (which is not expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.1 (TobinQ as dependent variable) can be rejected.

5.4.4 Hypothesis 2.1:Model summary

ROA as dependent variable

Table 11: Hypothesis 2.1 Model Summary (ROA Dependent Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,514[a]	,264	,262	7,9148980	,152

a. Predictors: (Constant), Herf, CostEfficiency, DebtToAssets, Age, Size

b. Dependent Variable: ROA

Based on the model results, only 26.4% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

Tobin's Q (Price to Book) as dependent variable

Table 12: Hypothesis 2.1 Model Summary (Tobin's Q Dependent Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,371[a]	,138	,135	2,7659663	,135

a. Predictors: (Constant), Herf, Age, DebtToAssets, CostEfficiency, Size

b. Dependent Variable: TobinQ

Based on the model results, only 13.8% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

5.4.5 Hypothesis 2.1: Robustness

5.4.5.1 Hypothesis 2.1: Pearson correlation coefficients

ROA as dependent variable

Table 13: Hypothesis 2.1 Pearson Correlations (ROA Dependent Variable)

Pearson Correlation	ROA	CostEfficiency	Age	Size	DebtToAssets	Herf
ROA	1					
CostEfficiency	,131**	1				
Age	0.03	-,165**	1			
Size	-,116**	-0.03	,166**	1		
DebtToAssets	-,475**	,049*	0.03	,290**	1	
Herf	-0.03	0.01	-,119**	-,391**	-,163**	1

*. Correlation is significant at the 0.05 level (1-tailed)

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between dependent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

Tobin's Q (Price to Book) as dependent variable

Table 14: Hypothesis 2.1 Pearson Correlations (Tobin's Q Dependent Variable)

Pearson Correlation	TobinQ	CostEfficiency	Age	Size	DebtToAssets	Herf
TobinQ	1					
CostEfficiency	-,114**	1				
Age	-0.04	-,169**	1			
Size	0.02	,213**	0.00	1		
DebtToAssets	,301**	,070**	-0.02	,211**	1	
Herf	-,151**	-,117**	-0.03	-,316**	-,075**	1

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between dependent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

5.4.6 Hypothesis 2.1: Conclusion

ROA as dependent variable

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 26% implies the model is not a good fit. The independent variable CostEfficiency (measure of degree of low-cost strategy) has a positive relationship (β=0.165) with dependent variable ROA financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.1 (ROA as dependent variable) can not be rejected.

Tobin's Q (Price to Book) as dependent variable

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 14% implies the model is not a good fit. The independent variable CostEfficiency (measure of degree of low-cost strategy) has a negative relationship (β=-0.153) with dependent variable Tobin's Q financial performance (which is not expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.1 (Tobin's Q as dependent variable can be rejected.

5.5 Hypothesis 2.2: Differentiation Strategy positively impacts financial performance

5.5.1 Hypothesis 2.2 Sample

Of the 87 companies, 24 companies had data for Selling, General and Administrative Expense and ROA and 16 companies had data for Cost of Sales and Tobin's Q that were required for this hypothesis. Data for the control variables was available over the 3 year period. Based on data checks performed, the researcher found that the variables did not vary daily. Therefore, monthly data points were used over the 3 year period. The number of company observations were 864 when using ROA to measure financial performance, and 576 when using Tobin's Q to measure financial performance.

5.5.2 Hypothesis 2.2: Descriptive Statistics

The mean, standard deviation and frequencies for each variable for each hypothesis is shown in the diagrams below (Herf is abbreviation for the calculated Herfindahl Index and Diff for differentiation strategy). The Normal curve has also been plotted against the relevant frequencies.

ROA as dependent variable

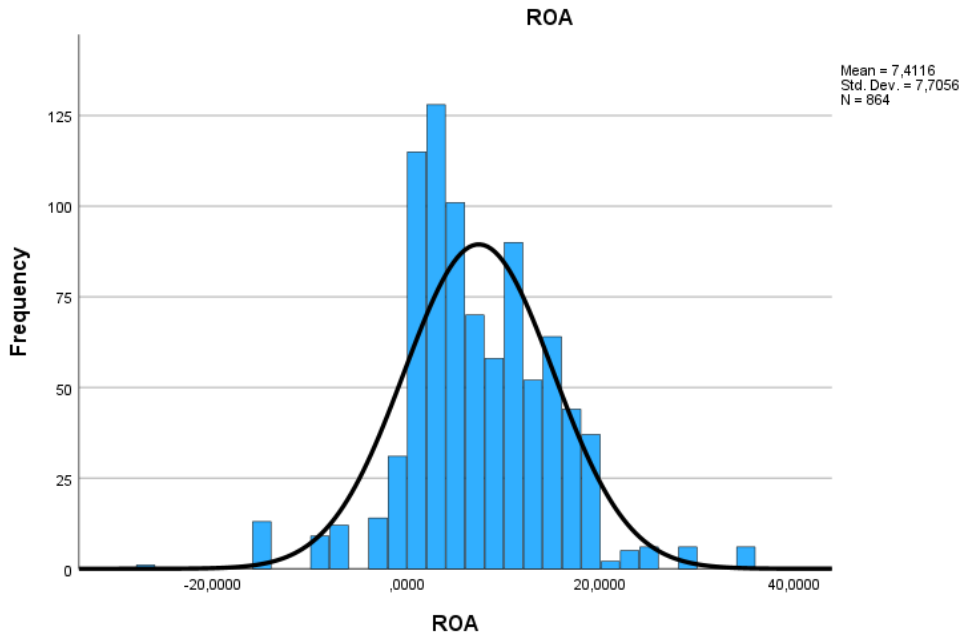

Figure 27: Hypothesis 2.2 ROA Histogram (ROA Dependent Variable)

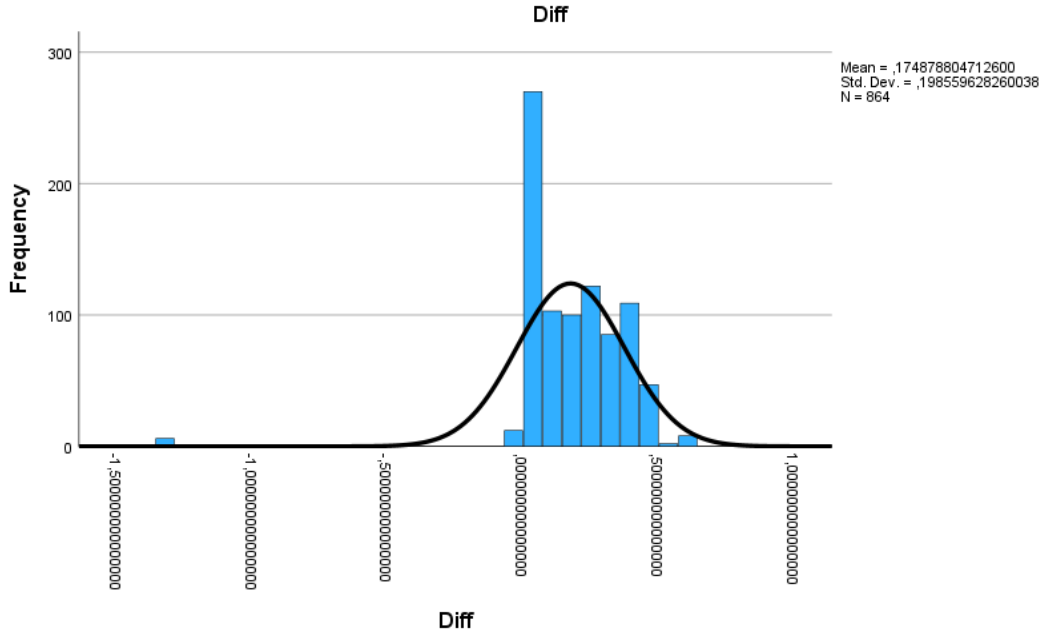

Figure 28: Hypothesis 2.2 Differentiation Histogram (ROA Dependent Variable)

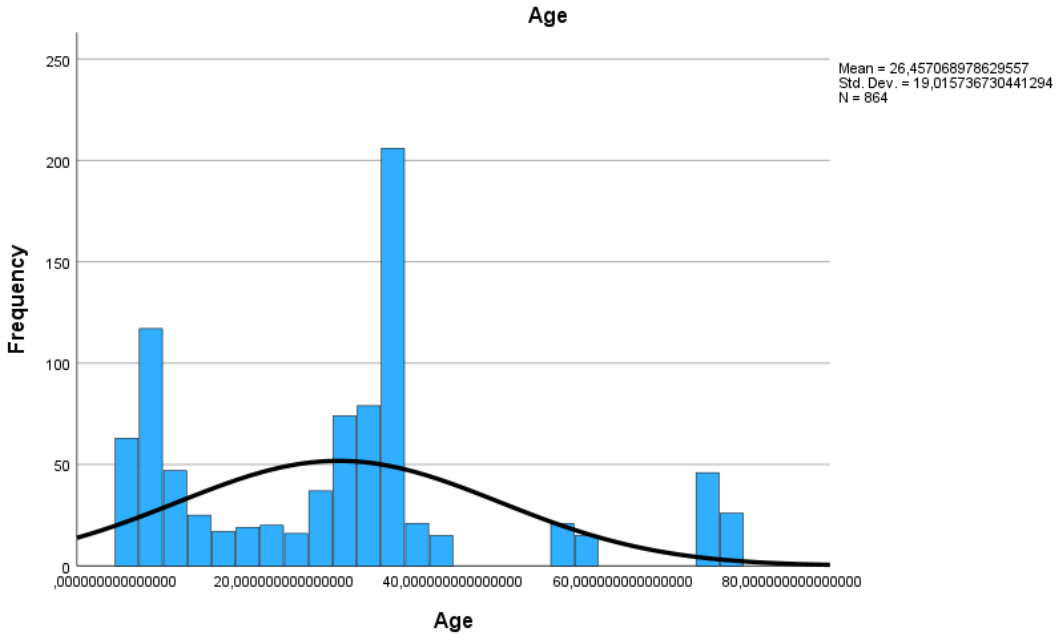

Figure 29: Hypothesis 2.2 Age Histogram (ROA Dependent Variable)

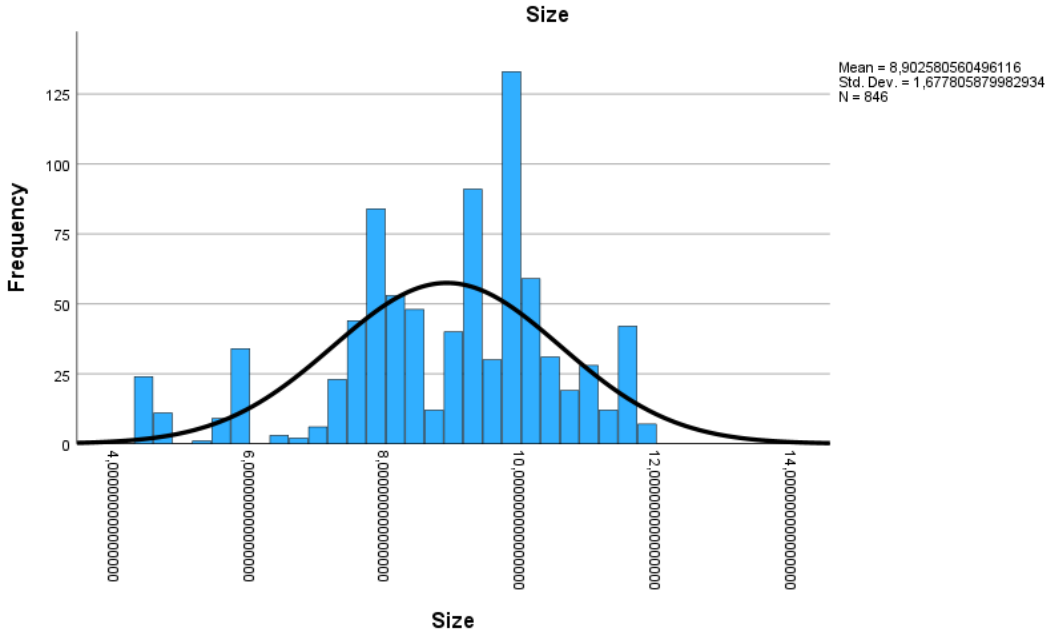

Figure 30: Hypothesis 2.2 Size Histogram (ROA Dependent Variable)

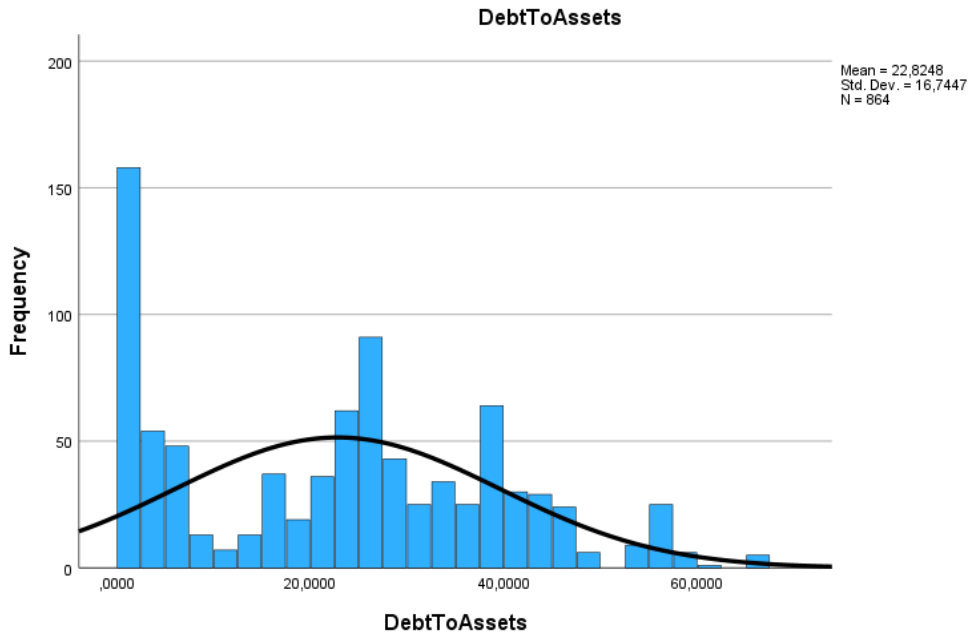

Figure 31: Hypothesis 2.2 DebtToAssets Histogram (ROA Dependent Variable)

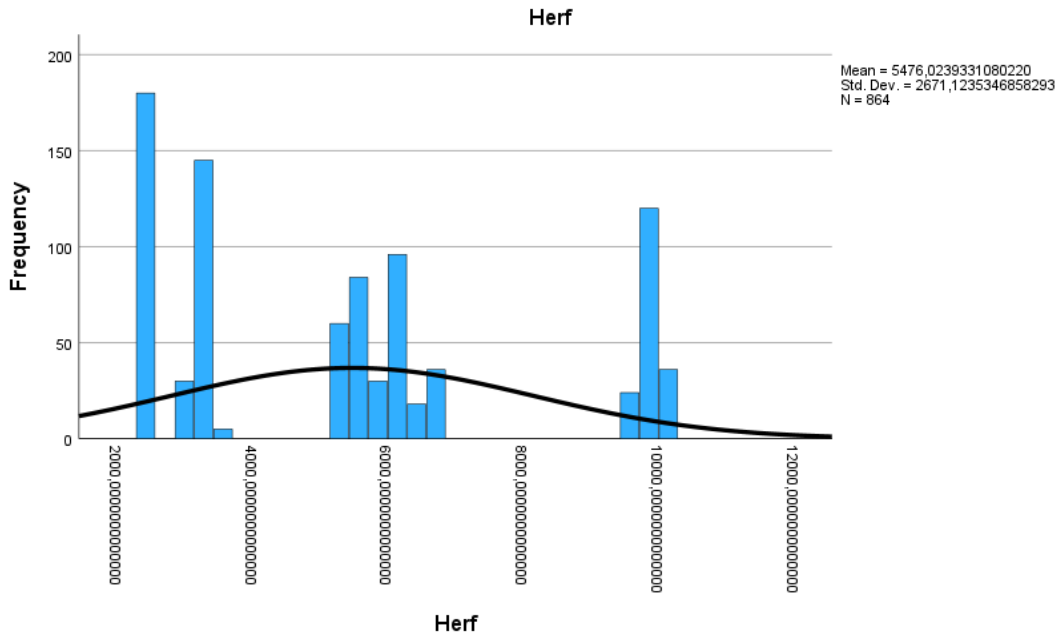

Figure 32: Hypothesis 2.2 Competition Histogram (ROA Dependent Variable)

The differentiation score ranges from 0 to 1. A higher score indicates a higher degree of a differentiation strategy. Average observed value is 0.17 which is below the mid-point of 0.5. Average ROA is 7.41 (i.e. 7.41%).

Companies have an average age of 26.46 years. Average size is 8.9 based on natural logarithm of revenue. Average debt to assets is 22.8 (i.e. 22.8%) and average Herfindahl Index is 5 476 (Herfindahl Index ranges from 0 to 10 000 with a lower competition industries taking higher values). Herfindahl Index values indicate there is a low degree of competition amongst companies.

Tobin's Q (Price to Book) as dependent variable

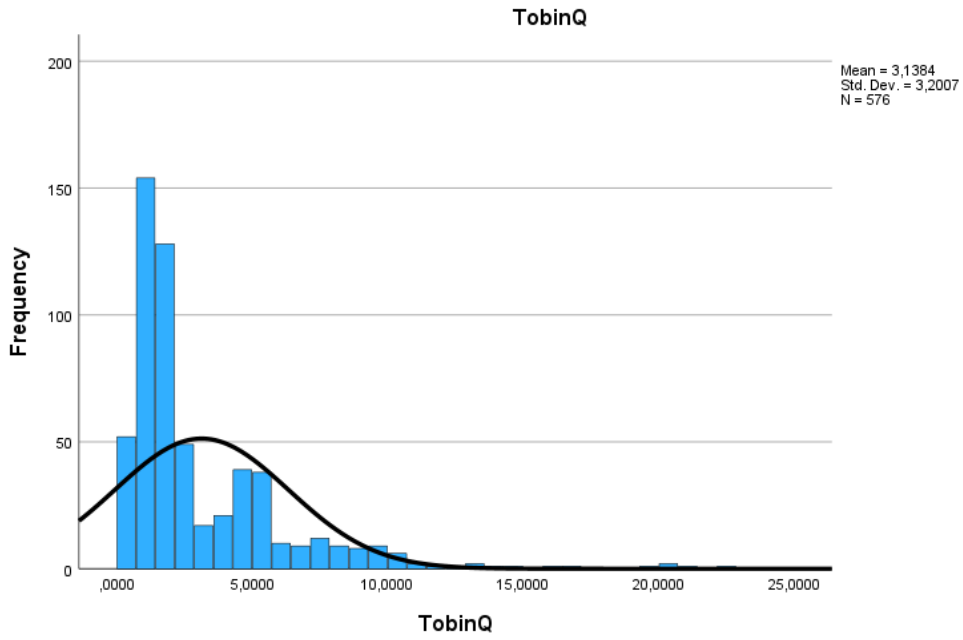

Figure 33: Hypothesis 2.2 Tobin's Q Histogram (Tobin's Q Dependent Variable)

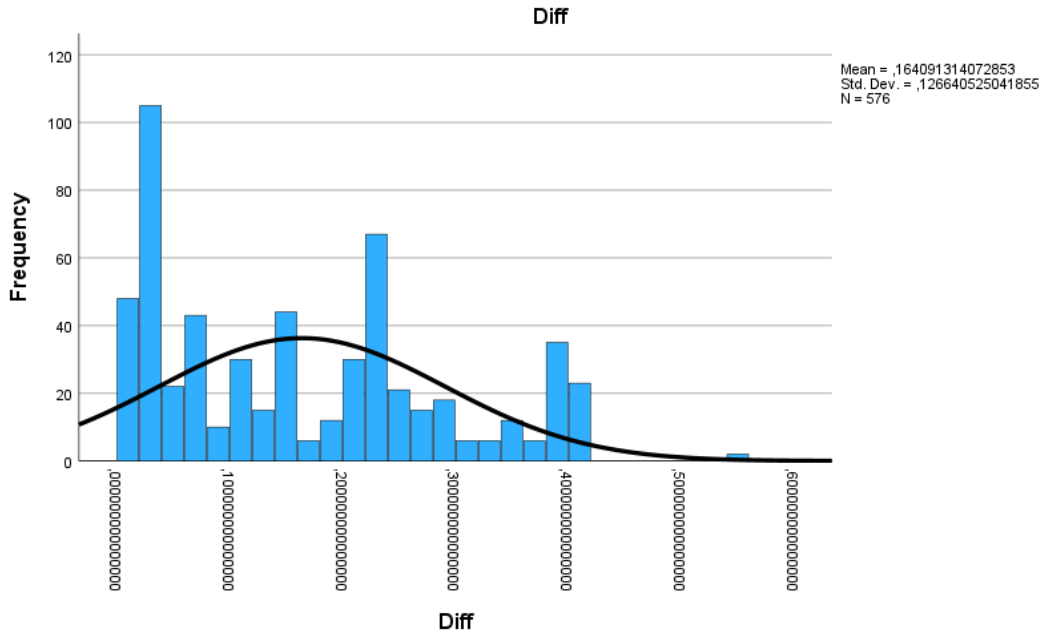

Figure 34: Hypothesis 2.2 Differentiation Histogram (Tobin's Q Dependent Variable)

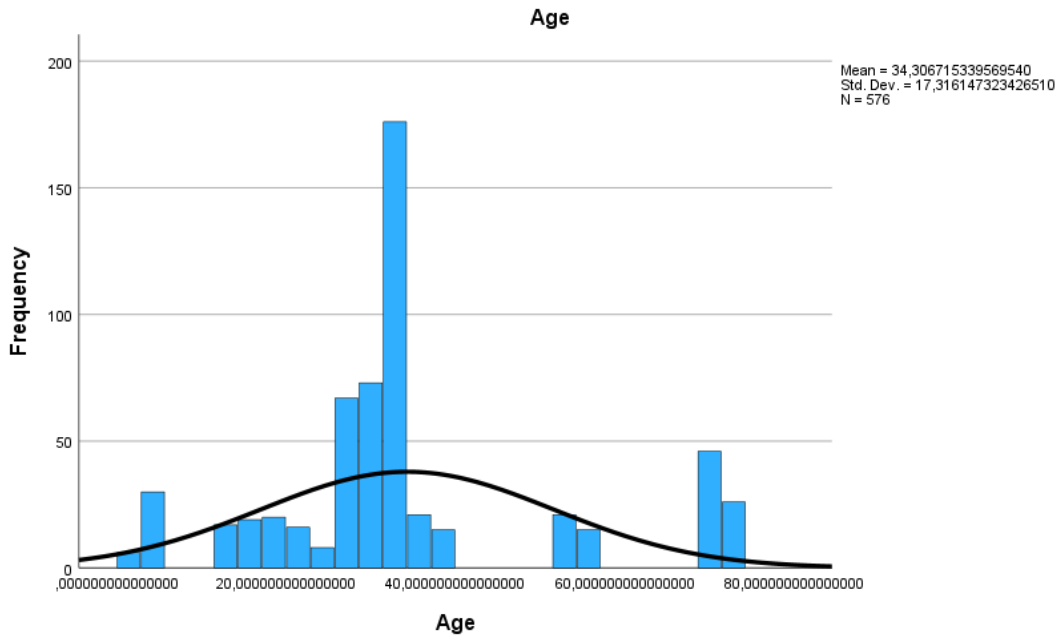

Figure 35: Hypothesis 2.2 Age Histogram (Tobin's Q Dependent Variable)

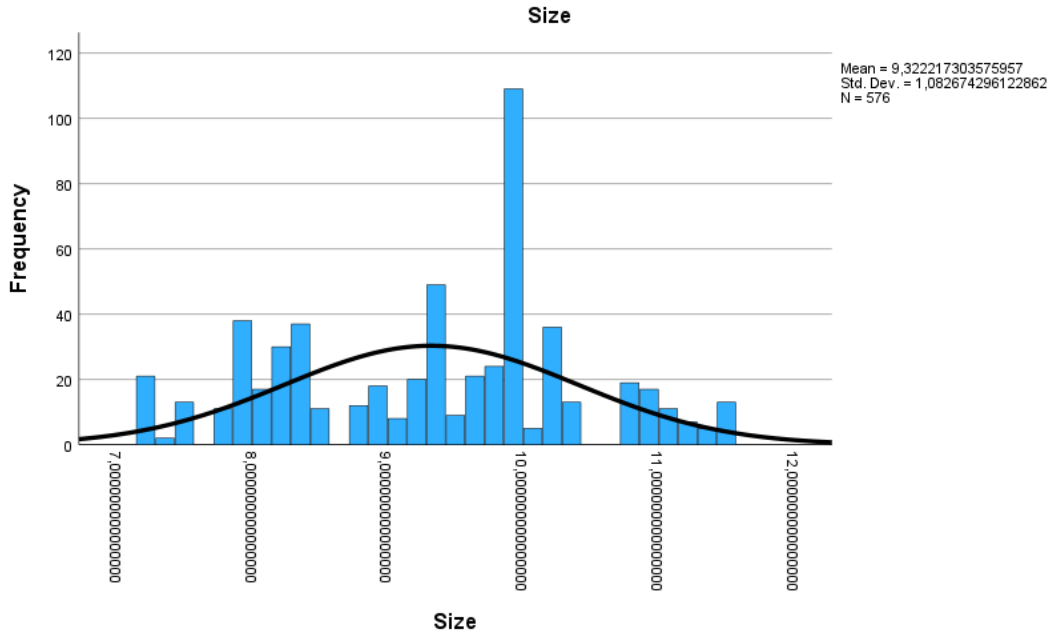

Figure 36: Hypothesis 2.2 Size Histogram (Tobin's Q Dependent Variable)

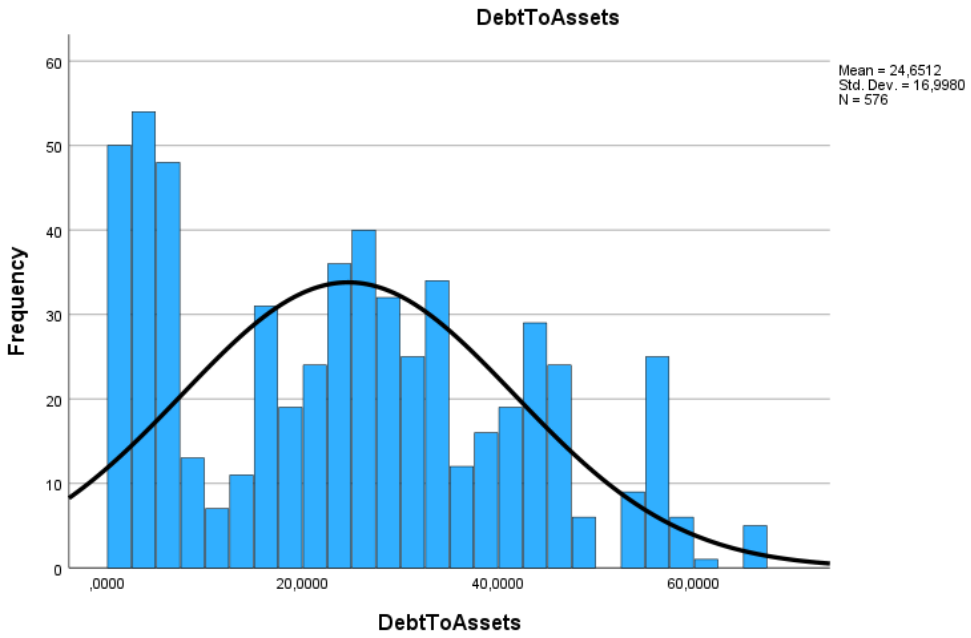

Figure 37: Hypothesis 2.2 DebtToAssets Histogram (Tobin's Q Dependent Variable)

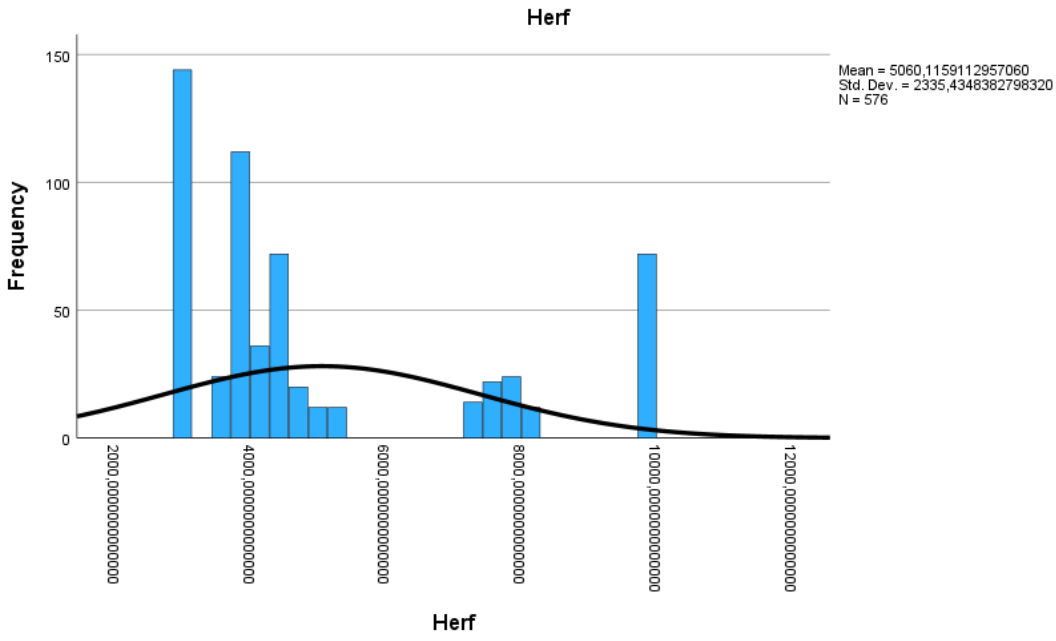

Figure 38: Hypothesis 2.2 Competition Histogram (Tobin's Q Dependent Variable)

The differentiation score ranges from 0 to 1. A higher score indicates a higher degree of a differentiation strategy. Average observed value is 0.16 which is below the mid-point of 0.5. Average Tobin's Q score is 3.14. Higher Tobin's Q score indicates better performance.

Companies have an average age of 34.31 years. Average size is 9.32 based on natural logarithm of revenue. Average debt to assets is 24.7 (i.e. 24.7%) and average Herfindahl Index is 5 060 (Herfindahl Index ranges from 0 to 10 000 with a lower competition industries taking higher values). Herfindahl Index values indicate there is a low degree of competition amongst companies.

5.5.3 Hypothesis 2.2:Coefficients

ROA as dependent variable

Table 15: Hypothesis 2.2 Regression coefficients (ROA Dependent Variable)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	9.995	2.060		4.851	0.000
Diff	16.976	1.756	0.335	9.667	0.000
Age	0.096	0.014	0.235	7.082	0.000
Size	-0.548	0.185	-0.119	-2.967	0.003
DebtToAssets	-0.164	0.017	-0.350	-9.606	0.000
Herf	0.000	0.000	0.019	0.511	0.609

The equations for the regression model are as follows:

Unstandardised equation

ROA = 9.995 + 16.976*Diff*+0.096*Age*- 0.548*Size*-0.164*DebtToAssets*+ 0.000*Herf*

Standardised equation

ROA =0.335*Diff*+ 0.235*Age*- 0.119*Size*-0.35*DebtToAssets*+0.019*Herf*

The independent variable Diff has a positive relationship (β=0.335) with dependent variable ROA financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.2 (ROA as dependent variable) can not be rejected.

Tobin's Q (Price to Book) as dependent variable

Table 16: Hypothesis 2.2 Regression coefficients (Tobin's Q Dependent Variable)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	4.455	1.051		4.239	0.000

Diff	2.856	0.944	0.113	3.027	0.003
Age	0.013	0.007	0.068	1.887	0.060
Size	-0.572	0.111	-0.193	-5.163	0.000
DebtToAssets	0.104	0.007	0.552	15.348	0.000
Herf	0.000	0.000	0.080	2.282	0.023

The equations for the regression model are as follows:

Unstandardised equation

Tobin's Q = 4.455 +2.856*Diff*+0.013*Age*- 0.572*Size*+0.104*DebtToAssets*+ 0.000*Herf*

Standardised equation

Tobin's Q = 0.113*Diff*+0.068*Age*- 0.193*Size*+0.552*DebtToAssets*-0.08*Herf*

The independent variable Diff has a positive relationship (β=0.113) with dependent variable Tobin's Q financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.2 (Tobin's Q as dependent variable) can not be rejected.

5.5.4 Hypothesis 2.2:Model summary

ROA as dependent variable

Table 17: Hypothesis 2.2 Model Summary (ROA Dependent Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,499[a]	,249	,244	6,7432975	,193

a. Predictors: (Constant), Herf, Diff, Age, DebtToAssets, Size

b. Dependent Variable: ROA

Based on the model results, only 25% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

Tobin's Q (Price to Book) as dependent variable

Table 18: Hypothesis 2.2 Model Summary (Tobin's Q Dependent Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,580[a]	,336	,330	2,6196707	,204

a. Predictors: (Constant), Herf, Age, DebtToAssets, Diff, Size

b. Dependent Variable: TobinQ

Based on the model results, only 34% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

5.5.5 Hypothesis 2.2: Robustness

5.5.5.1 Hypothesis 2.2: Pearson correlation coefficients

ROA as dependent variable

Table 19: Hypothesis 2.2 Pearson correlations (ROA Dependent Variable)

Pearson Correlation	ROA	Diff	Age	Size	DebtToAssets	Herf
ROA	1					
Diff	,216**					
Age	0.033748	-,129**	1			
Size	-,288**	-,299**	,388**	1		
DebtToAssets	-,325**	,185**	,193**	,435**	1	
Herf	,139**	-,223**	-,262**	-,454**	-,516**	1

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between dependent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

Tobin's Q (Price to Book) as dependent variable

Table 20: Hypothesis 2.2 Pearson Correlations (Tobin's Q Dependent Variable)

Pearson Correlation	TobinQ	Diff	Age	Size	DebtToAssets	Herf
TobinQ	1					
Diff	,238**					
Age	-0.01653	-,244**	1			
Size	-,100**	-,265**	,253**	1		
DebtToAssets	,530**	,185**	-0.00902	,175**	1	
Herf	-0.01803	-,144**	-0.03929	,120**	-,101**	1

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between dependent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

5.5.6 Hypothesis 2.2: Conclusion

ROA as dependent variable

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 25% implies the model is not a good fit. The independent variable Diff (measure of degree of differentiation strategy) has a positive relationship (β=0.335) with dependent variable ROA financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 2.2 (ROA as dependent variable) can not be rejected.

Tobin's Q (Price to Book) as dependent variable

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 34% implies the model is not a good fit. The independent variable Diff (measure of degree of differentiation strategy) has a negative relationship (β=-0.113) with dependent variable Tobin's Q financial performance (which is expected), and the relationship is insignificant (p <0.05). This implies that Hypothesis 2.2 (Tobin's Q as dependent variable can not be rejected.

5.6 Hypothesis 3: ESG performance is positively correlated to financial performance

5.6.1 Hypothesis 3 Sample

Of the 87 companies, 87 companies had data for ESG and ROA and 71 companies had data for ESG and Tobin's Q that were required for this hypothesis. Data for the control variables was available over the 3 year period. Based on data checks performed, the researcher found that the variables did not vary daily. Therefore, monthly data points were used over the 3 year period. The number of company observations were 3 132 when using ROA to measure financial performance, and 2 556 when using Tobin's Q to measure financial performance.

5.6.2 Hypothesis 3: Descriptive Statistics

The mean, standard deviation and frequencies for each variable for each hypothesis is shown in the diagrams below (Herf is abbreviation for the calculated Herfindahl Index). The Normal curve has also been plotted against the relevant frequencies.

ROA as dependent variable

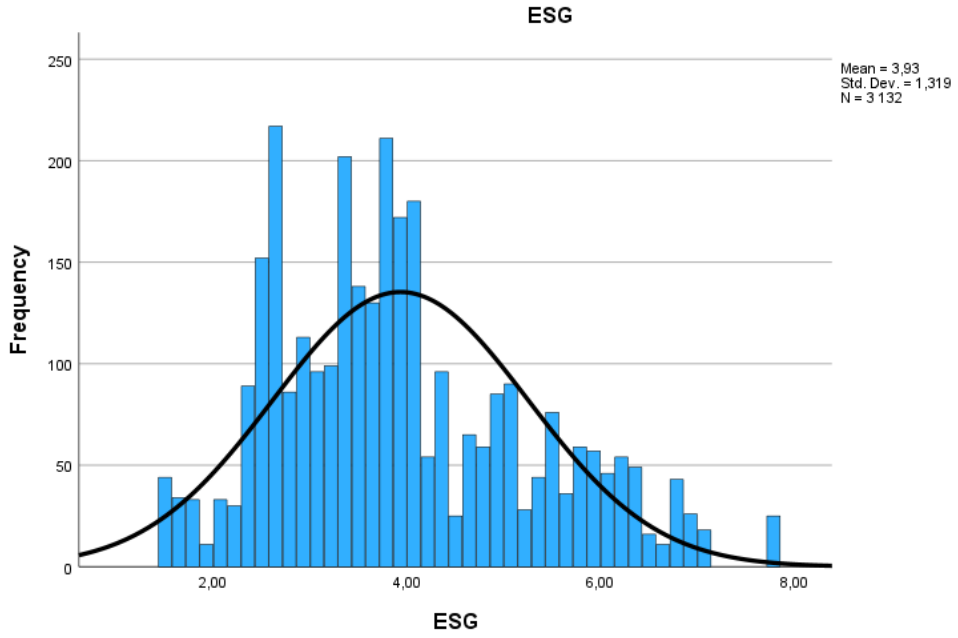

Figure 39: Hypothesis 3 ESG Histogram (ROA Dependent Variable)

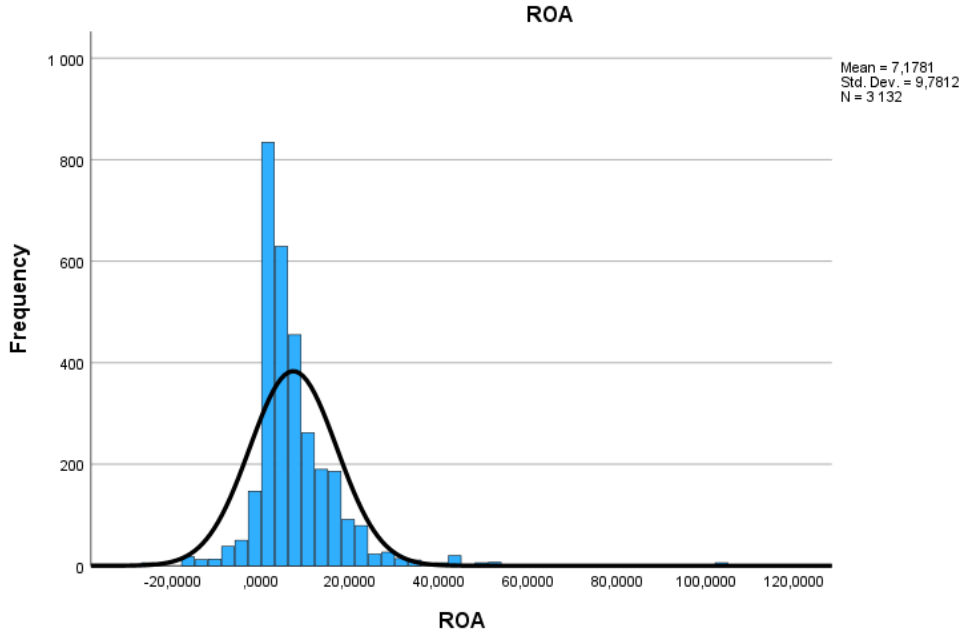

Figure 40: Hypothesis 3 ROA Histogram (ROA Dependent Variable)

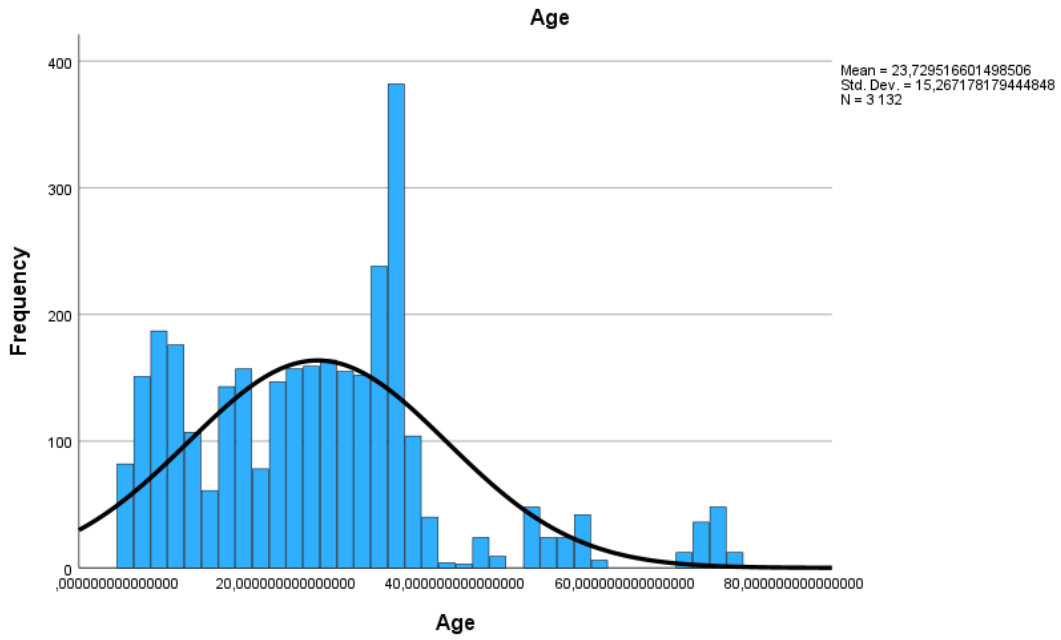

Figure 41: Hypothesis 3 Age Histogram (ROA Dependent Variable)

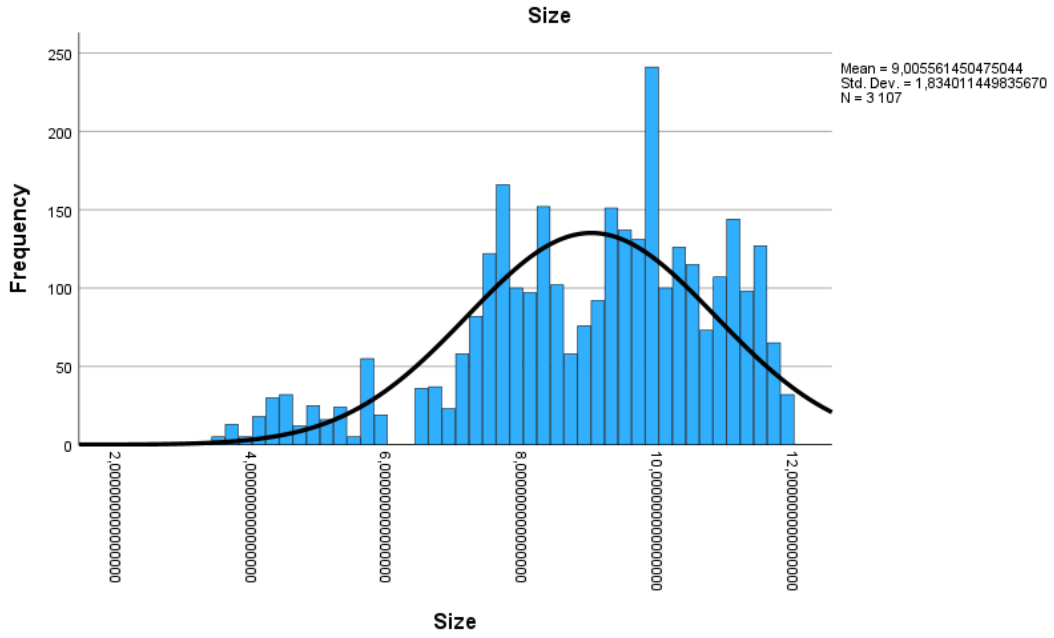

Figure 42: Hypothesis 3 Size Histogram (ROA Dependent Variable)

25 observations had negative revenue and therefore were excluded.

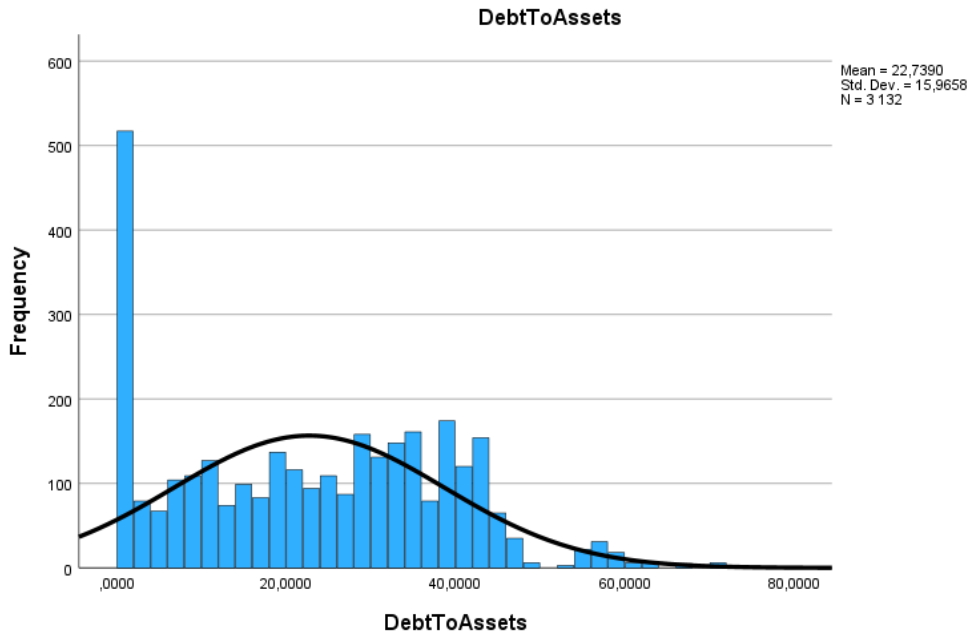

Figure 43: Hypothesis 3 DebtToAssets Histogram (ROA Dependent Variable)

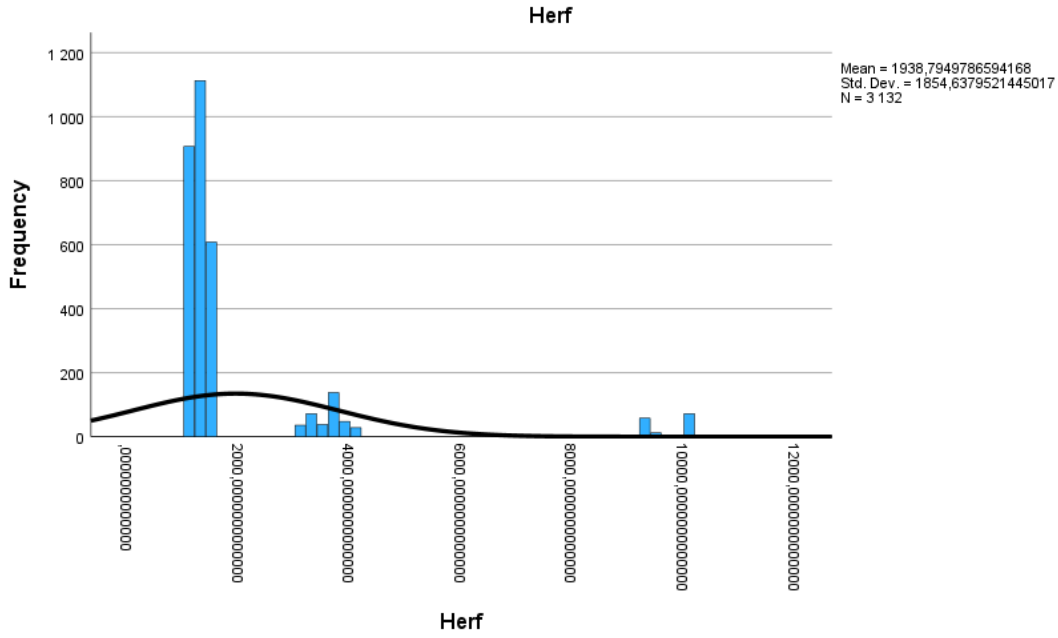

Figure 44: Hypothesis 3 Competition Histogram (ROA Dependent Variable)

The Bloomberg ESG score can range from 0 to 10 with a higher score indicating a better score. The average ESG score is 3.93 which is below the mid-point of 5. Average ROA is 7.18 (i.e. 7.18%)

Companies have an average age of 23.73 years. Average size is 9.0 based on natural logarithm of revenue. Average debt to assets is 22.5 (i.e. 22.5%) and average Herfindahl Index is 1 938 (Herfindahl Index ranges from 0 to 10 000 with a lower competition

industries taking higher values). Herfindahl Index values indicate there is a high degree of competition amongst companies.

Tobin's Q (Price to Book) as dependent variable

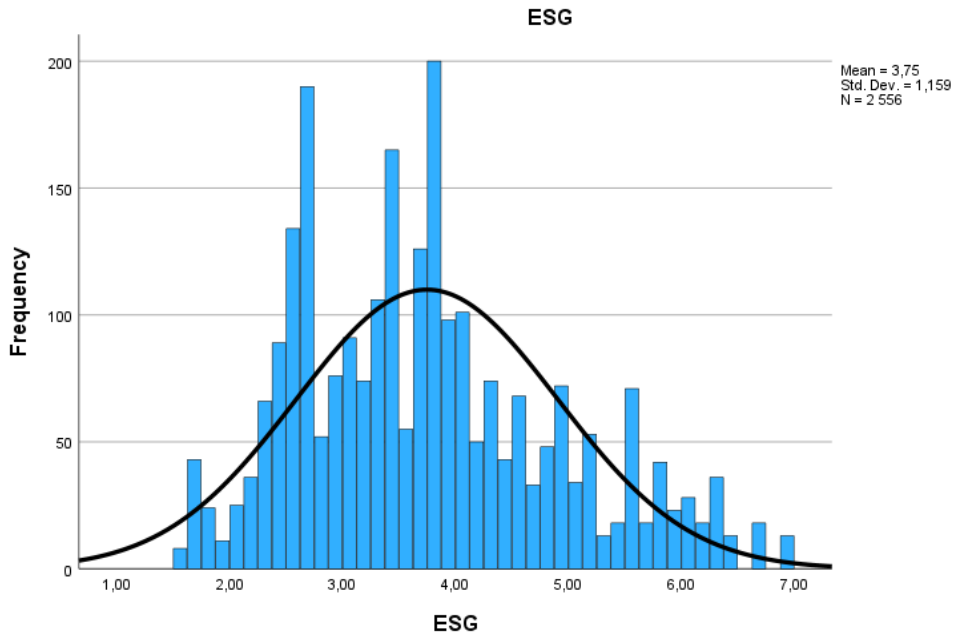

Figure 45: Hypothesis 3 ESG Histogram (Tobin's Q Dependent Variable)

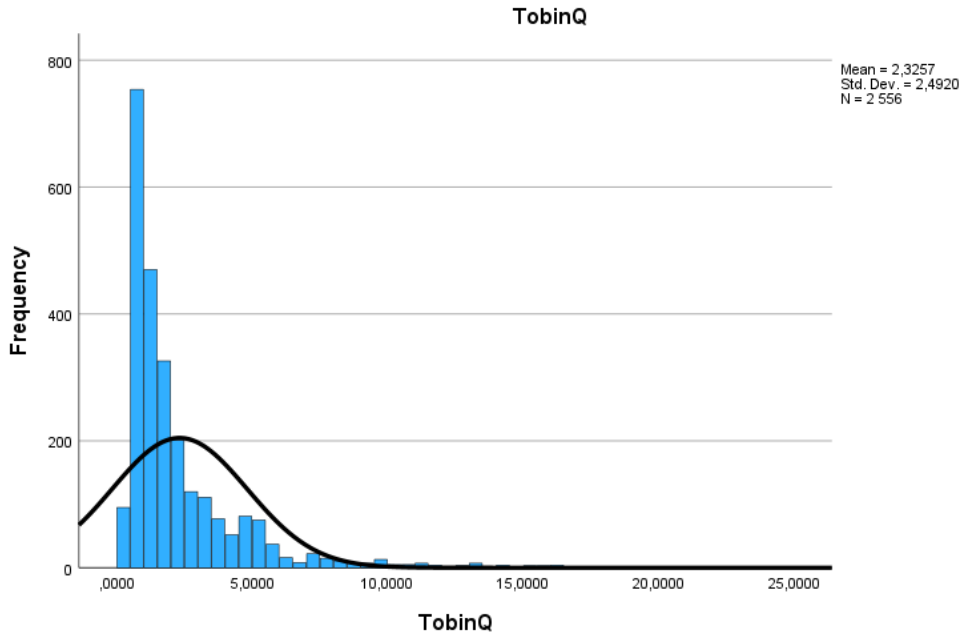

Figure 46: Hypothesis 3 Tobin's Q Histogram (Tobin's Q Dependent Variable)

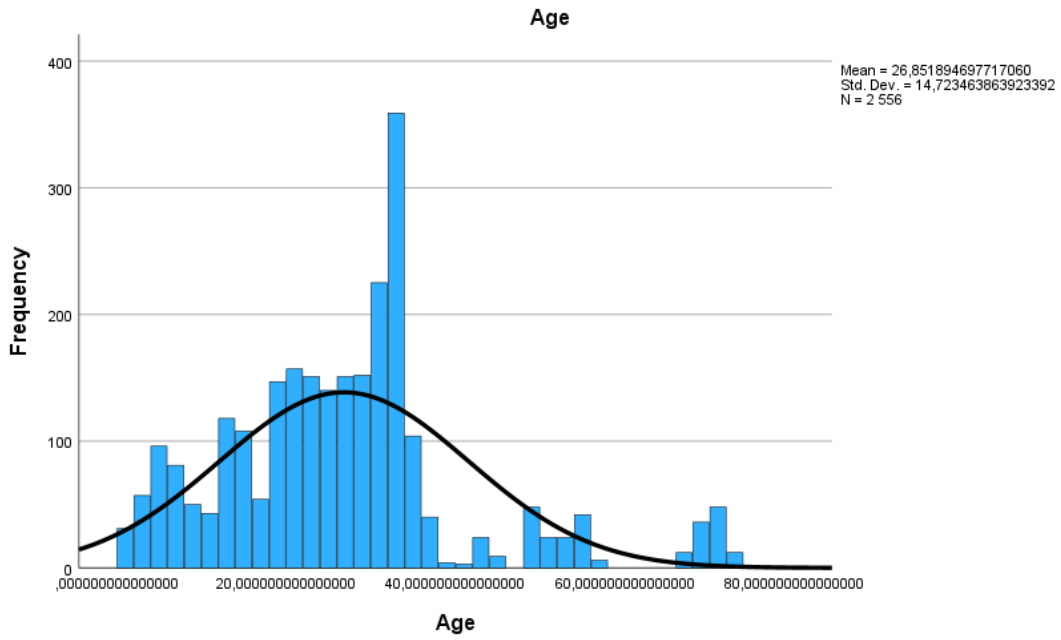

Figure 47: Hypothesis 3 Age Histogram (Tobin's Q Dependent Variable)

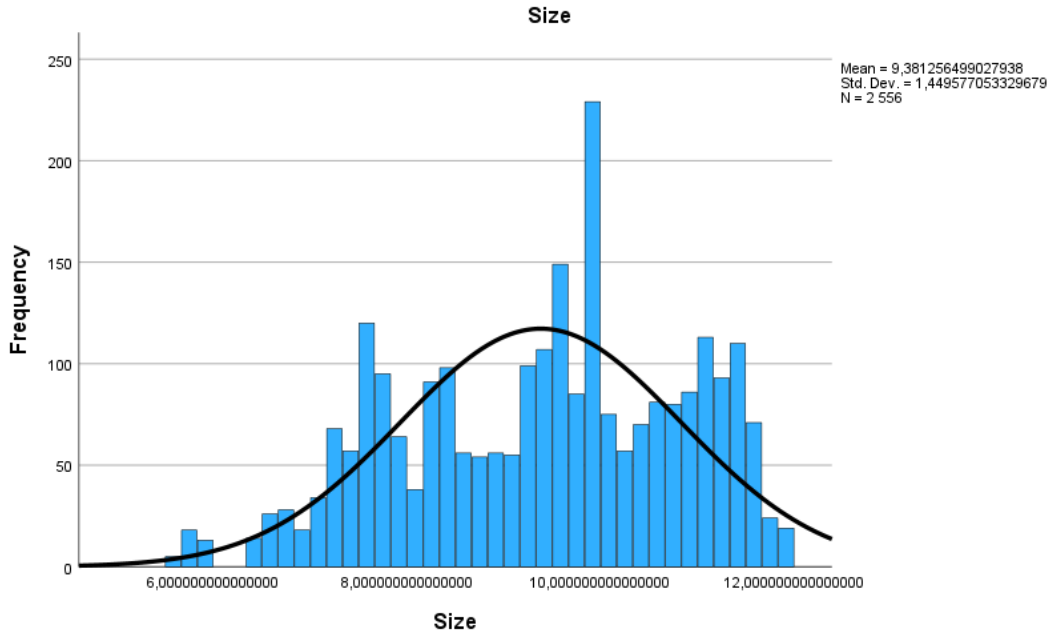

Figure 48: Hypothesis 3 Size Histogram (Tobin's Q Dependent Variable)

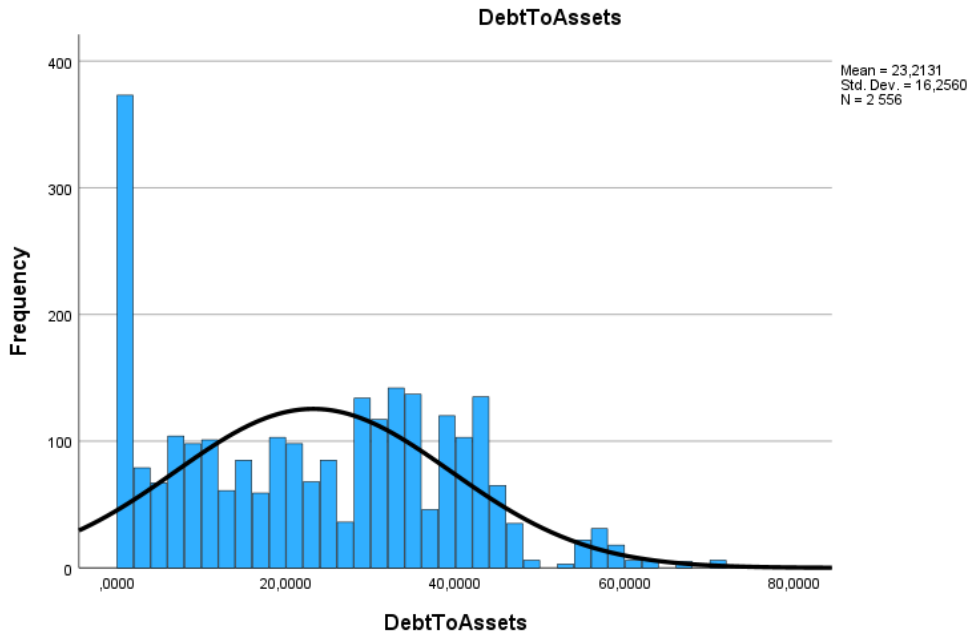

Figure 49: Hypothesis 3 DebtToAssets Histogram (Tobin's Q Dependent Variable)

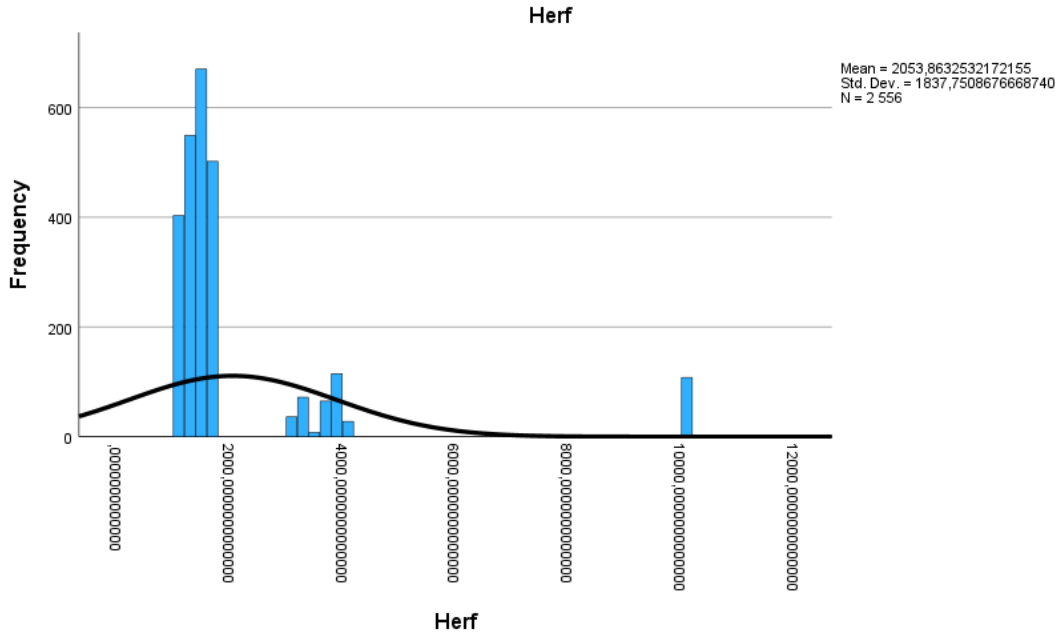

Figure 50: Hypothesis 3 Competition Q Histogram (Tobin's Q Dependent Variable)

The Bloomberg ESG score can range from 0 to 10 with a higher score indicating a better score. The average ESG score is 3.75 which is below the mid-point of 5. Average TobinQ is 2.32.

Companies have an average age of 26.85 years. Average size is 9.4 based on natural logarithm of revenue. Average debt to assets is 23.2 (i.e. 23.2%) and average Herfindahl Index is 2 053 (Herfindahl Index ranges from 0 to 10 000 with a lower competition

industries taking higher values). Herfindahl Index values indicate there is a high degree of competition amongst companies.

5.6.3 Hypothesis 3:Coefficients

ROA as dependent variable

Table 21: Hypothesis 3 Regression coefficients (ROA Dependent Variable)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	1.917	1.140		1.681	0.093
ESG	0.864	0.133	0.116	6.497	0.000
Age	0.025	0.012	0.039	2.119	0.034
Size	0.316	0.098	0.059	3.226	0.001
DebtToAssets	-0.108	0.011	-0.176	-9.950	0.000
Herf	0.000	0.000	0.088	4.947	0.000

The equations for the regression model are as follows:

Unstandardised equation

ROA =1.917 + 0.864*ESG*+0.025*Age*+0.316*Size*-0.108*DebtToAssets*+ 0.000*Herf*

Standardised equation

ROA =0.116*ESG*+ 0.039*Age*+ 0.059*Size*-0.176*DebtToAssets*+0.088*Herf*

The independent variable ESG has a positive relationship (β=0.116) with dependent variable ROA financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 3 (ROA as dependent variable) can not be rejected.

Tobin's Q (Price to Book) as dependent variable

Table 22: Hypothesis 3 Regression coefficients (Tobin's Q Dependent Variable)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
	B	Std. Error	Beta		
(Constant)	0.721	0.385		1.872	0.061
ESG	-0.269	0.042	-0.125	-6.476	0.000
Age	-0.004	0.003	-0.022	-1.146	0.252
Size	0.236	0.033	0.137	7.063	0.000

DebtToAssets	0.024	0.003	0.159	8.166	0.000
Herf	0.000	0.000	-0.023	-1.200	0.230

The equations for the regression model are as follows:

Unstandardised equation

Tobin's Q = 0.721 -0.269*ESG*-0.004*Age*+ 0.236*Size*+0.024*DebtToAssets*+ 0.000*Herf*

Standardised equation

Tobin's Q = -0.125*ESG*-0.022*Age*+0.137*Size*+0.159*DebtToAssets*-0.023*Herf*

The independent variable Diff has a negative relationship (β=-0.125) with dependent variable Tobin's Q financial performance (which is not expected), and the relationship is significant (p <0.05). Direction of relationship observed is opposite to hypothesis. This implies that Hypothesis 2.2 (TobinQ as dependent variable) can be rejected.

5.6.4 Hypothesis 3:Model summary

ROA as dependent variable

Table 23: Hypothesis 3 Model summary (ROA Dependent Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,242[a]	,059	,057	9,5242239	,181

a. Predictors: (Constant), Herf, Age, DebtToAssets, ESG, Size

b. Dependent Variable: ROA

Based on the model results, only 5.9% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

Tobin's Q (Price to Book) as dependent variable

Table 24: Hypothesis 3 Model Summary (Tobin's Q Dependent Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,253[a]	,064	,062	2,4136030	,112

a. Predictors: (Constant), Herf, Age, ESG, DebtToAssets, Size

b. Dependent Variable: TobinQ

Based on the model results, only 6.4% of the change in the dependent variable is explained by the predictor variables as represented by R Square statistic. This indicates the model is a poor fit.

5.6.5 Hypothesis 3: Robustness

5.6.5.1 Hypothesis 3: Pearson correlation coefficients

ROA as dependent variable

Table 25: Hypothesis 3 Pearson correlations (ROA Dependent Variable)

Pearson Correlation	ESG	ROA	Age	Size	DebtToAssets	Herf
ESG	1					
ROA	,106**	1				
Age	-,160**	0.02	1			
Size	-,079**	,053**	,283**	1		
DebtToAssets	-,048**	-,189**	,073**	-0.01	1	
Herf	-,054**	,095**	-,052**	-,114**	-,123**	1

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between dependent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

Tobin's Q (Price to Book) as dependent variable

Table 26: Hypothesis 3 Pearson correlations (Tobin's Q Dependent Variable)

Pearson Correlation	ESG	TobinQ	Age	Size	DebtToAssets	Herf
ESG	1					
TobinQ	-,150**	1				
Age	-,061**	0.00	1			
Size	-,057**	,131**	,132**	1		
DebtToAssets	-,112**	,164**	0.006714	-,076**	1	
Herf	,035*	-,048**	-0.00586	-,046**	-,087**	1

*. Correlation is significant at the 0.05 level (1-tailed)

**. Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlations between dependent and control variables is low which implies there is very low level of collinearity in the data. This is line with assumption of linear regression.

5.6.6 Hypothesis 3: Conclusion

ROA as dependent variable

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 5.9% implies the model is not a good fit. The independent variable ESG has a positive relationship (β=0.116) with dependent variable ROA financial performance (which is expected), and the relationship is significant (p <0.05). This implies that Hypothesis 3 (ROA as dependent variable) can not be rejected.

Tobin's Q (Price to Book) as dependent variable

The results of various tests performed confirmed that assumptions of linear regression hold, and therefore it is appropriate to use multivariate linear regression to test this hypothesis. The ANOVA test confirm that coefficients are not zero. The R square of 6.4% implies the model is not a good fit. The independent variable ESG has a negative relationship (β=-0.125) with dependent variable Tobin's Q financial performance (which not is expected), and the relationship is insignificant (p <0.05). This implies that Hypothesis 3 (Tobin's Q as dependent variable) can be rejected.

5.7 Overall Conclusion

The results of the tests performed show that the requirements for linear regression have been met. In general, the resultant linear regression models were not a good fit for the data. The results of the hypotheses tested were as follows:

Table 27: Hypotheses results summary

Hypothesis	Description	Result
Hypothesis 1.1	Low-cost Strategy has negative impact on ESG performance	Reject
Hypothesis 1.2	Differentiation Strategy has positive impact on ESG performance	Do not reject
Hypothesis 2.1	Low-Cost Strategy has positive impact on financial performance as measured by ROA	Do not reject

	Low-Cost Strategy has positive impact on financial performance as measured by Tobin's Q	Reject
Hypothesis 2.2	Differentiation Strategy has positive impact on financial performance as measured by ROA	Do not reject
	Differentiation Strategy has positive impact on financial performance as measured by Tobin's Q	Do not reject
Hypothesis 3	ESG performance is positively correlated to financial performance as measured by ROA	Do not reject
	ESG performance is positively correlated to financial performance as measured by Tobin's Q	Reject

6 Discussion

6.1 Introduction

The objective of this chapter is to discuss the results presented in Chapter 5, and compare these results to the findings in the Review of the relevant literature (Chapter 2). Results of each hypothesis will be discussed separately, and the chapter will conclude by discussing the relevance of the findings of each hypothesis in answering the research question.

For ease of reference, the results of the hypotheses were as follows:

Table 28: Hypotheses results summary

Hypothesis	Description	Result
Hypothesis 1.1	Low-Cost Strategy has negative impact on ESG performance	Reject
Hypothesis 1.2	Differentiation Strategy has positive impact on ESG performance	Do not reject
Hypothesis 2.1	Low-Cost Strategy has positive impact on financial performance as measured by ROA	Do not reject
	Low-cost Strategy has positive impact on financial performance as measured by Tobin's Q	Reject
Hypothesis 2.2	Differentiation Strategy has positive impact on financial performance as measured by ROA	Do not reject
	Differentiation Strategy has positive impact on financial performance as measured by Tobin's Q	Do not reject
Hypothesis 3	ESG performance is positively correlated to	Do not reject

	financial performance as measured by ROA	
	ESG performance is positively correlated to financial performance as measured by Tobin's Q	Reject

Included in this chapter will be comparison of results of this study to results of previous studies performed by top scholars. For context, this study was performed on JSE listed companies over the period July 2021 – June 2024. The context of other previous studies compared to are as follows:

- He and Chittoor (2023)'s study analysed S&P 500 companies from 2015 to 2019;
- Danso et al. (2019) study was based on small and medium sized in Ghana;
- Awaysheh et al. (2020) study was performed in companies whose headquarters are in the USA from 2003 to 2013;
- Lee et al. (2021) study was based on USA airline industry companies
- Vurro et al. (2022) study was based on S & P 500 companies from 2003 to 2018
- Shi and Veenstra (2021)'s study measured performance of 5 334 companies in 41 countries from 2002 to 2016
- Shin et al. (2023) measured performance of 4978 companies in 48 countries from 2002 to 2018

Reference to stakeholders in this chapter will mean individuals or groups excluding shareholders unless otherwise stated. As discussed in section 2.2.4, the stakeholders considered for the hypotheses are customers, community, suppliers, government, environment and employees.

6.2 Hypothesis 1.1 Discussion

Hypothesis 1.1 tested whether a low-cost strategy negatively impacts stakeholders as represented by ESG performance. The results of the hypothesis testing found an insignificant positive relationship between low-cost strategy and ESG performance which was not expected. In summary, the standardized coefficients results were (β=0.039; p >0.05).

The Pearson correlation between low-cost strategy and ESG was found to be a significant with value 0.047. He and Chittoor (2023) found that the correlation between lost cost strategy and ESG was significant with value -0.03. The negative relationship is as a result of cost leaders likely not introducing initiatives (such as environment protection, good employee compensation plans) that may benefit stakeholders as this may compromise low-cost proposition to customers (He & Chittoor, 2023). This implies customers benefit from low-cost strategy which is likely to contribute to the positive relationship that was observed.

Employees will value fair wages and a good work life balance (Freudenreich et al, (2020; Boaventura et al., 2020). Low-cost companies may pay fair wages to ensure company continues to function, but will not necessarily pay high wages. Low-cost companies paying fair wages will positively contribute to ESG performance.

Suppliers seek fair payment and value long term relationships (Freudenreich et al, 2020; Boaventura et al., 2020). Low-cost companies will seek to pay lowest amount to suppliers and would easily change suppliers if it meant obtaining input costs at a lower cost. This would result in a negative impact on ESG score from a supplier perspective.

Communities value jobs, infrastructure and social programmes (Boaventura et al., 2020). South Africa currently has a high unemployment rates and there is unlikely to a positive impact from job perspective. Due to need to lower costs, low-cost companies are unlikely to invest heavily in infrastructure and social programmes. This would result in a negative impact on ESG score from a supplier perspective.

Government would require laws and regulations to be met. All companies including low-cost companies would need to comply with government laws and regulations. For the environment, compliance would be determined based on company's activities. For low-cost companies, there is unlikely to large investment in the environment. Therefore, positive ESG impact from government perspective and negative ESG impact from environment perspective.

As discussed above, ESG impact for low-cost companies would be positive from customer, employees and government perspective, and negative from supplier, community and environment. For the companies observed, the impact of positive categories may have outweighed the impact of negative categories. The resultant impact would be an insignificant positive relationship is there are negative aspects within the relationship.

Danso et al. (2019) found an insignificant positive correlation between low-cost strategy and ESG performance with value 0.12. Danso et al. (2019) study was based on small and medium sized in Ghana. South Africa is also developing country like Ghana, and may share similar characteristics to Ghana. However, this study was conducted on listed companies which are mainly large companies, and therefore results obtained would be difficult to compare with small companies. A drawback of Danso et al. (2019) study was that perceptive measures were used which is not objective. Whereas this study used objective measures.

The control variable age had an significant negative relationship with the dependent variable (ESG) as reflected by standardised regression coefficient (β=-0.147; p <0.05). The Pearson correlation was found to be significantly negatively correlated with ESG performance with value -0.131. In contrast, He and Chittoor (2023)'s study found a significant positive correlation between age and ESG performance with value 0.40. Companies that are older should have more experience in ensuring positive ESG outcomes whilst pursuing a low-cost strategy. The unexpected result observed might be as a result of younger companies being more likely to embrace technology adoption and implement low-cost initiatives that still result in ESG benefits compared to older companies.

He and Chittoor (2023)'s study revealed a negative significant relationship between competition and ESG performance with value -0.08. In contrast, Gras and Krause (2020)'s study found the correlation between competition and ESG performance had a low positive correlation with value 0.02. This study showed a negative significant correlation between competition and ESG performance with value -0.143 . The higher the competition, the more time managers have to spend on understanding how to outperform competitors (Gras & Krause, 2020). This will result in more attention being paid to achieve low-cost production which may comprise ESG outcomes. This is likely the reason that negative relationship is observed in this study.

Debt ratio was positively correlated with ESG performance in Awaysheh et al. (2020)'s study with value of 0.031 , Gras and Krause (2020)'s study with value of 0.05 and He and Chittoor (2023)'s study with value 0.01. This study found a significant negative correlation with value of -0.224 between debt ratio and ESG performance. Higher debt ratio place more of a strain on a company due to the requirement to allocate resource to pay for interest payments. This strain may negatively impact on ESG performance. This study observes this strain in contrast to the other studies identified.

Significant positive relationship was observed in He and Chittoor (2023)'s study between size and ESG performance with value of 0.52. In contrast, Gras and Krause (2020) observed relationship between size and ESG performance was negative with value of -0.01. This study observed an insignificant positive relationship between ESG performance and size with value 0.02. Larger companies are likely to have more resources to ensure positive ESG outcomes whilst following a low strategy. This is likely to the reason for the positive relationship observed.

The control variable size of the company provided more explanation of ESG performance than the independent variable low-cost strategy as reflected by the standardised coefficient beta. This highlights the importance of size for this hypothesis, and implies size is important in impacting ESG performance.

The researcher was not able to find other studies that had stakeholder value as a dependent variable and low-cost strategy as an independent variable. Therefore, the explanatory power of variables in this study could not be compared to other similar studies.

Only 11% of the change in the dependent variable (ESG) is explained by the predictor variables (independent and control) as represented by the R Square statistic. This indicates that the model is a poor fit, and there are other factors that are influencing changes in ESG performance which have not been allowed for in the researcher's framework.

The result of the hypothesis was not significant and the relationship was in the opposite direction than the expectation. Therefore, Hypothesis 1.1 could be rejected.

The valid sample for this hypothesis was 87 companies. This is relatively small and therefore the results observed may not represent the actual relationship between low-cost strategy and ESG performance.

6.3 Hypothesis 1.2 Discussion

Hypothesis 1.2 tested whether a differentiation strategy positively impacts stakeholders as represented by ESG performance. The results of the hypothesis testing found a significant positive relationship between low-cost strategy and ESG performance which was expected. In summary, the standardized coefficients results were (β=0.082; p <0.05). He & Chittoor (2023) argue that differentiation strategy and positive ESG outcomes are expected to be complementary as positive ESG outcomes is a further source of differentiation which customers are likely to be willing to pay more for.

The Pearson correlation between differentiation strategy and ESG was found to be a significant with value 0.183. He and Chittoor (2023) found that the correlation between differentiation strategy and ESG was significant and negative with value -0.04. Differentiation was positively correlated with ESG performance in Awaysheh et al. (2020) study with value 0.092. He and Chittoor (2023) correlation was in correlation observed was in contrast to correlation observed by Awaysheh et al. (2020) and this study.

Danso et al. (2019) found a significant positive correlation between differentiation strategy and ESG performance with value 0.19. Danso et al. (2019) study was based on small and medium sized in Ghana. South Africa is also developing country like Ghana, and may share similar characteristics to Ghana. However, this study was conducted on listed companies which are mainly large companies, and therefore results obtained would be difficult to compare with small companies. A drawback of Danso et al. (2019) study was that perceptive measures were used which is not objective. Whereas this study used objective measures.

Companies following a differentiation strategy create unique products that customers are willing to pay a higher price for (Lee et al., 2021). Customers are willing to pay higher price to get the value they obtain from the products. This would result in a positive impact on ESG scores of a differentiation strategy.

Employees will value fair wages and a good work life balance (Freudenreich et al, 2020; Boaventura et al., (2020). Differentiation companies will need to fairly compensate employees to ensure the continued production of unique products. The compensation to employees is therefore likely to higher than the market average. The result is employees outcomes are likely to be positive from an ESG perspective.

Suppliers seek fair payment and value long term relationships (Freudenreich et al, 2020; Boaventura et al., 2020). Differentiation companies will seek to pay suppliers fairly to get guaranteed quality, and would want to maintain relationships to ensure they continue to receive quality input items. This would result in a positive impact on ESG score from a supplier perspective.

Communities value jobs, infrastructure and social programmes (Boaventura et al., 2020). South Africa currently has a high unemployment rates and there is unlikely to a positive impact from job perspective. For differentiation companies, quality will be more than quantity. Therefore, number of people employed unlikely to get at a high levels to ensure that company has few skilled employees who can product quality products.

Government would require laws and regulations to be met. All companies including differentiation companies would need to comply with government laws and regulations. For the environment, compliance would be determined based on company's activities. For differentiation companies, it is likely that they may invest in environment to further enhance their differentiation to competitors Therefore, positive ESG impact likely from both government perspective and environment perspective.

As discussed above, ESG impact for differentiation companies would be positive from all stakeholders perspective. The resultant impact would be a significant positive relationship of differentiation and ESG outcomes observed. This was consistent with significant positive relationship observed in this study.

The control variable age was found to be significantly negatively correlated with ESG performance with value -0.106. In contrast, He and Chittoor (2023)'s study found a significant positive correlation between age and ESG performance with value of 0.40. Companies that are older should have more experience in ensuring positive ESG outcomes whilst pursuing a differentiation strategy. The unexpected result observed might be as a result of young companies being more willing to ensure differentiation through positive ESG outcomes to differentiate themselves further from competitors as they would not have had the time to build their brands..

He and Chittoor (2023)'s study revealed a negative significant relationship between competition and ESG performance with value 0.08. In contrast, Gras and Krause (2020)'s study, the correlation between competition and ESG performance has a low positive correlation of 0.02. This study showed a negative significant correlation between competition and ESG performance of -0.085. The higher the competition, the more time managers have to spend on understanding how to outperform competitors (Gras & Krause, 2020). This will result in more attention being paid to enhancing product differentiation which may comprise ESG outcomes. This is likely the reason that negative relationship was observed in this study.

Debt ratio was positively correlated with ESG performance in Awaysheh et al. (2020)'s study with value of 0.031, Gras and Krause (2020)'s study with value of 0.05 and He and Chittoor (2023)'s study with value of 0.01. This study similarly found an insignificant positive relationship between debt ratio and ESG performance of 0.03. Higher debt ratio place more of a strain on a company due to the requirement to allocate resource to pay for interest payments. This implies negative relationship is expected which is in contrast to what was observed.

Significant positive relationship was observed in He and Chittoor (2023)'s study between size and ESG performance with value of 0.52. In contrast, Gras and Krause (2020) observed relationship between size and ESG performance was negative with value of -0.01. This study showed an significant positive relationship between ESG performance and size with value of 0.01. Larger companies are likely to have more resources to ensure positive ESG outcomes whilst following a differentiation strategy. This is likely to the reason for the positive relationship observed.

The control variable size of the company provided more explanation of ESG performance than the independent variable differentiation strategy as reflected by standardised coefficient beta. This highlights the importance of size for this hypothesis.

The researcher was not able to find other studies that had stakeholder value as a dependent variable and differentiation strategy as an independent variable. Therefore, the explanatory power of variables in this study could not be compared to other studies.

Only 3.7% of the change in the dependent variable (ESG) is explained by the predictor variables (independent and control) as represented by R Square statistic. This indicates that the model is a poor fit, and there are other factors that are influencing changes in ESG performance which have not been allowed for in the researcher's framework.

The result of the hypothesis was significant and therefore Hypothesis 1.2 could not be rejected.

The valid sample for this hypothesis was 24 companies. This is relatively small and therefore the results observed may not represent the actual relationship between differentiation strategy and ESG performance.

6.4 Hypothesis 2.1 Discussion

Hypothesis 2.1 tested whether a low-cost strategy positively impacts stakeholders as represented by financial performance. The intention was to measure the value added for shareholders which is also an important stakeholder. Both ROA and Tobin's Q were used as financial measures The results of the hypothesis testing found a significant positive relationship between low-cost strategy and financial performance for ROA, and significant negative relationship for Tobin's Q. . In summary, the standardized coefficients results were (β=0.165; p <0.05) for ROA and (β=-0.153; p <0.05) for Tobin's Q.

He and Chittoor (2023) found that low-cost strategy had a positive impact on both ROA and Tobin's Q as represented by the standardised regression coefficients. For ROA as dependent variable, statistics were (β=0.011; p <0.05) without interaction term of low-cost strategy and stakeholders excluded, and (β=0.09; p >0.05) with interaction term of low-cost strategy and stakeholders included. For Tobin's Q as dependent variable, statistics were (β=0.97; p <0.05) without interaction term of low-cost strategy and stakeholders excluded, and (β=0.03; p >0.05) with interaction term of low-cost strategy and stakeholders included. Danso et al. (2019)'s study showed statistics of (β=0.14; p <0.05)

For ROA, the standard regression coefficients produced similar results for this study and He and Chittoor (2023)'s study. Tobin's Q results were in opposite directions for this study when compared to He and Chittoor (2023)'s study. The market value of a company is exposed to fluctuations that may not be differently linked to the strategy of a company. This may result in a negative relationship being observed between low-cost strategy and Tobin's Q.

According to Lee et al. (2021), there is significant evidence that companies that have cost advantage are likely to produce higher performance as measured by profitability. This mainly is due to these companies having the ability to lower price when required whilst still maintaining profits (Lee et al., 2021). ROA results for this study confirmed this relationship.

He and Chittoor (2023) found that significant positive correlations between low-cost strategy and financial performance for both ROA and Tobin's Q (0.60 for ROA, and 0.23 for Tobin's Q). Pearson correlations found between low-cost strategy and ROA was significant 0.131, and for Tobin's Q was significant negative -0.114. Results are similar for ROA with He and Chittoor (2023), but differ for Tobin's Q.

Danso et al. (2019) found positive correlation between low-cost strategy and financial performance of 0.15. Danso et al. (2019) study was based on small and medium sized in Ghana. South Africa is also developing country like Ghana, and may share similar characteristics to Ghana. However, this study was conducted on listed companies which are mainly large companies, and therefore results obtained would be difficult to compare with small companies. A drawback of Danso et al. (2019) study was that perceptive measures were used which is not objective. Whereas this study used objective measures.

The control variable age was found to have significant positive impact on ROA as represented by the standardised regression coefficient (β=0.059; p <0.05), and significant impact on Tobin's Q (β=-0.065; p <0.05). For He and Chittoor (2023)'s study, impact of low-cost strategy was (β=0.00; p >0.05) for ROA and (β=0.03; p <0.05) for Tobin's Q. Danso et al. (2019)'s study showed statistics of (β=0.07; p <0.05). The financial performance study was collected from participants for Danso et al. (2019)'s study. Therefore, Danso et al. (2019) study information would not be objective. This makes Danso et al. (2019) results difficult to compare to other studies.

Age impact on ROA is consistent with He and Chittoor (2023)'s study with Tobin's Q impact being inconsistent. Market fluctuations from Tobin's Q study maybe causing some inconsistencies.'

The control variable age was found to be positively correlated with ROA with value 0.03, and negatively correlated with Tobin's Q with value -0.04. Similarly, He and Chittoor (2023)'s study found a positive relationship between age and ROA of 0.04, and negative relationship between age and Tobin's Q of -0.07. Danso et al. (2019) showed positive correlation of 0.07. Companies that are older should have more experience in ensuring good financial performance whilst pursuing a low-cost strategy. Market fluctuations maybe contributing to the negative relationship being observed for Tobin's Q.

The control variable competition was found to have significant negative impact on ROA was represented by the standardised regression coefficient (β=-0.111; p <0.05), and significant negative impact on Tobin's Q (β=-0.168; p <0.05). For He and Chittoor (2023)'s study, impact of competition was (β=0.20; p <0.05) with interaction of low-cost strategy and stakeholders excluded for ROA, and (β=0.19; p <0.05) with interaction of low-cost strategy and stakeholders included. For Tobin's Q, impact of competition was (β=1.16; p >0.05) with interaction of low-cost strategy and stakeholders exclude for Tobin's Q, and (β=1.05; p >0.05) with interaction of low-cost strategy and stakeholders included. Danso et al. (2019)'s study showed statistics of (β=0.11; p <0.05). Danso et al. (2019) results are difficult to compare to as perceptive measures where used. The results for competition as a control variable are in contrast to He and Chittoor's study.

He and Chittoor (2023)'s study revealed a positive significant correlation between competition and financial performance for both ROA of 0.07 and Tobin's Q. with value

0.05. In Gras and Krause (2020)'s study, the correlation between competition and ROA was positive with value 0.01. Danso et al. (2019) showed positive correlation of 0.14. This study showed a negative relationship between competition and financial performance for both ROA of value -0.03 and Tobin's Q of value -0.151. The higher the competition, the more time managers have to spend on understanding how to outperform competitors (Gras & Krause, 2020). More time being spent on competitors will mean less time to enhance low-cost strategy. This is likely the reason that negative relationship was observed in this study.

The control variable debt ratio was found to have significant negative impact on ROA as represented by the standardised regression coefficient (β=-0.497; p <0.05), and significant positive impact on Tobin's Q (β=0.311; p <0.05). For He and Chittoor (2023)'s study, impact of debt ratio was (β=-0.01; p >0.05) with interaction of low-cost strategy and stakeholders excluded for ROA, and (β=-0.01; p >0.05) with interaction of low-cost strategy and stakeholders included. For Tobin's Q, impact of competition was (β=0.87; p <0.05) with interaction of low-cost strategy and stakeholders exclude for Tobin's Q, and (β=0.86; p <0.05) with interaction of low-cost strategy and stakeholders included. The results for det ratio as a control variable are in contrast to He and Chittoor's study.

Debt ratio was negatively correlated with ROA in Awaysheh et al. (2020) with value of -0.162, Gras and Krause (2020) with value of -0.13 and He and Chittoor (2023) with value of -0.12. In Awaysheh et al. (2020) and He and Chittoor (2023)'s studies, debt ratio was negatively correlated with ROA and Tobin's Q with values -0.199 and -0.01 respectively. This study found a negative positive correlation between debt ratio and ROA of -0.475 , and positive correlation for debt ratio and Tobin's Q of value 0.301. Companies with higher debt ratios are likely to have a higher interest rate burden which may comprise the meeting of financial targets. Therefore, expectation would be for a negative relationship for debt ratio and financial performance. This expectation is in contrast to correlation observed for Tobin's Q in this study. Gras and Krause (2020) and He and Chittoor (2023) is consistent with this expectation.

The control variable size was found to have negative impact on ROA as represented by the standardised regression coefficient (β=-0.021; p >0.05), and significant negative impact on Tobin's Q (β=-0.064; p <0.05). For He and Chittoor (2023)'s study, impact of size was (β=-0.01; p <0.05) with interaction of low-cost strategy and stakeholders excluded for ROA, and (β=--0.01; p <0.05) with interaction of low-cost strategy and stakeholders included. For Tobin's Q, impact of competition was (β=-0.49; p <0.05) with interaction of low-cost strategy and stakeholders excluded for Tobin's Q, and (β=-0.47; p <0.05) with interaction of low-cost strategy and stakeholders included.

The negative impact observed for size is not expected but consistent with He and Chittoor (2023)'s study.

Positive correlation was observed in He and Chittoor (2023)'s study between size and ROA with value 0.02, and negative correlation between size and Tobin's Q of -0.26. In Gras and Krause (2020)'s study, observed relationship between size and ROA was positive with value 0.05 . This study showed a negative relationship between ROA and size of value -0.116, and positive relationship between size and Tobin's Q with value 0.02. Larger companies are likely to have more resources to ensure positive financial

outcomes whilst following a low-cost strategy. The results of this study are in contrast to He and Chittoor (2023)'s study.

For ROA as a dependent variable, low-cost strategy (i.e. cost efficiency) provided most explanation of ROA performance as reflected by standardised coefficient beta. This highlights the importance of low-cost strategy for this hypothesis.

For Tobin's Q as a dependent variable, the control variable competition provided more explanation of ESG performance than the independent variable low-cost strategy as reflected by standardised coefficient beta. This highlights the importance of competition for this hypothesis.

Only 26.4% of the change in the dependent variable (ROA), and 13.8% of the change in the dependent variable (Tobin's Q) is explained by the predictor variables (independent and control) as represented by R Square statistic. This indicates that the model is a poor fit, and there are other factors that are influencing changes in financial performance which have not been allowed for in the researcher's framework.

Although model is a poor fit, it performs better than He and Chittoor (2023) in respect of ROA which is 8% for He and Chittoor (2023). However, He and Chittoor (2023) R Square statistic is 16% which is higher than this study's Tobin's Q results. Danso et al. (2019) produced a R Squared statistic of 18%.

For ROA as dependent variable, the result of the hypothesis was significant and therefore Hypothesis 2.1 could not be rejected. When using Tobin's Q as dependent variable, the observed relationship was in the opposite direction and therefore hypothesis could be rejected.

The valid sample for this hypothesis was 47 companies for ROA as a dependent variable, and 39 for Tobin's Q as a dependent variable. This is relatively small and therefore the results observed may not represent the actual relationship between low-cost strategy and financial performance.

6.5 Hypothesis 2.2 Discussion

Hypothesis 2.2 tested whether a differentiation strategy positively impacts stakeholders as represented by financial performance. The intention was to of this was to measure the value added for shareholders. Both ROA and Tobin's Q were used as financial measures. The results of the hypothesis testing found a significant positive relationship between differentiation strategy and financial performance for both ROA and Tobin's Q. . In summary, the standardized coefficients results were (β=0.335; p <0.05) for ROA and (β=-0.113; p <0.05) for Tobin's Q.

He and Chittoor (2023) found that differentiation strategy had a negative impact on both ROA and Tobin's Q as represented by the standardised regression coefficients. For ROA as dependent variable, statistics were (β=-0.12; p <0.05) without interaction term of differentiation strategy and stakeholders excluded, and (β=-0.26; p <0.05) with interaction term of differentiation strategy and stakeholders included. For Tobin's Q as dependent variable, statistics were (β=-1.64; p <0.05) without interaction term of differentiation strategy and stakeholders excluded, and (β=-3.80; p <0.05) with

interaction term of differentiation strategy and stakeholders included. Danso et al. (2019)'s study showed statistics of (β=0.12; *p* >0.05).

The results observed for financial performance in this study were in contrast to He and Chittoor (2023). In respect of Danso et al. (2019), impacts were both positive but Danso et al. (2019) observed insignificant impact.

He and Chittoor (2023) found that significant negative correlation between differentiation strategy and ROA of -0.05 and for Tobin's Q, significant positive relationship of 0.18. Pearson correlations between differentiation strategy and ROA was significant positive of 0.216, and for Tobin's Q was significant positive of 0.238 for this study.

Differentiation was positively correlated with Tobin's Q (0.243) and negatively correlated with ROA (-0.155) in Awaysheh et al. (2020)'s study. Results differ for ROA are inconsistent with He and Chittoor (2023) and Awaysheh et al. (2020), but consistent for Tobin's Q. Lee et al. (2021) argue that a differentiation strategy should produce superior profits.

Danso et al. (2019) found positive correlation between differentiation strategy and financial performance with value 0.25.. Danso et al. (2019) study was based on small and medium sized in Ghana. South Africa is also developing country like Ghana, and may share similar characteristics to Ghana. However, this study was conducted on listed companies which are mainly large companies, and therefore results obtained would be difficult to compare with small companies. A drawback of Danso et al. (2019) study was that perceptive measures were used which is not objective. Whereas this study used objective measures.

The control variable age was found to have significant positive impact on ROA as represented by the standardised regression coefficient (β=0.235; p <0.05), and significant impact on Tobin's Q (β=0.068; p <0.05). For He and Chittoor (2023)'s study, impact of age was (β=0.00; p >0.05) for ROA and (β=0.03; p <0.05) for Tobin's Q. Danso et al. (2019)'s study showed statistics of (β=0.07; p <0.05). The financial performance study was collected from participants for Danso et al. (2019)'s study. Therefore, Danso et al. (2019) study information would not be objective. This makes Danso et al. (2019) results difficult to compare to other studies.

Age impact on ROA and Tobin's Q is consistent with He and Chittoor (2023)'s study. The impact observed in this study appears to be stronger.

The control variable age was found to be positively correlated with both ROA and Tobin's Q with values 0.0.34 and 0.017 respectively in this study. He and Chittoor (2023)'s study found a positive relationship between age and ROA with value 0.04 and negative relationship between age and Tobin's Q with value -0.07. Companies that are older should have more experience in ensuring good financial performance whilst pursuing a differentiation strategy.

The control variable competition was found to have an insignificant positive impact on ROA was represented by the standardised regression coefficient (β=0.019; p >0.05), and significant negative impact on Tobin's Q (β=0.08; p <0.05). For He and Chittoor (2023)'s study, impact of competition was (β=0.20; p <0.05) with interaction of

differentiation strategy and stakeholders included for ROA, and (β=0.19; p <0.05) with interaction of differentiation strategy and stakeholders excluded. For Tobin's Q, impact of competition was (β=1.16; p >0.05) with interaction of differentiation strategy and stakeholders included. For Tobin's Q, and (β=1.05; p >0.05) with interaction of differentiation strategy and stakeholders excluded. Danso et al. (2019)'s study showed statistics of (β=0.11; p <0.05). Danso et al. (2019) results are difficult to compare to as perceptive measures where used. The results for competition as a control variable are in contrast to He and Chittoor's study.

He and Chittoor's study revealed a positive significant correlation between competition and financial performance for both ROA of 0.07 and Tobin's Q. with value 0.05. In Gras and Krause (2020)'s study, the correlation between competition and ROA was positive with value 0.01. Danso et al. (2019) showed positive correlation of 0.14. This study showed a positive correlation between competition and financial performance for both ROA of value 0.139 and Tobin's Q of value0.018. The higher the competition, the more time managers have to spend on understanding how to outperform competitors (Gras & Krause, 2020). More time being spent on competitors will mean less time to enhance low-cost strategy. Therefore, positive correlation observed is not expected.

The control variable debt ratio was found to have significant negative impact on ROA as represented by the standardised regression coefficient. (β=-0.35; *p* <0.05), and significant positive impact on Tobin's Q (β=0.552; *p* <0.05). For He and Chittoor (2023)'s study, impact of debt ratio was (β=-0.01; *p* >0.05) with interaction of differentiation strategy and stakeholders included for ROA, and (β=-0.01; *p* >0.05) with interaction of differentiation strategy and stakeholders included. For Tobin's Q, impact of competition was (β=0.87; p <0.05) with interaction of differentiation strategy and stakeholders included for Tobin's Q, and (β=0.86; p <0.05) with interaction of differentiation strategy and stakeholders excluded. The results for debt ratio as a control variable are consistent with He and Chittoor (2023)'s results. The relationship was stronger in this study.

Debt ratio was negatively correlated with ROA in Awaysheh et al. (2020) with value of -0.162, Gras and Krause (2020) with value of -0.13 and He and Chittoor (2023) with value of -0.12. In Awaysheh et al. (2020) and He and Chittoor (2023)'s studies, debt ratio was negatively correlated with Tobin's Q with values -0.199 and -0.01 respectively. This study found a significant negative correlation between debt ratio and ROA of -0.325 , and significant positive correlation for debt ratio and Tobin's Q of value 0.531. Companies with higher debt ratios are likely to have a higher interest rate burden which may comprise the meeting of financial targets. Therefore, expectation would be for a negative relationship for debt ratio and financial performance. This expectation is in contrast to correlation observed for this study for Tobin's Q. Gras and Krause (2020) and He and Chittoor (2023) is consistent with this expectation.

The control variable size was found to have significant negative impact on ROA as represented by the standardised regression coefficient (β=-0.119; p <0.05), and significant negative impact on Tobin's Q (β=-0.193; p <0.05). For He and Chittoor (2023)'s study, impact of size was (β=-0.01; p <0.05) with interaction of differentiation strategy and stakeholders included for ROA, and (β=--0.01; p <0.05) with interaction of differentiation strategy and stakeholders included. For Tobin's Q, impact of size was (β=-0.49; p <0.05) with interaction of differentiation strategy and stakeholders included for

Tobin's Q, and (β=-0.47; p <0.05) with interaction of differentiation strategy and stakeholders included.

The negative impact observed for size is not expected but consistent with He and Chittoor (2023)'s study.

Positive correlation was observed in He and Chittoor (2023)'s study between size and ROA with value 0.02, and negative correlation between size and Tobin's Q of -0.26. In Gras and Krause (2020)'s study, observed relationship between size and ROA was positive with value 0.05 . This study showed a negative relationship between ROA and size of value -0.288, and negative correlation between size and Tobin's Q with value -0.1. Larger companies are likely to have more resources to ensure positive financial outcomes whilst following a differentiation strategy. The results of this study are in contrast to He and Chittoor (2023)'s study and the expectation.

For ROA as a dependent variable, differentiation strategy provided most explanation of ROA performance as reflected by standardised coefficient beta. This highlights the importance of differentiation strategy for this hypothesis.

For Tobin's Q as a dependent variable, the control variable Debt ratio (DebtToAssets) of the company provided more explanation of ESG performance than the independent variable differentiation strategy as reflected by standardised coefficient beta. This highlights the importance of debt ratio for this hypothesis.

Only 25% of the change in the dependent variable (ROA), and 34% of the change in the dependent variable (Tobin's Q) is explained by the predictor variables (independent and control) as represented by R Square statistic. This indicates that the model is a poor fit, and there are other factors that are influencing changes in financial performance which have not been allowed for in the researcher's framework.

Although model is a poor fit, it performs better than He and Chittoor (2023) in respect of ROA which is 8% and 16% for Tobin's Q. Danso et al. (2019) produced a R Squared statistic of 18%.

The result of the hypothesis was were significant for both ROA and Tobin's Q and therefore Hypothesis 2.2 could not be rejected when using ROA and Tobin's Q as dependent variables.

The valid sample for this hypothesis was 24 companies for ROA as a dependent variable, and 16 for Tobin's Q as a dependent variable. This is relatively small and therefore the results observed may not represent the actual relationship between differentiation and financial performance.

6.6 Hypothesis 3 Discussion

Hypothesis 3 tested whether the ESG performance of a company is positively correlated with financial performance. The reason for the focus on this hypothesis is that if ESG and financial performance have a strong positive relationship, then managers can produce either good ESG performance or financial performance in the knowledge that

the other performance metric will be met. Therefore, managers can more likely satisfy the needs of all stakeholders if there is a strong positive relationship between ESG and financial performance (stakeholders will more likely value ESG performance whereas shareholders will more likely value financial performance).

Both ROA and Tobin's Q were used as financial measures to determine value added for shareholders. When using ROA as a dependent variable, a significant positive relationship was found between ESG performance and financial performance ($\beta=0.116$; $p<0.05$) as represented by the standardised regression coefficient . In contrast, when using Tobin's Q as dependent variable, a significant negative relationship between ESG performance and financial performance was found ($\beta=-0.125$; $p<0.05$) as represented by the standardised regression coefficient .

Gras and Krause (2020) showed a significant positive impact on ROA ($\beta=0.43$; $p<0.05$). Shi and Veenstra (2021) had a significant positive impact on ROA ($\beta=0.009$; $p<0.05$) and significant negative impact on Tobin's Q ($\beta=-0.068$; $p<0.05$). Shin et al. (2023)'s baseline model has ESG significantly positively impacting ROA ($\beta=0.0184$; $p<0.05$).

The standardised regression coefficient was positive and significant for ROA as dependent variable for this study. This was similar to observations made by Gras and Krause (2020), Shi and Veenstra (2021) and Shin et al. (2023). For Tobin Q as a dependent variable, both this study and Shi and Veenstra (2021) found a significant negative relationship. Therefore, results of this study are consistent with results observed in the literature for ROA. The Tobin's Q result is in contrast to the expected result of the hypothesis. This negative relationship will need to be further understood. It can be tentatively concluded that ESG positively impacts ROA, and negatively impacts Tobin's Q based on results observed.

This study found positive significant correlation between ESG and ROA of 0.106, and negative significant relationship of -0.15 with Tobin's Q. The results are similar to the relationship found by He and Chittoor (2023) (0.04 for ROA and -0.09 for Tobin's Q) and Shi and Veenstra (2021) (0.018 for ROA and -0.1 for Tobin's Q) for both ROA and Tobin Q.

ESG performance was positively correlated with both ROA and Tobin's Q in Awaysheh et al. (2020)'s study (0.021 for ROA and 0.071 for Tobin's Q). Shin et al. (2023) found a positive relationship between ESG performance and ROA of value 0.062. Vurro et al. (2022) find that good ESG practices increase the chance that a company survives. This

implies that good ESG practices increases financial performance. Gras and Krause (2020) find that ESG and ROA performance are positively correlated with value 0.03.

Danso et al. (2019) found positive relationship between ESG and financial performance. Danso et al. (2019 study was based on small and medium sized in Ghana. South Africa is also developing country like Ghana, and may share similar characteristics to Ghana. However, this study was conducted on listed companies which are mainly large companies, and therefore results obtained would be difficult to compare with small companies. A drawback of Danso et al. (2019) study was that perceptive measures were used which is not objective. Whereas this study used objective measures.

In summary, correlation results of ESG and financial performance of the various studies are as follows (Danso et al. (2019) not included as ROA or Tobin Q not used as financial measure):

Table 29: Financial measures used for studies

Study	**ROA**	**Tobin's Q**
Current Study	Positive	Negative
He and Chittoor (2023	Positive	Negative
Shi and Veenstra (2021)	Positive	Negative
Awaysheh et al. (2020)	Positive	Positive
Shin et al. (2023)	Positive	N/A
Gras and Krause (2020)	Positive	N/A

All studies in the above table show positive relationship between ESG and ROA performance. Tentatively, it can be concluded that ESG and ROA performance are positively correlated. For Tobin's Q, one of the studies showed a positive relationship and the remaining 3 showing a negative relationship. From the Tobin's Q results, it appears support for this hypothesis is minimal.

Shin et al. (2023) , Awaysheh et al. (2020), Gras and Krause (2020), Shi and Veenstra (2021) and Gillan et al. (2021) state that the findings of previous studies provide inconclusive results in respect of the relationship between ESG and financial performance. Shin et al. (2023), Awaysheh et al. (2020), Gras and Krause (2020) and Shi and Veenstra (2021) suggest that the nature of the relationship between ESG performance and financial performance is dependant on the type of environment that companies operate in.

Shin et al. (2023) find that societies that are individualistic and masculine (based on Hofstede's framework) have a positive impact on the ESG performance and financial performance (measured using ROA). In contrast, Shi and Veenstra (2021) find that both

individualism and flexibility (based on Minkov's framework) negatively influence the relationship of ESG performance and company financial performance (as measured by ROA or Tobin's Q. Differences in the results may be due to different measures for individualism.

East Asia are high flexible society whereas Asia, Latin America, Africa and Middle East are low flexible (Shi & Veenstra, 2021). This implies that since South Africa is part of Africa, it will be low on flexibility and hence relationship between ESG and financial performance should be positive. This is observed when using ROA as a dependent variable.

Gras and Krause (2020)'s study had the following findings in respect of the moderating industry factors that were investigated:

- High level of industry munificence negatively influences the positive relationship between ESG and financial performance.

- High industry dynamism negatively influences the positive relationship between ESG and financial performance.

- High industry complexity has no significant impact on the positive relationship between ESG and financial performance.

- High industry social orientation positively influences the positive relationship between ESG and financial performance.

- High tech industries positively influences the positive relationship between ESG and financial performance.

The control variables that were used for this study were age, size, debt ratio and competition (i.e. complexity). Discussion of the performance of the control variables is provided below

The control variable age was found to be insignificant positively correlated with both ROA (0.02) and Tobin's Q (0.00) in this study. He and Chittoor (2023)'s study found a significant positive relationship between age and ROA of value 0.04, and significant negative relationship between age and Tobin's Q of value -0.09. Older companies should have an advantage producing good financial returns. The results of this hypothesis are in line with this observation.

He and Chittoor (2023)'s study revealed a positive significant relationship between competition and financial performance for both ROA (0.07) and Tobin's Q (0.05). In Gras and Krause (2020)'s study, the correlation between competition and ROA was positive with value 0.01 . This study showed a significant positive relationship between competition and financial performance for ROA of 0.095 ,and significant negative correlation for Tobin's Q of -0.048. The higher the competition, the more time managers have to spend on understanding how to outperform competitors (Gras & Krause, 2020). In contrast, higher competition does not reduce returns for this study for ROA as a dependent variable.

Debt ratio was negatively correlated with ROA and Tobin's Q in Awaysheh et al. (2020) with value -0.162 and -0.199 respectively. In Gras and Krause (2020) correlation between debt ratio and ROA was -0.13. He and Chittoor (2023), correlation between debt ratio and ROA was significant negative relationship of -0.12 and for Tobin's Q insignificant relationship of -0.01. This study found a significant negative relationship between debt ratio and ROA with value -0.189, and significant positive relationship for debt ratio and Tobin's Q of value 0.164. Companies with higher debt ratios are likely to have a higher interest rate burden which may comprise the meeting of financial targets. Therefore, expectation would be for a negative relationship for debt ratio and financial performance. This negative relationship is observed for ROA which is consistent with other studies observed, and not Tobin's Q which is not consistent with other studies observed. Market fluctuations maybe contributing to the negative relationship being observed for Tobin's Q.

Insignificant positive relationship was observed in He and Chittoor (2023)'s study between size and ROA of 0.02, and significant negative relationship between size and Tobin's Q of -0.26. In Gras and Krause (2020)'s study, observed correlation between size and ROA was positive value of 0.05. This study showed a significant positive correlations between size for both ROA of 0.053 and Tobin's Q of 0.131. Larger companies are likely to have experience in producing positive ESG and financial performance.

For ROA as a dependent variable, ESG provided most explanation of ROA performance as reflected by standardised coefficient beta. This highlights the importance of ESG strategy for this hypothesis.

For Tobin's Q as a dependent variable, ESG provided most explanation of Tobin's Q performance as reflected by standardised coefficient beta. This highlights the importance of ESG strategy for this hypothesis.

Only 5.9% of the change in the dependent variable (ROA), and 6.4% of the change in the dependent variable (Tobin's Q) is explained by the predictor variables (independent and control) as represented by R Square statistic. This indicates that the model is a poor fit, and there are other factors that are influencing changes in financial performance which have not been allowed for in the researcher's framework.

For ROA as dependent variable, the result of the hypothesis was significant and therefore Hypothesis 2.1 could not be rejected. When using Tobin's Q as dependent variable, the observed relationship was in the opposite direction and therefore hypothesis could be rejected.

The valid sample for this hypothesis was 87 companies for ROA as a dependent variable, and 71 for Tobin's Q as a dependent variable. This is relatively small and therefore the results observed may not represent the actual relationship between ESG performance and financial performance.

6.7 Summary

This study found that both a low-cost strategy and differentiation had a positive impact on stakeholders (excluding shareholders) value (as measured by ESG performance). Positive impact was weak and insignificant for low-cost strategy, and significant for differ

enation strategy No other studies could be found where ESG performance was the dependent variable. He and Chittoor (2023) found a negative correlation between ESG performance and both low-cost strategy and differentiation. This study found that size provided the most explanatory power for ESG performance as represented by the standard coefficient beta.

Low-cost strategy was found to significantly positively impact ROA performance, and significantly negatively impact Tobin's Q performance. For differentiation strategy, significant positive impact was observed for both ROA and Tobin's Q. Lee et al. (2021) argue that using either low-cost and differentiation strategy is likely to result in superior profits. The independent variables low-cost and differentiation provided the most explanation power when using ROA as a dependent variable. Debt Ratio provided most explanation power for Tobin's Q for both low-cost and differentiation strategies.

For this study, the observation was that ESG performance had a significant positive impact when using ROA as a financial measure and significant negative impact when using Tobin's Q is a financial measure. The observation for ROA was in line with other studies analysed. For Tobin's Q, there was one study that deviated from the observation. For both ROA and Tobin's Q as dependent variables, ESG provided most explanation.

Shin et al. (2023), Awaysheh et al. (2020), Gras and Krause (2020), Shi and Veenstra, 2021 and Gillan et al. (2021) suggest that the results of the relationship between ESG performance and financial performance is inconclusive and that the type of environment company operates in has an important role.

The regression models were generally of poor fit with low R Squared statistics. This implies that there are other variables that are impacting the variability in the dependent variables which have not been accounted for in this study.

The valid sample was less than 100 companies for each of the hypotheses. This relatively small and is shortcoming of this study. The small sample may mean that the results observed do not correspond to the true relationships of South African companies. Hence, it will be difficult to generalize the results of this study to all South African companies.

7 Conclusion

7.1 Introduction

This chapter outlines the principal theoretical conclusions, the research contribution and the recommendation for managers from a business perspective. Final sections of this chapter discusses limitations of this research and suggested areas for future research.

7.2 Principal theoretical conclusions

Based on the recommendations of top scholars ((Harrison et al, 2020; He & Chittoor, 2023; Freeman et al. , 2020), the research question for this study was:

Research Question: How does competitive strategy influence the value derived by various stakeholders in South African listed companies?

In line with He and Chittoor (2023)'s study, low-cost and differentiation strategies were used for this study. He and Chittoor (2023) used The Thomas Reuters Eikon ESG database to assess stakeholder strategies, and use financial performance measures (ROA and Tobin's Q) to determine shareholder performance. This study adopted a similar approach.

This study found that both a low-cost strategy and differentiation had a significant positive impact on stakeholder (excluding shareholders) value (as measured by ESG performance). The positive impact was insignificant for low-cost strategy and significant for differentiation strategy. The variable that explained most of the changes in stakeholder value was the company size. This suggests larger companies have a greater probability of generating stakeholder value. No other study was found where stakeholder value was the dependent variable. Therefore, the study provides valuable insights into the drivers of stakeholder value in a developing country context.

Lee et al. (2021) argue that using either low-cost and differentiation strategy is likely to result in superior profits. Low-cost strategy was found to significantly positively impact ROA performance, and significantly negatively impact Tobin's Q performance in this study. For differentiation strategy, significant positive impact was observed for both ROA and Tobin's Q. The independent variables low-cost and differentiation provided the most explanation power when using ROA as a dependent variable. Debt Ratio provided most explanation power for Tobin's Q for both low-cost and differentiation strategies.

ESG and financial performance relationship was investigated in this study. The reason this was investigated was that if a strong positive relationship exists, then managers can produce either good ESG performance or financial performance in the knowledge that the other performance metric will be met. Therefore, managers can more likely satisfy the needs of all stakeholders if there is a strong positive relationship between ESG and financial performance (stakeholders will more likely value ESG performance whereas shareholders will more likely value financial performance).

Shin et al. (2023) , Awaysheh et al. (2020), Gras and Krause (2020), Shi and Veenstra (2021) and Gillan et al. (2021) state that the findings of previous studies provide inconclusive results in respect of the relationship between ESG and financial performance. For this study, the observation was that ESG performance had a significant positive impact when using ROA as a financial measure and significant negative impact when using Tobin's Q is a financial measure. ESG provided most explanation for both ROA and Tobin's Q.

7.3 Research contribution

No extant literature was found where stakeholder (excluding shareholders) value was the dependent variable. Therefore, this study provides a contribution in respect of how stakeholder value is impacted by generic competitive strategies. In addition, this study provides a holistic value of the value added to stakeholders by competitive strategy as both the impact on shareholders and other stakeholders was measured.

This research study provides objective empirical evidence of the relationship between management actions and value generated for all stakeholders. It also provides evidence of the ESG and financial performance relationship in a South African context. Extant literature focuses on the developed market.

Freeman et al. (2021), McGahan (2021) and Stoelhorst (2021) recommended that RBV and stakeholder theory should be integrated. This study focuses on understanding how managers decisions on resources of a company influence stakeholder outcomes. Therefore, this study provides insights that can be used to integrate these theories.

This research study contributes to the managerial aspect of stakeholder theory which Harrison et al. (2020) believe is underdeveloped. The insights gained from this research study can be used to develop this aspect further.

7.4 Recommendations for management and/or other stakeholders

Managers are currently working in an environment where generation of value for all stakeholders is required (Harrison et al., 2020). Therefore, it is recommended managers consider the value that their strategies will generate for all stakeholders. By doing this, there will be a greater probability that managers will succeed in their careers. This study provides relevant insights to assist managers choose the most appropriate strategies to generate value for all stakeholders.

Shareholder primacy is still a norm among managers due to influence of other shareholders. It is recommended that board of directors increase the percentage of management incentives to other stakeholders (excluding shareholders) value they generate. This will likely motivate managers to act in the interests of other stakeholders. Importantly, the performance of managers against these targets should be tracked and actions be taken if performance is not satisfactory.

It is recommended that the universe of companies that have ESG assessments performed by expanded. In this way, more data can be obtained to understand the relationship under investigation.

7.5 Limitations of research

Limitations of research are as follows:

- Research conducted by listed companies which are generally large companies. Therefore, no insight is obtained on small and medium companies which make a material contribution to the South African economy.
- The valid sample was less than 100 companies for each of the hypotheses. The small sample may mean that the results observed do not correspond to the true relationships of South African companies. Hence, it will be difficult to generalize the results of this study to all South African companies.
- Time period analysed was relatively short compared to other similar studies conducted. This may negatively impact the reliability of the results.
- In many instances, the ROA and Tobin's Q results were different leading to different conclusions on the impact of financial performance. This makes it difficult to make specific conclusions on the financial performance and the resultant shareholder impact.

7.6 Suggestions for future research

The management actions analysed were low-cost and differentiation strategies. There are other actions that managers can select. These include focus, integration strategies. It is recommended future studies include other possible management actions to provide more holistic view of the research question.

ESG performance has been used as a measure of stakeholder performance. It is suggested further research is conducted on how much utility stakeholders obtain from high ESG ratings and if other factors need to be considered. The results of this research will inform the dependent variable that needs to be used for future studies.

In line with He and Chittoor (2023), Shi and Veenstra (2021) and Awaysheh et al. (2020), this study used both ROA and Tobin's Q to assess financial performance. In many stances, the results of the investigation produced different results for these measures which makes it difficult to generalise findings on financial performance. It is recommended that appropriate research be done to determine which financial metric is the most appropriate to assess shareholder value, and this metric be solely used in future studies.

The R Squared statistics for each hypothesis was below 30%. Therefore, the model was not a good fit. This implies there are other factors that impact stakeholder and shareholder value. It is recommended future studies focus on finding what these factors are to ensure a more holistic understanding of the drivers of stakeholder and shareholder value.

Many South African companies will have operations in other African countries, or intend on setting up operations in other African countries. Future studies should investigate how competitive strategies influence stakeholder and shareholder value in other countries. This will provide valuable insights for managers.

Once information of management actions and ESG ratings is available for more companies (including small and medium companies) and for longer periods of time, it is recommended that a similar study to this be performed again in future to verify the findings as this study was based on a small sample.

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Appendices

A. Tests for underlying assumptions of linear regression

1. Hypothesis 1.1 test results

Hypothesis 1.1: Underlying Variables normal distribution tests

One-Sample Kolmogorov-Smirnov Test

			ESG	CostEfficiency	Age	Size	DebtToAssets	Herf
N			1692	1692	1692	1692	1692	1692
Normal Parameters[a,b]	Mean		3,8232	.38359573123	26.280152362	9.5178896042	24,520062	2496.2526311
	Std. Deviation		1,24157	.19523702315	16.660069091	1.5615978678	15,1413576	2186.0474310
Most Extreme Differences	Absolute		,108	,079	,181	,064	,074	,411
	Positive		,108	,079	,181	,062	,074	,411
	Negative		-,071	-,052	-,062	-,064	-,055	-,294
Test Statistic			,108	,079	,181	,064	,074	,411
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 1122541128.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Hypothesis 1.1: VIF Test

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	4.013	4.872					
CostEfficiency	-0.045	0.538	0.047	0.040	0.038	0.970	1.031
Age	-0.014	-0.007	-0.131	-0.149	-0.143	0.943	1.060
Size	-0.002	0.080	0.019	0.046	0.043	0.780	1.282
DebtToAssets	-0.026	-0.018	-0.224	-0.260	-0.254	0.909	1.100
Herf	0.000	0.000	-0.143	-0.177	-0.170	0.841	1.189

VIF results are below 5 which implies the variables are independent.

Hypothesis 1.1: Analysis of variance (ANOVA)

ANOVA[a]

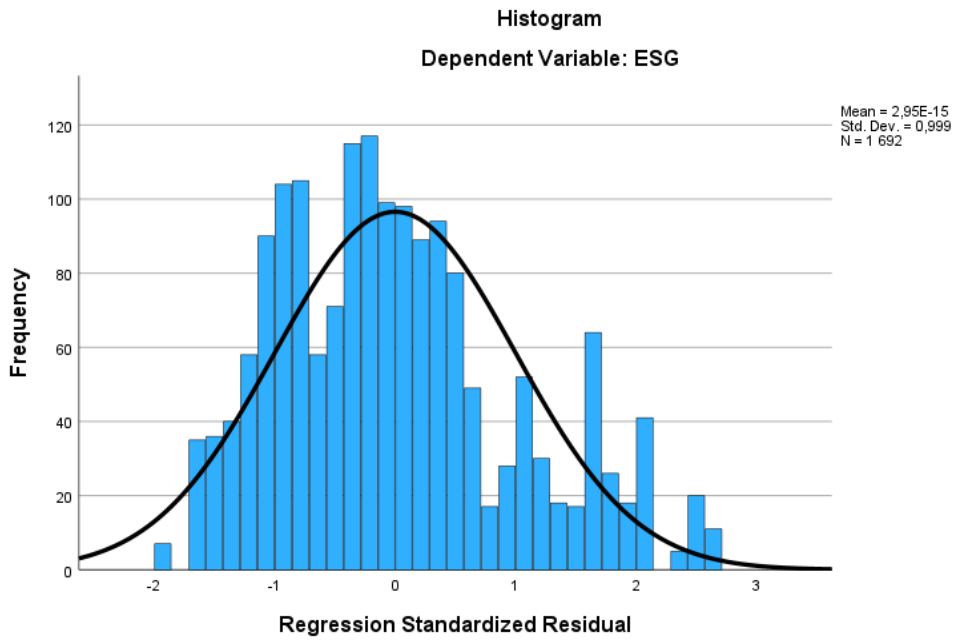
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	282,271	5	56,454	40,949	<.001[b]
	Residual	2324,394	1686	1,379		
	Total	2606,665	1691			

a. Dependent Variable: ESG

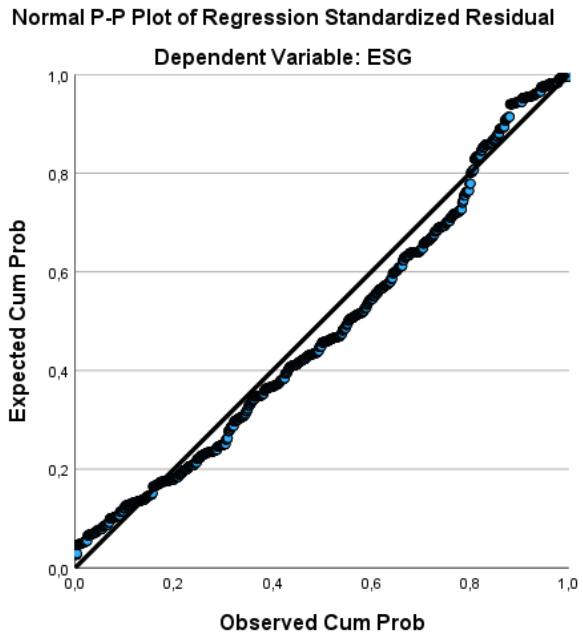
b. Predictors: (Constant), Herf, CostEfficiency, DebtToAssets, Age, Size

The analysis of variance results are significant and imply regression coefficients are not equal to zero.

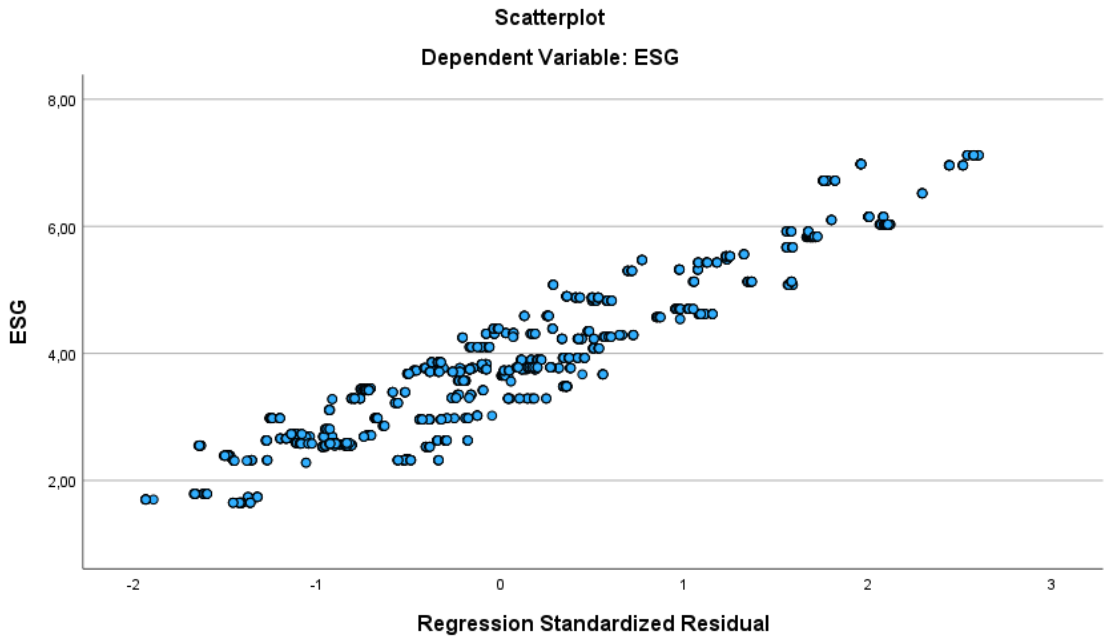
Hypothesis 1.1: Normality Distribution test (residuals)



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.



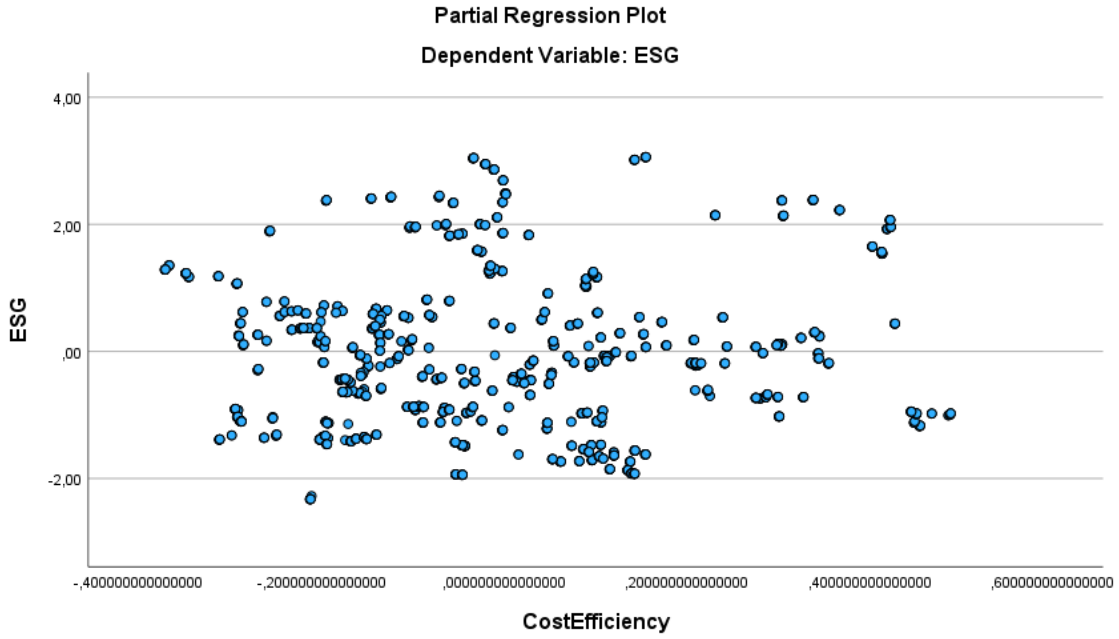
The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

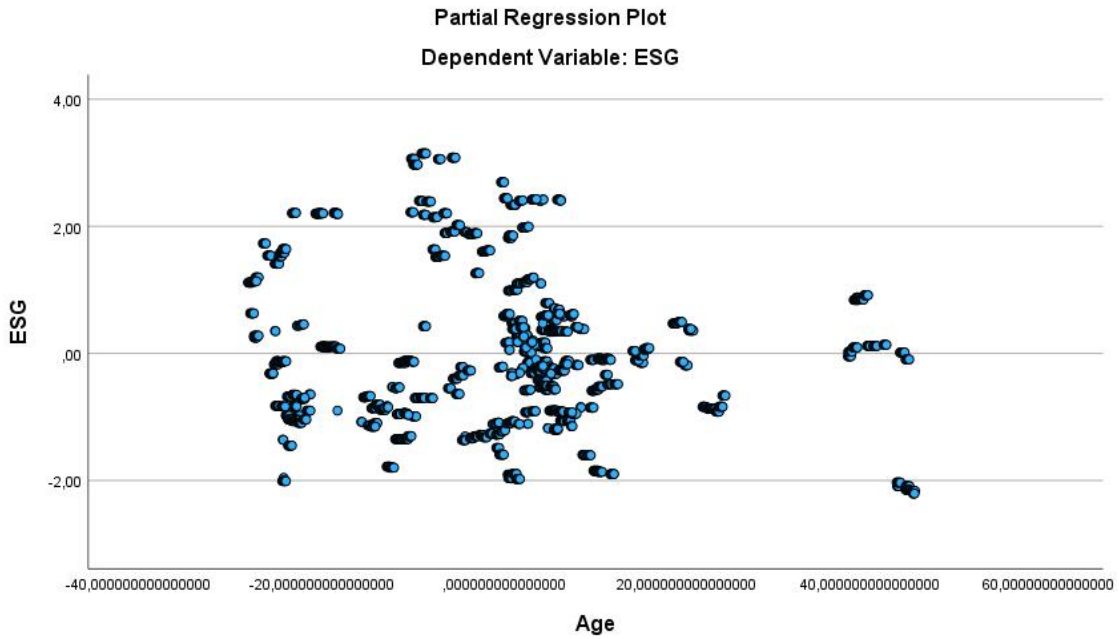


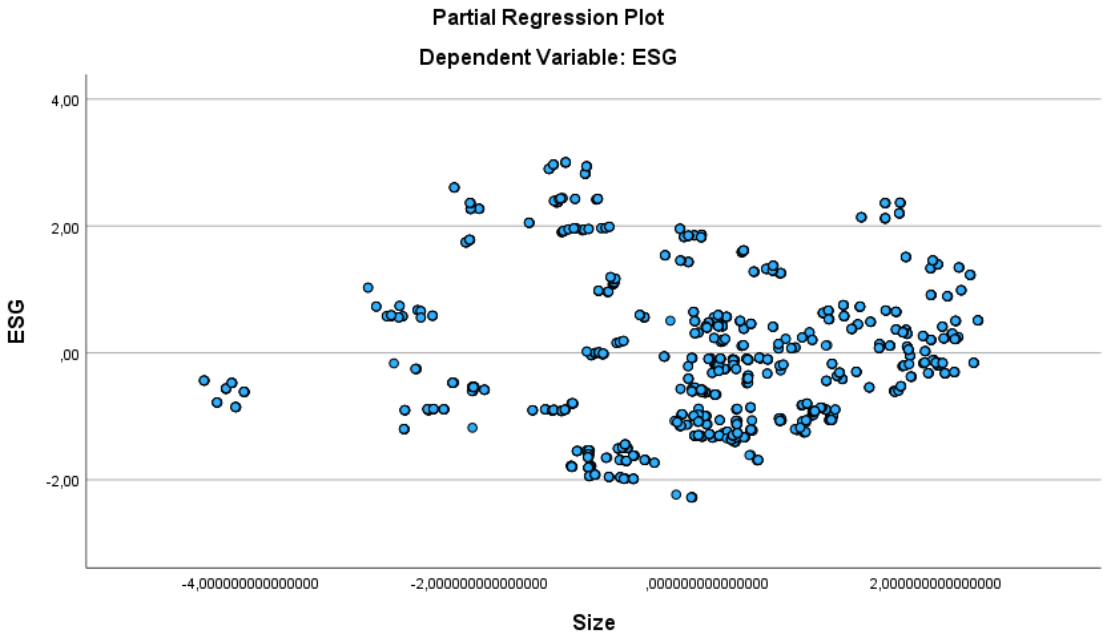
The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. All residuals are within 3 standard deviations which implies the regression model is not negatively impacted by outliers.

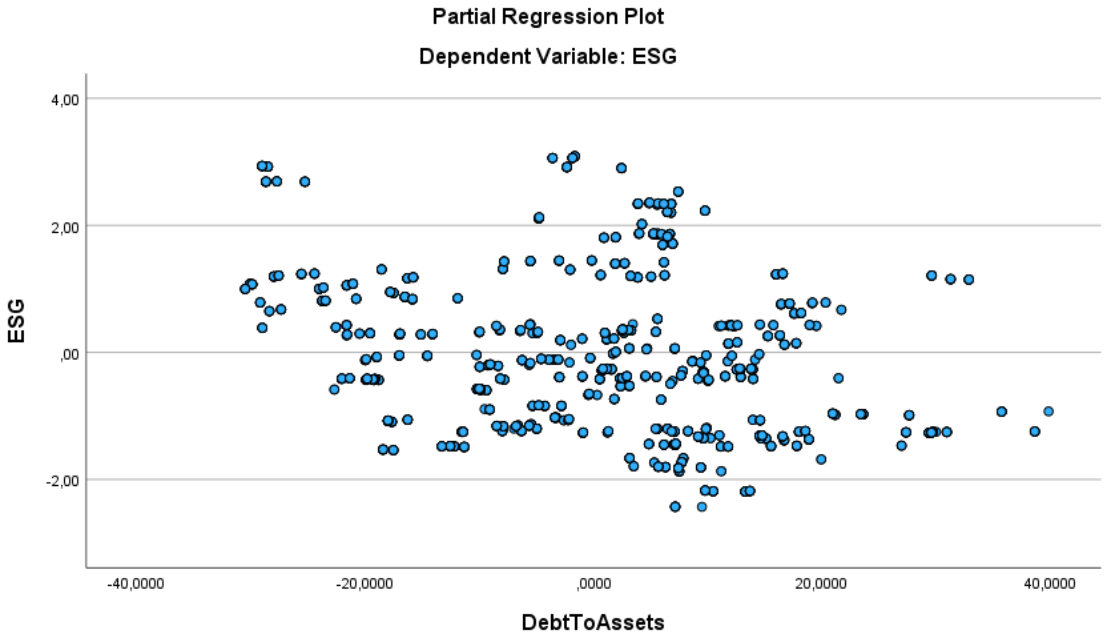
Hypothesis 1.1: Partial regression plots on dependent and control variables

Linear relationship between dependent variables and independent and control variables is a condition of linear regression. The below graphs represent the relationship between dependent variables with one of the independent and control variables whilst the remaining variables are kept constant.






Partial Regression Plot
Dependent Variable: ESG
ESG
4,00
2,00
,00
-2,00
-4,000000000000000
-2,000000000000000
,000000000000000
2,000000000000000
Size


Partial Regression Plot
Dependent Variable: ESG
ESG
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,00
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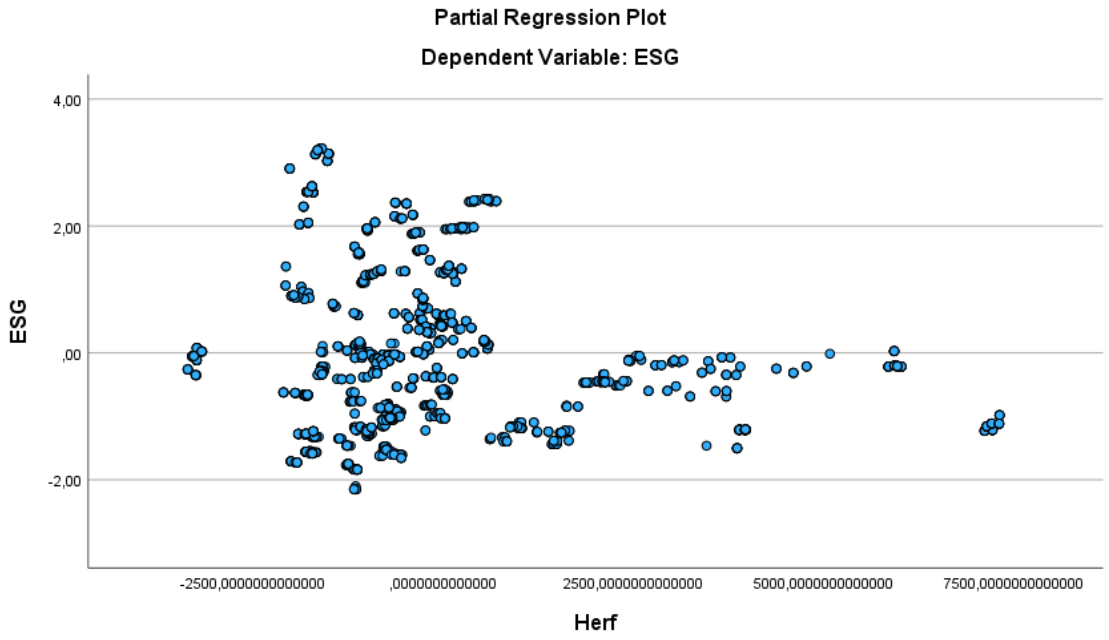
-40,0000
-20,0000
,0000
20,0000
40,0000
DebtToAssets



The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

2. Hypothesis 1.2 test results

Hypothesis 1.2: Underlying Variables normal distribution tests

One-Sample Kolmogorov-Smirnov Test

			ESG	Diff	Age	Size	DebtToAssets	Herf
N			864	864	864	846	864	864
Normal Parameters[a,b]	Mean		3,6170	.17487880471	26.457068979	8.9025805605	22,824775	5476.0239331
	Std. Deviation		1,22244	.19855962826	19.015736730	1.6778058800	16,7447083	2671.1235347
Most Extreme Differences	Absolute		,109	,175	,181	,099	,124	,190
	Positive		,109	,070	,181	,066	,124	,190
	Negative		-,076	-,175	-,087	-,099	-,086	-,144
Test Statistic			,109	,175	,181	,099	,124	,190
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 1149983241.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Hypothesis 1.2: VIF Test

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.604	4.016					
Diff	0.039	1.243	0.092	0.072	0.071	0.743	1.346
Age	-0.016	-0.006	-0.154	-0.156	-0.155	0.809	1.236
Size	0.016	0.143	0.007	0.084	0.083	0.560	1.787
DebtToAssets	-0.010	0.001	-0.016	-0.052	-0.051	0.674	1.483
Herf	0.000	0.000	-0.024	-0.026	-0.025	0.632	1.581

VIF results are below 5 which implies the variables are independent.

Hypothesis 1.2: Analysis of variance (ANOVA)

ANOVA[a]

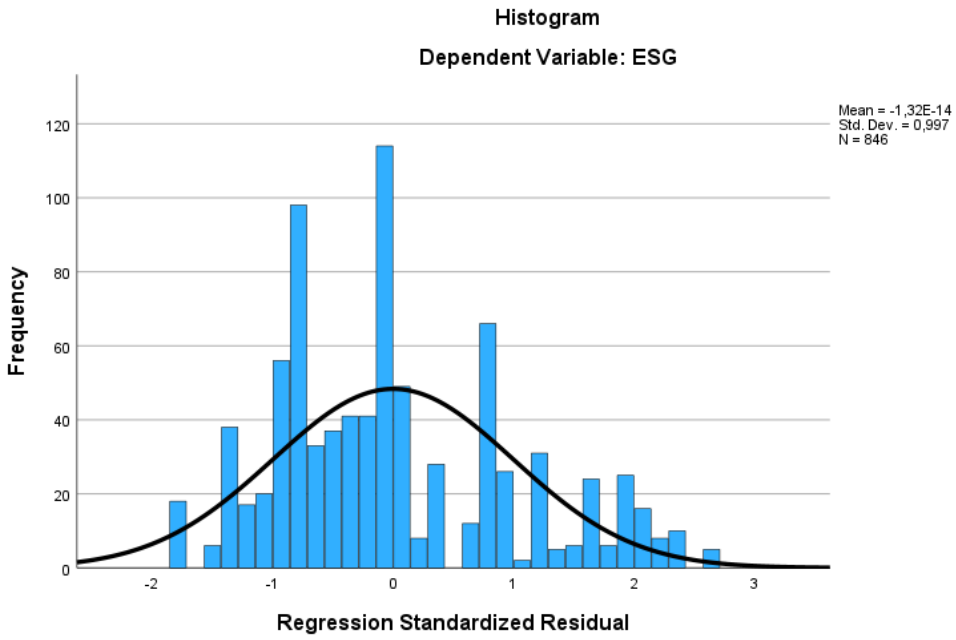
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44,233	5	8,847	6,384	<.001[b]
	Residual	1164,036	840	1,386		
	Total	1208,268	845			

a. Dependent Variable: ESG

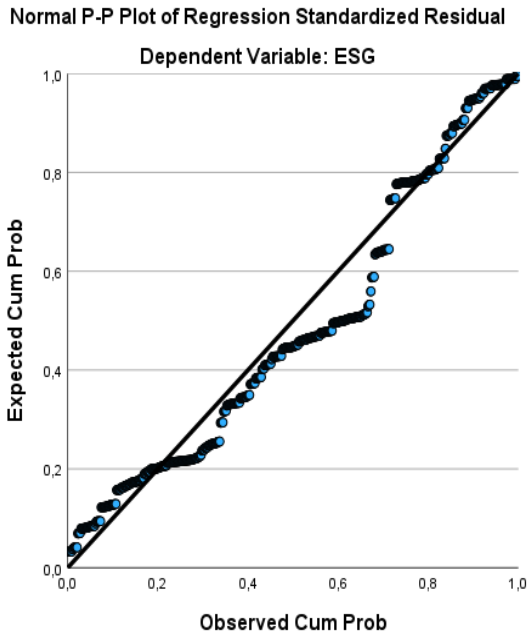
b. Predictors: (Constant), Herf, Diff, Age, DebtToAssets, Size

The analysis of variance results are significant and imply regression coefficients are not equal to zero.

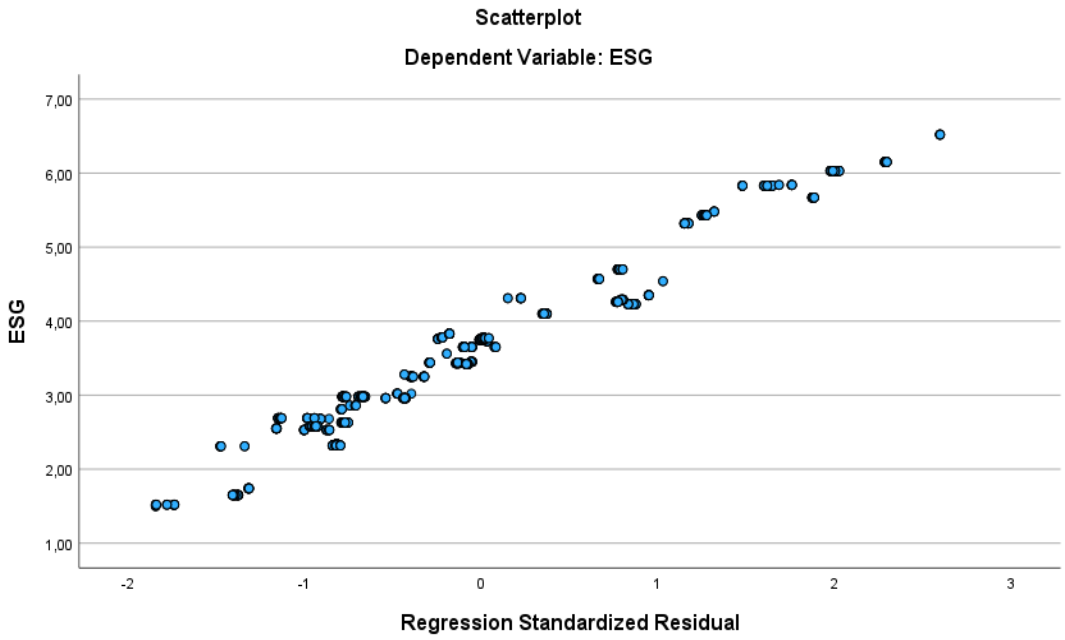
Hypothesis 1.2: Normality Distribution test (residuals)



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.



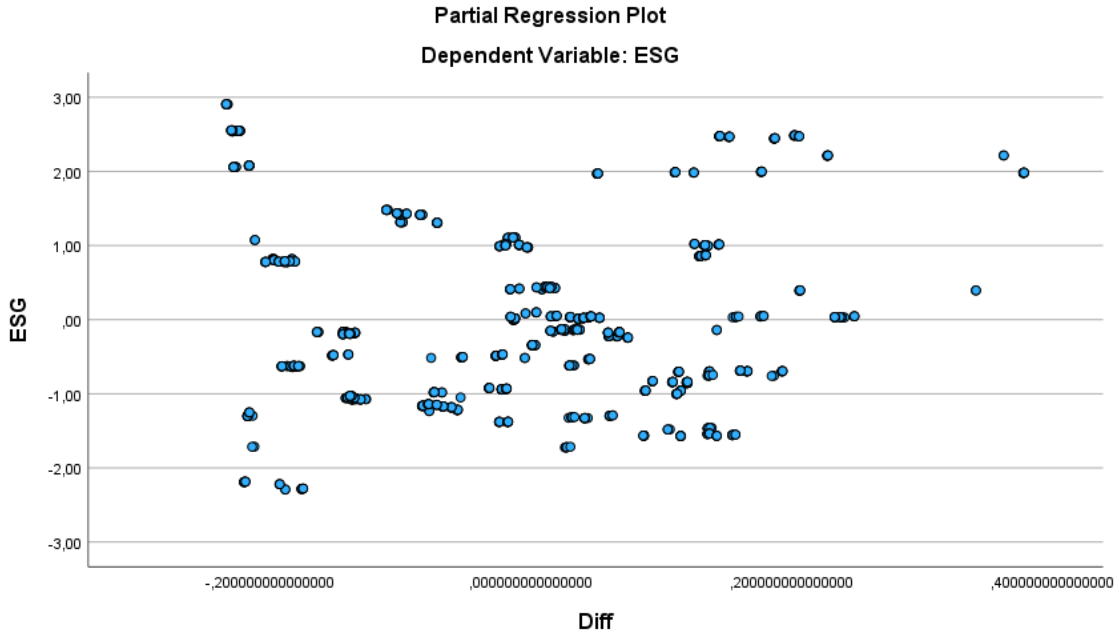
The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

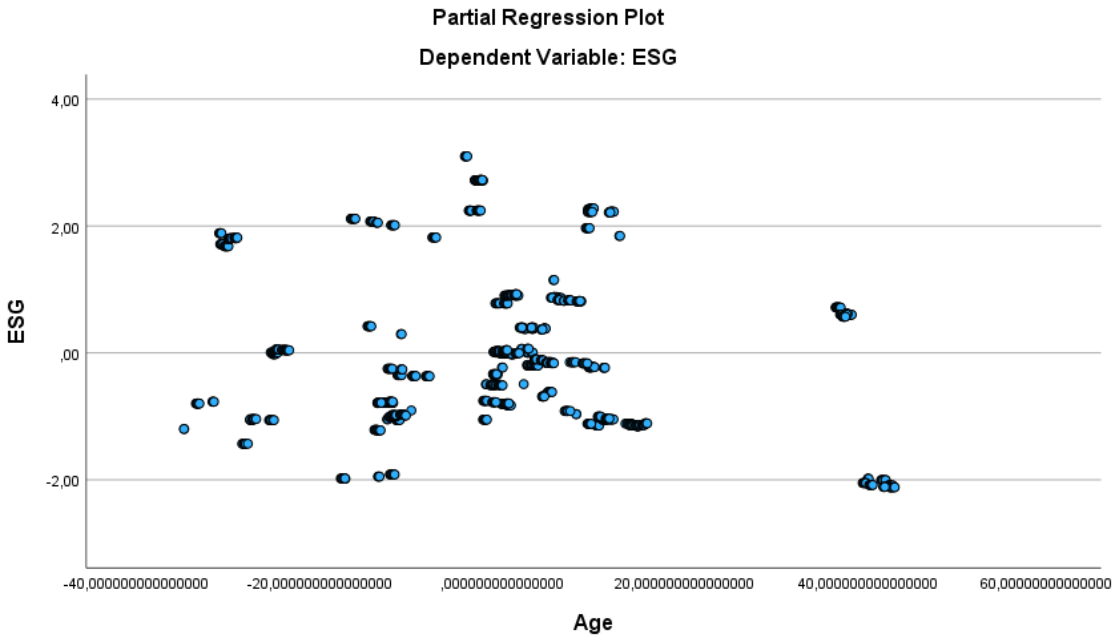


The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. All residuals are within 3 standard deviations which implies the regression model is not negatively impacted by outliers.

Hypothesis 1.2: Partial regression plots on independent and control variables

Linear relationship between dependent variables and independent and control variables is a condition of linear regression. The below graphs represent the relationship between dependent variables with one of the independent and control variables whilst the remaining variables are kept constant.




Partial Regression Plot
Dependent Variable: ESG
ESG
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2,00
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-2,00
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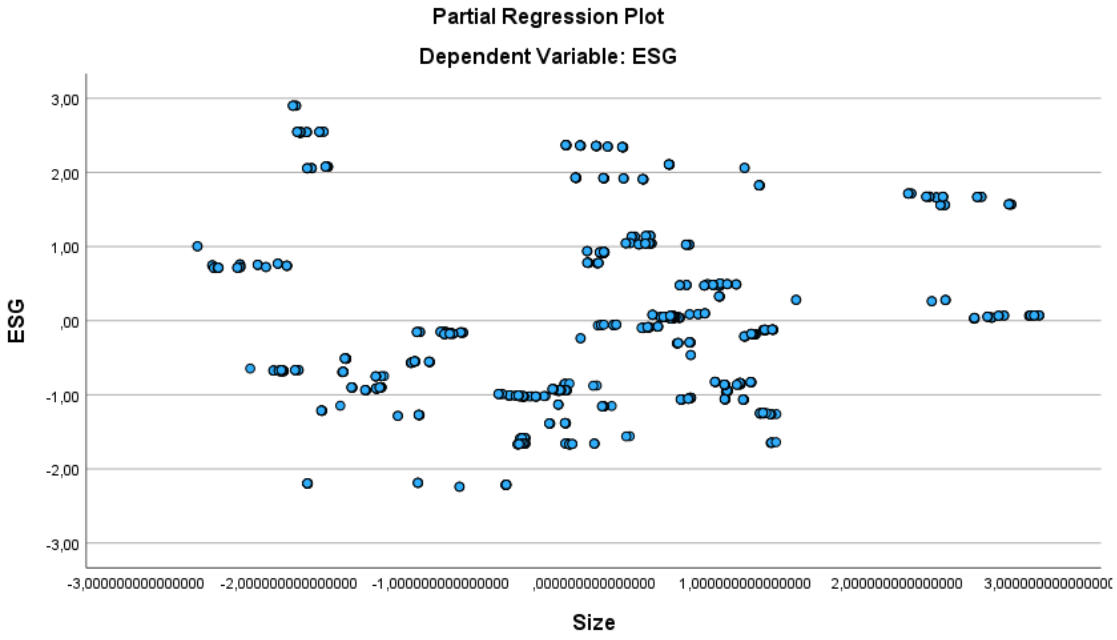
60,000000000000000
Age


Partial Regression Plot
Dependent Variable: ESG
ESG
3,00
2,00
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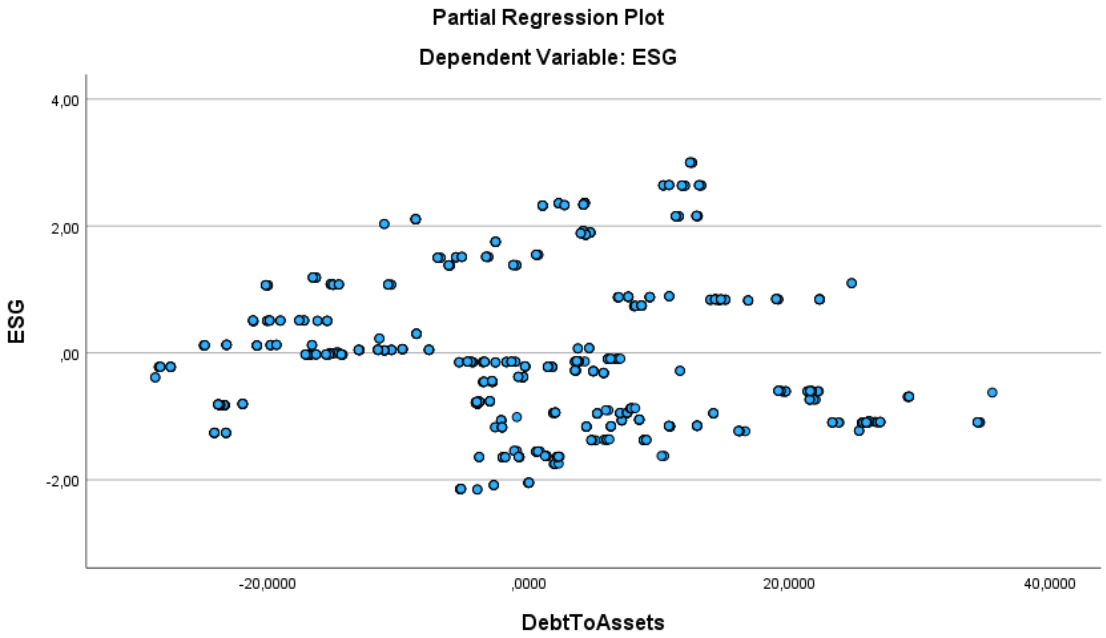
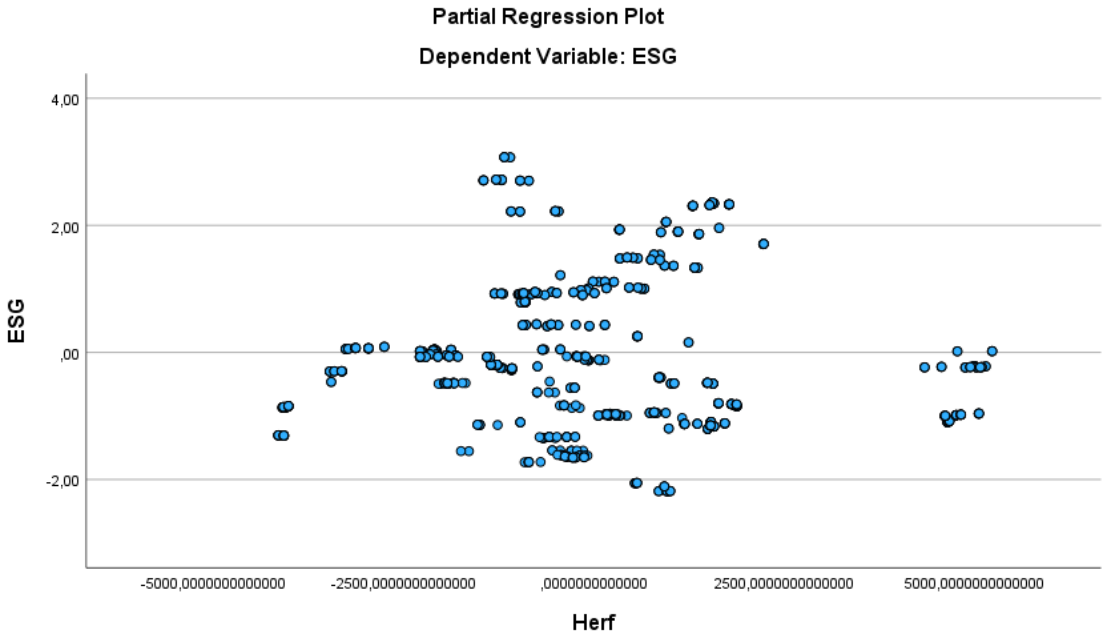
Size





The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

3. Hypothesis 2.1 test results

Hypothesis 2.1: Underlying Variables normal distribution tests

ROA as dependent variable

One-Sample Kolmogorov-Smirnov Test

			ROA	CostEfficiency	Age	Size	DebtToAssets	Herf
N			1692	1692	1692	1692	1692	1692
Normal Parameters[a,b]	Mean		8,879437	.38359573123	26.280152362	9.5178896042	24,520062	2496.2526311
	Std. Deviation		9,2140407	.19523702315	16.660069091	1.5615978678	15,1413576	2186.0474310
Most Extreme Differences	Absolute		,116	,079	,181	,064	,074	,411
	Positive		,116	,079	,181	,062	,074	,411
	Negative		-,088	-,052	-,062	-,064	-,055	-,294
Test Statistic			,116	,079	,181	,064	,074	,411
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 205597102.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Tobin's Q (Price to Book) as dependent variable

One-Sample Kolmogorov-Smirnov Test

			TobinQ	CostEfficiency	Age	Size	DebtToAssets	Herf
N			1404	1404	1404	1404	1404	1404
Normal Parameters[a,b]	Mean		3,034243	.37240993335	28.873485553	9.8156999869	24,705295	2617.0296645
	Std. Deviation		2,9732389	.19249874926	16.562733657	1.1791366742	15,7231598	2096.8356427
Most Extreme Differences	Absolute		,189	,097	,209	,071	,078	,378
	Positive		,167	,097	,209	,061	,077	,378
	Negative		-,189	-,060	-,074	-,071	-,078	-,284
Test Statistic			,189	,097	,209	,071	,078	,378
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 307647058.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Hypothesis 2.1: VIF Test

ROA as dependent variable

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	11.881	17.672					
CostEfficiency	5.835	9.762	0.131	0.186	0.163	0.970	1.031
Age	0.009	0.056	0.026	0.066	0.057	0.943	1.060

Size	-0.396	0.151	-0.116	-0.021	-0.018	0.780	1.282
DebtToAssets	-0.328	-0.276	-0.475	-0.483	-0.474	0.909	1.100
Herf	-0.001	0.000	-0.028	-0.118	-0.102	0.841	1.189

VIF results are below 5 which implies the variables are independent.

Tobin's Q (Price to Book) as dependent variable

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	3.623	6.386					
CostEfficiency	-3.148	-1.581	-0.114	-0.156	-0.147	0.922	1.084
Age	-0.021	-0.003	-0.041	-0.069	-0.064	0.968	1.033
Size	-0.295	-0.027	0.022	-0.063	-0.058	0.837	1.195
DebtToAssets	0.049	0.068	0.301	0.311	0.304	0.955	1.048
Herf	0.000	0.000	-0.151	-0.169	-0.159	0.896	1.116

VIF results are below 5 which implies the variables are independent.

Hypothesis 2.1: Analysis of variance (ANOVA)

ROA as dependent variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37942,942	5	7588,588	121,135	<.001[b]
	Residual	105620,500	1686	62,646		
	Total	143563,442	1691			

a. Dependent Variable: ROA

b. Predictors: (Constant), Herf, CostEfficiency, DebtToAssets, Age, Size

The analysis of variance results are significant and imply regression coefficients are not equal to zero.

Tobin's Q (Price to Book) as dependent variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1707,233	5	341,447	44,630	<.001[b]
	Residual	10695,496	1398	7,651		
	Total	12402,729	1403			

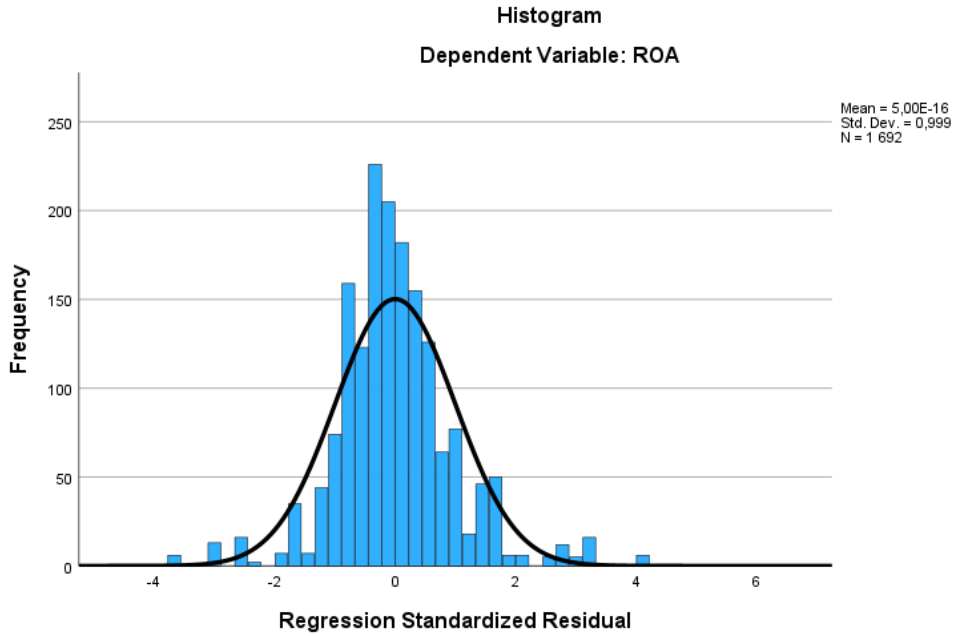
a. Dependent Variable: TobinQ

b. Predictors: (Constant), Herf, Age, DebtToAssets, CostEfficiency, Size

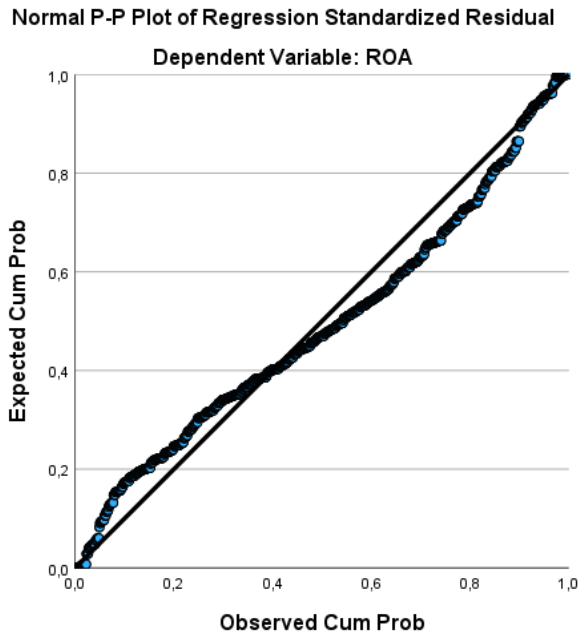
The analysis of variance results are significant and imply regression coefficients are not equal to zero.

Hypothesis 2.1: Normality Distribution test (residuals)

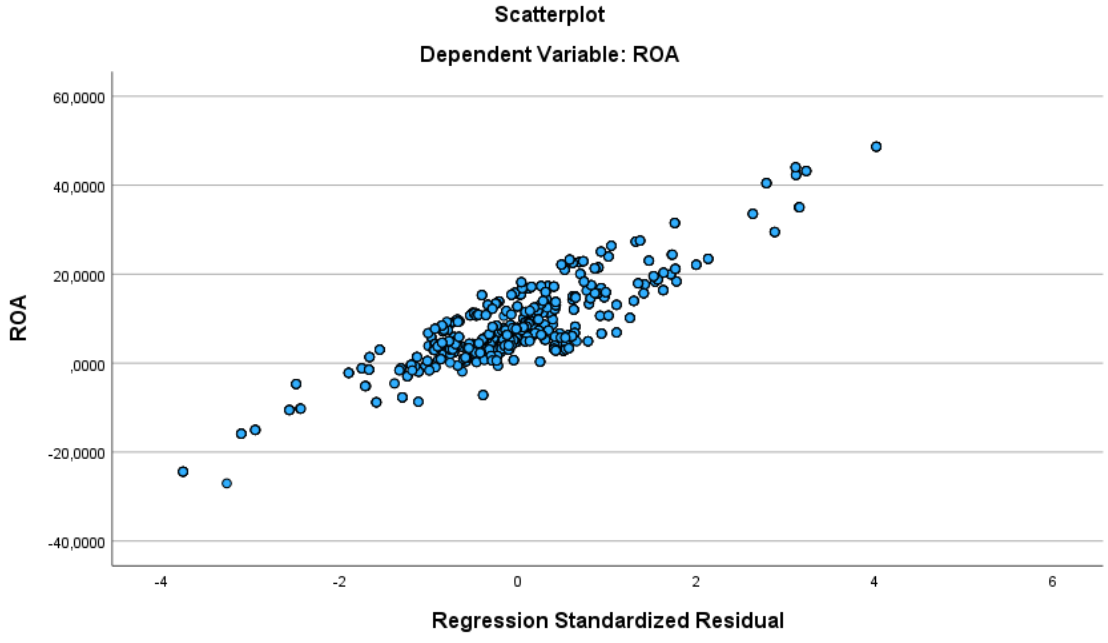
ROA as dependent variable



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.

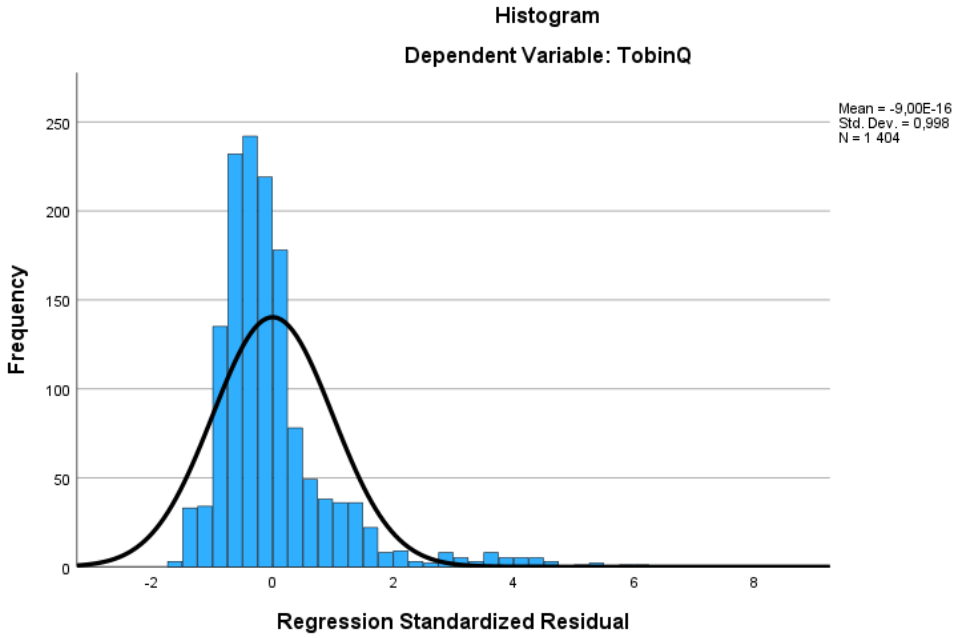


The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

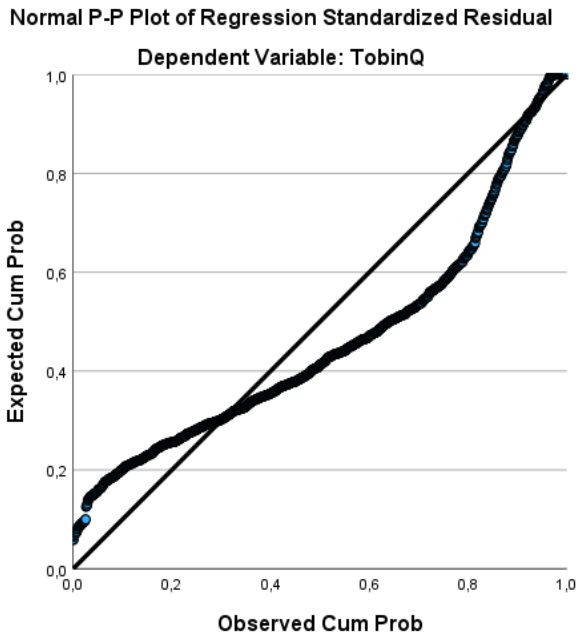


The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. All residuals are within 3 standard deviations which implies the regression model is not negatively impacted by outliers.

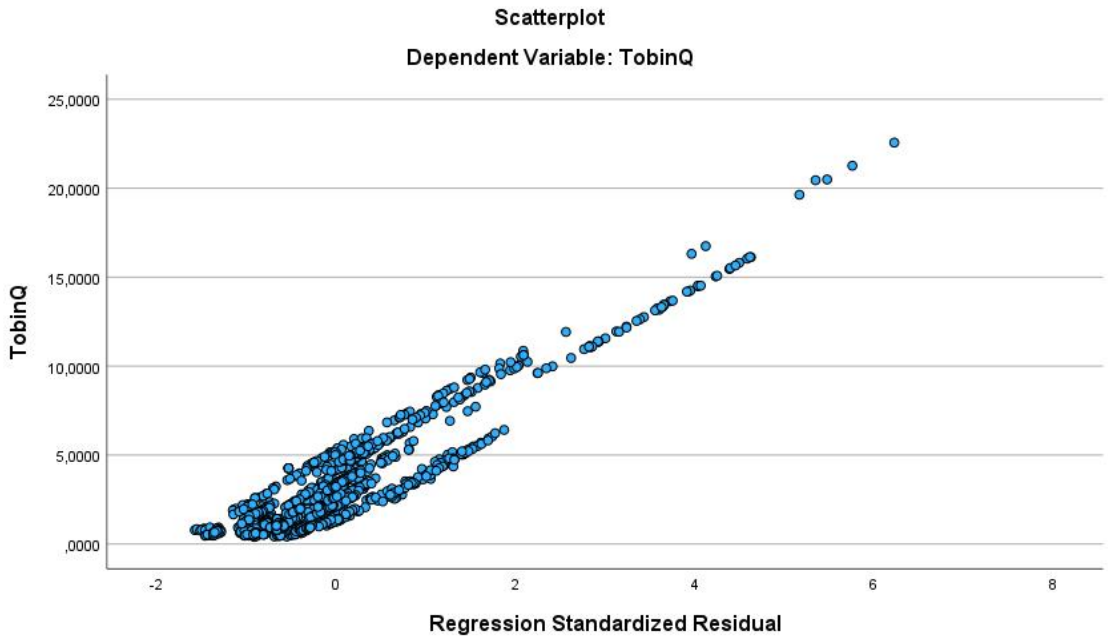
Tobin's Q (Price to Book) as dependent variable



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.



The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

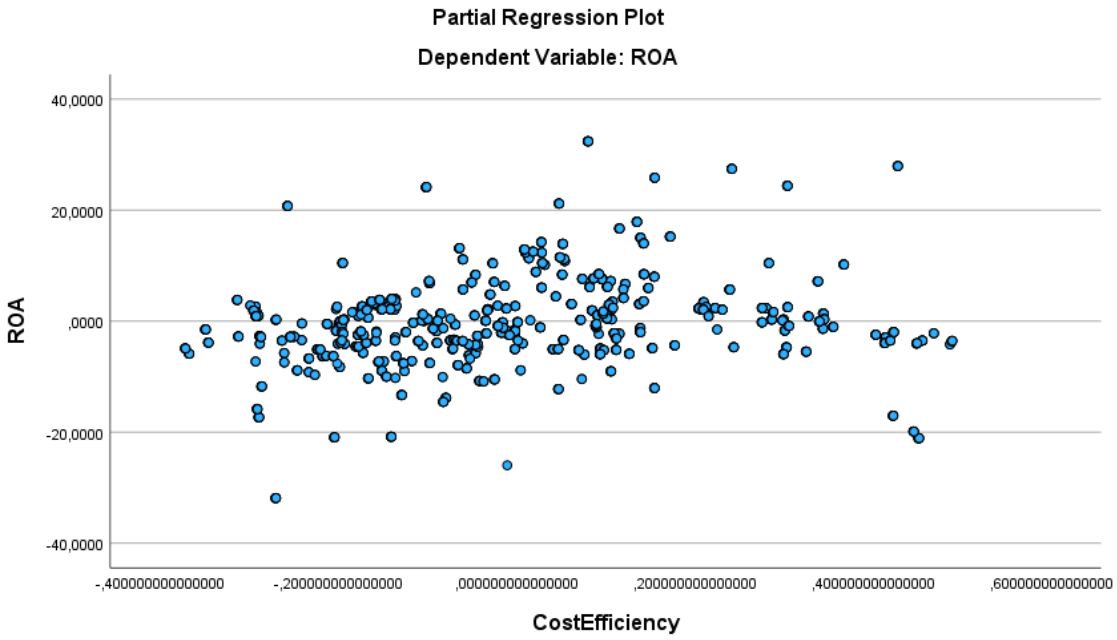


The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.

Hypothesis 2.1: Partial regression plots on independent and control variables

Linear relationship between dependent variables and independent and control variables is a condition of linear regression. The below graphs represent the relationship between dependent variables with one of the independent and control variables whilst the remaining variables are kept constant.

ROA as dependent variable


Partial Regression Plot
Dependent Variable: ROA
ROA
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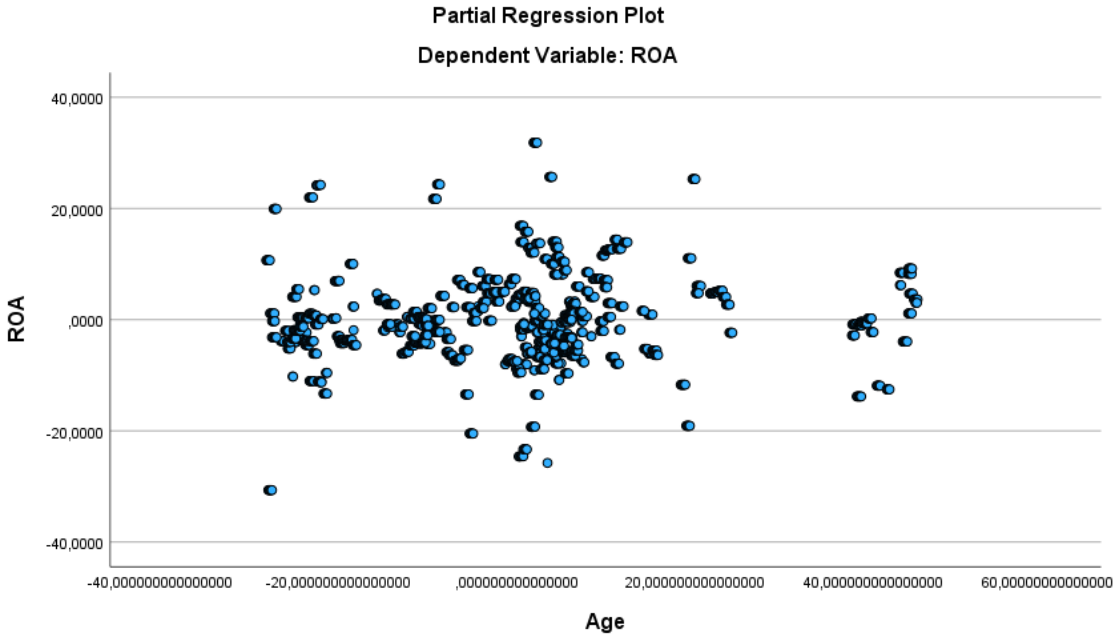
CostEfficiency


Partial Regression Plot
Dependent Variable: ROA
ROA
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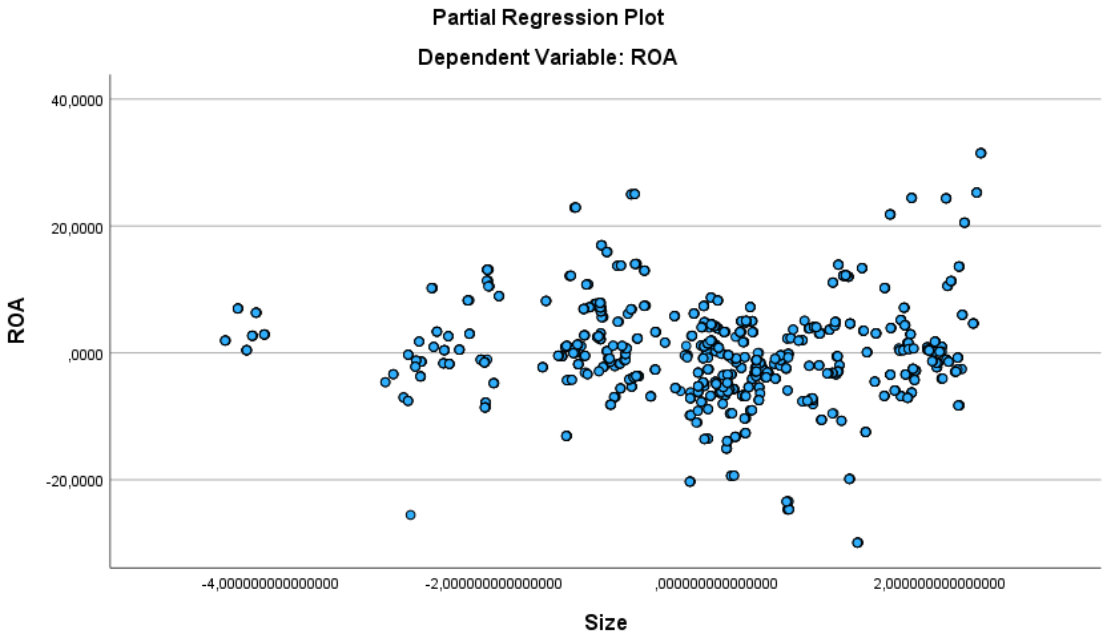
60,000000000000000
Age


Partial Regression Plot
Dependent Variable: ROA
ROA
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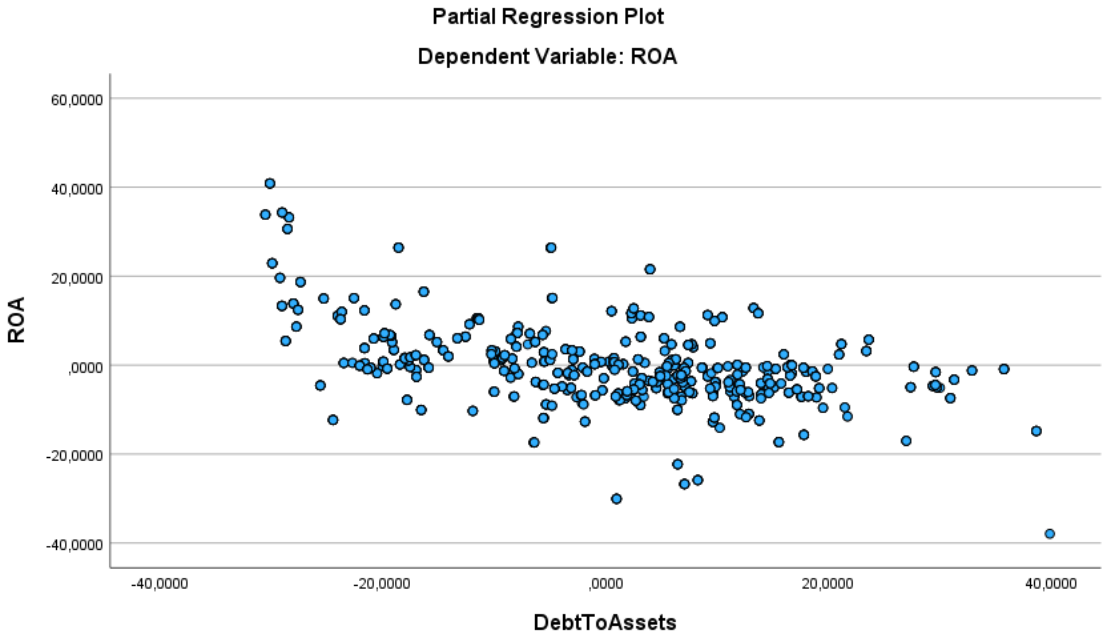
Size


Partial Regression Plot
Dependent Variable: ROA
ROA
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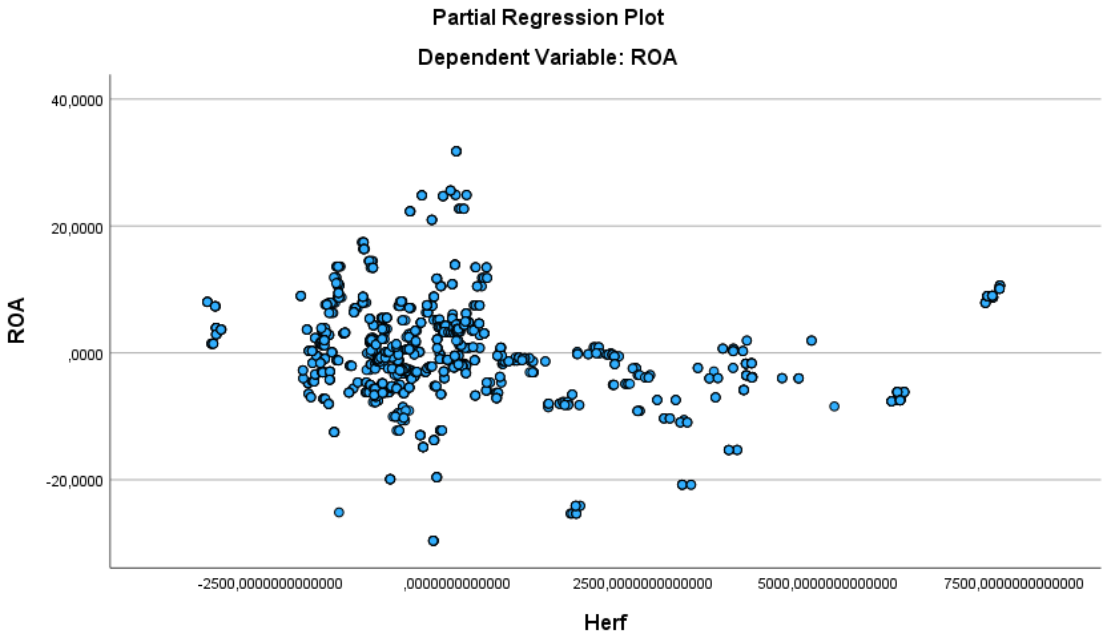
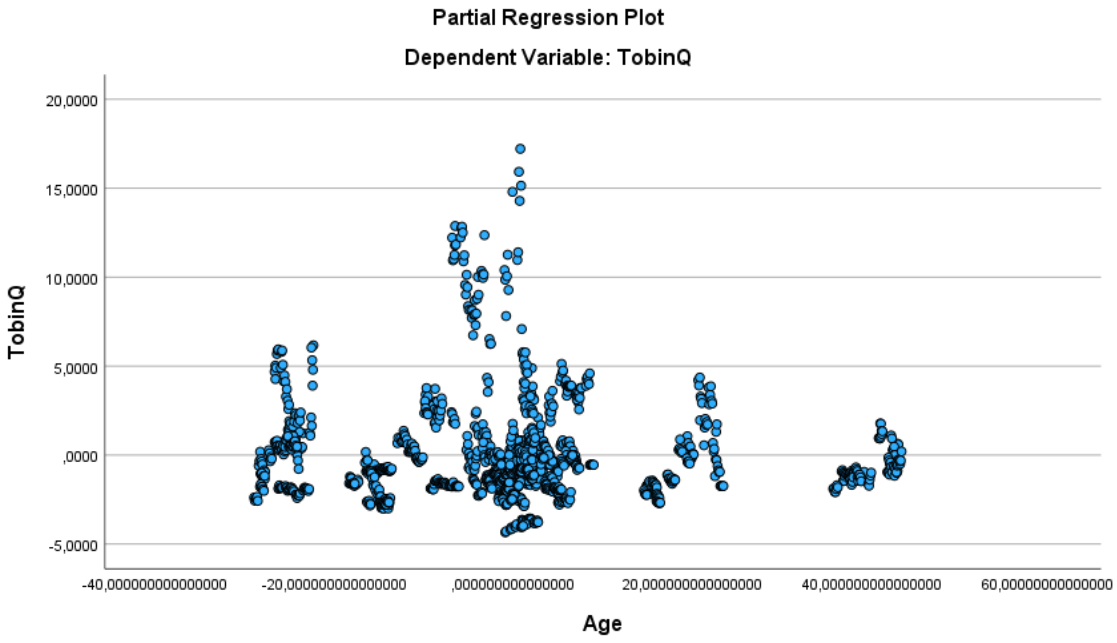
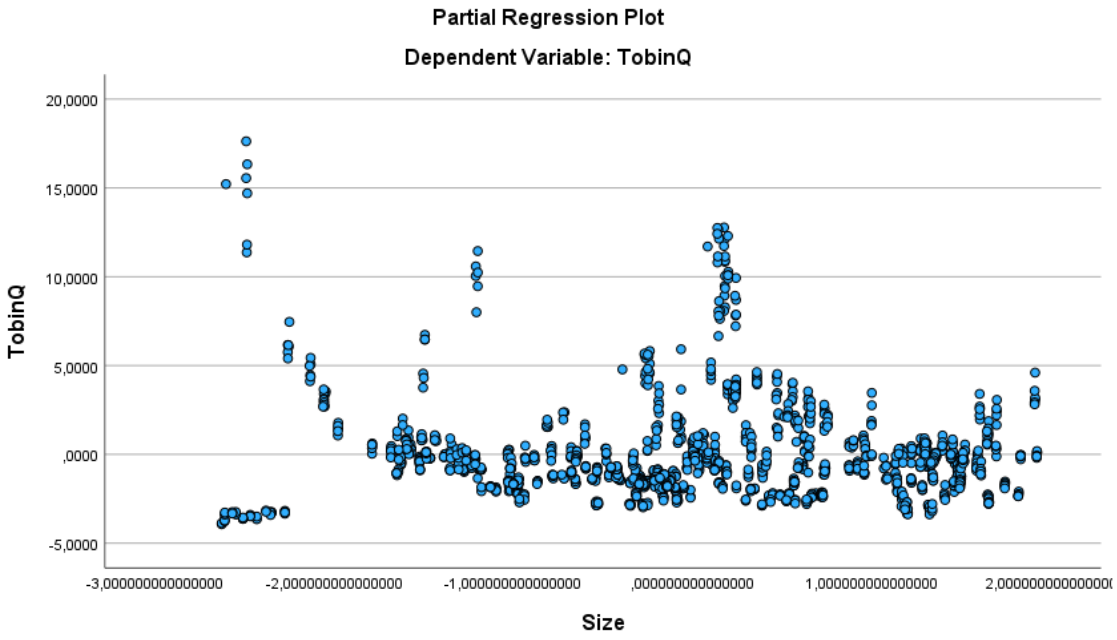
40,0000
DebtToAssets



The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

Tobin's Q (Price to Book) as dependent variable




Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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10,0000
5,0000
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-5,0000
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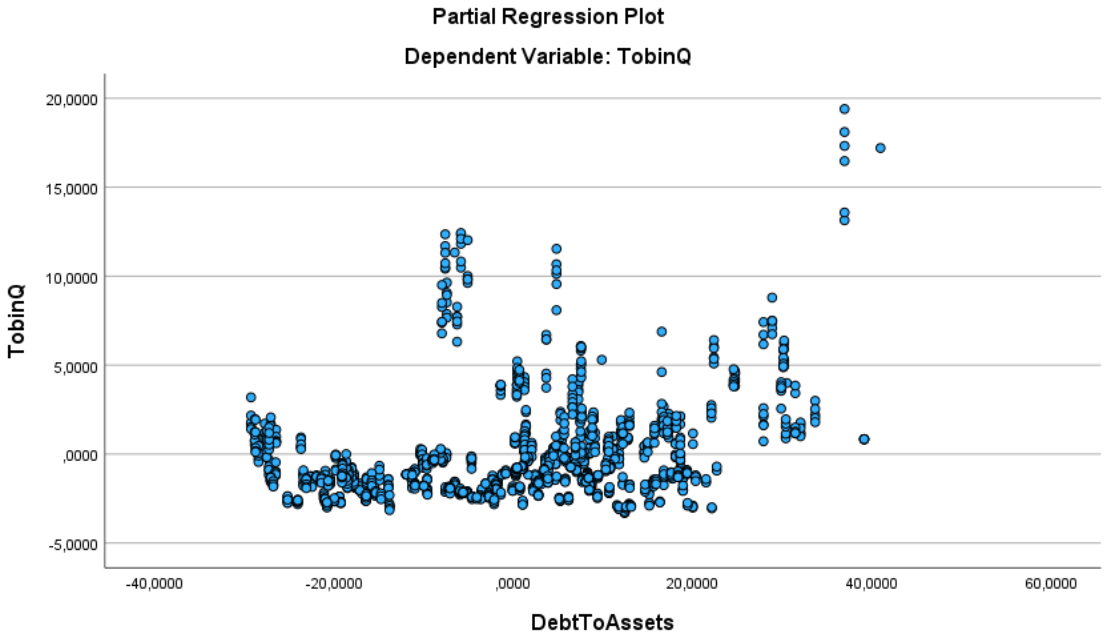
-2,0000000000000000
-1,0000000000000000
,0000000000000000
1,0000000000000000
Size


Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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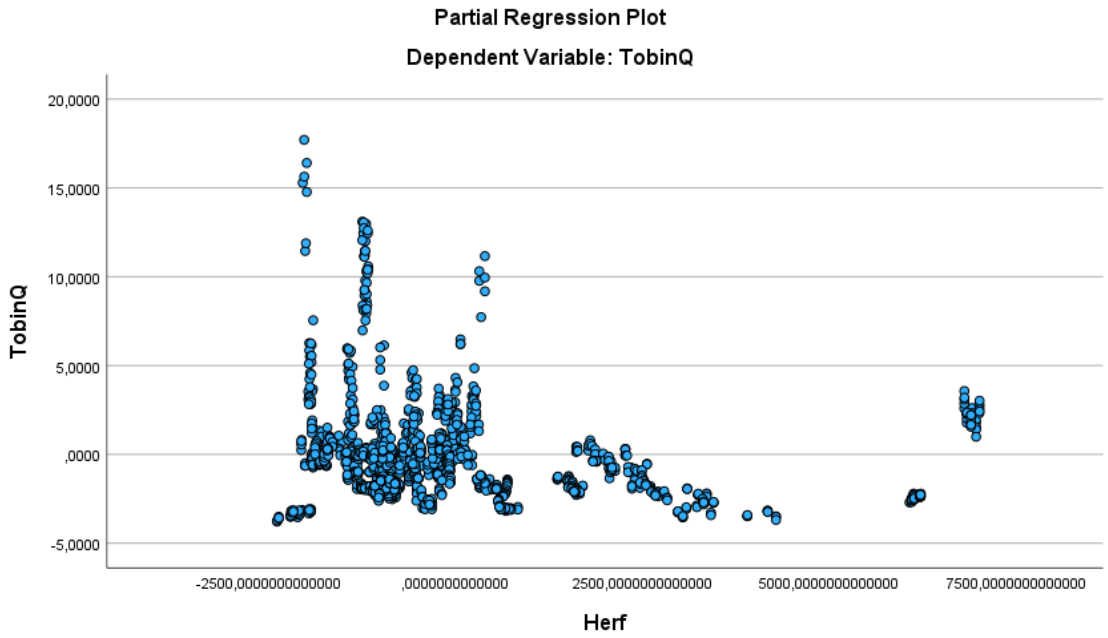
60,0000
DebtToAssets



The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

4. Hypothesis 2.2 test results

Hypothesis 2.2: Underlying Variables normal distribution tests

ROA as dependent variable

One-Sample Kolmogorov-Smirnov Test

			ROA	Diff	Age	Size	DebtToAssets	Herf
N			864	864	864	846	864	864
Normal Parameters[a,b]	Mean		7,411640	.17487880471	26.457068979	8.9025805605	22,824775	5476.0239331
	Std. Deviation		7,7055515	.19855962826	19.015736730	1.6778058800	16,7447083	2671.1235347
Most Extreme Differences	Absolute		,083	,175	,181	,099	,124	,190
	Positive		,075	,070	,181	,066	,124	,190
	Negative		-,083	-,175	-,087	-,099	-,086	-,144
Test Statistic			,083	,175	,181	,099	,124	,190
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 79996689.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Tobin's Q (Price to Book) as dependent variable

One-Sample Kolmogorov-Smirnov Test

			TobinQ	Diff	Age	Size	DebtToAssets	Herf
N			576	576	576	576	576	576
Normal Parameters[a,b]	Mean		3,138390	.16409131407	34.306715340	9.3222173036	24,651246	5060.1159113
	Std. Deviation		3,2007069	.12664052504	17.316147323	1.0826742961	16,9980396	2335.4348383
Most Extreme Differences	Absolute		,215	,131	,259	,099	,111	,266
	Positive		,215	,131	,259	,099	,111	,266
	Negative		-,198	-,109	-,110	-,098	-,077	-,185
Test Statistic			,215	,131	,259	,099	,111	,266
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 1509375996.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Hypothesis 2.2: VIF Test

ROA as dependent variable

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	5.951	14.039					
Diff	13.529	20.423	0.261	0.316	0.289	0.743	1.346
Age	0.070	0.123	0.037	0.237	0.212	0.809	1.236
Size	-0.911	-0.186	-0.288	-0.102	-0.089	0.560	1.787
DebtToAssets	-0.197	-0.130	-0.330	-0.315	-0.287	0.674	1.483
Herf	0.000	0.000	0.140	0.018	0.015	0.632	1.581

VIF results are below 5 which implies the variables are independent.

Tobin's Q (Price to Book) as dependent variable

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.390	6.519					
Diff	1.003	4.709	0.238	0.126	0.103	0.836	1.196

Age	-0.001	0.026	-0.017	0.079	0.064	0.893	1.119
Size	-0.789	-0.354	-0.100	-0.211	-0.176	0.830	1.205
DebtToAssets	0.091	0.117	0.530	0.541	0.524	0.902	1.109
Herf	0.000	0.000	-0.018	0.095	0.078	0.953	1.049

VIF results are below 5 which implies the variables are independent.

Hypothesis 2.2: Analysis of variance (ANOVA)

ROA as dependent variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12636,077	5	2527,215	55,577	<.001[b]
	Residual	38196,532	840	45,472		
	Total	50832,609	845			

a. Dependent Variable: ROA

b. Predictors: (Constant), Herf, Diff, Age, DebtToAssets, Size

The analysis of variance results are significant and imply regression coefficients are not equal to zero.

Tobin's Q (Price to Book) as dependent variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1978,877	5	395,775	57,671	<.001[b]
	Residual	3911,724	570	6,863		
	Total	5890,602	575			

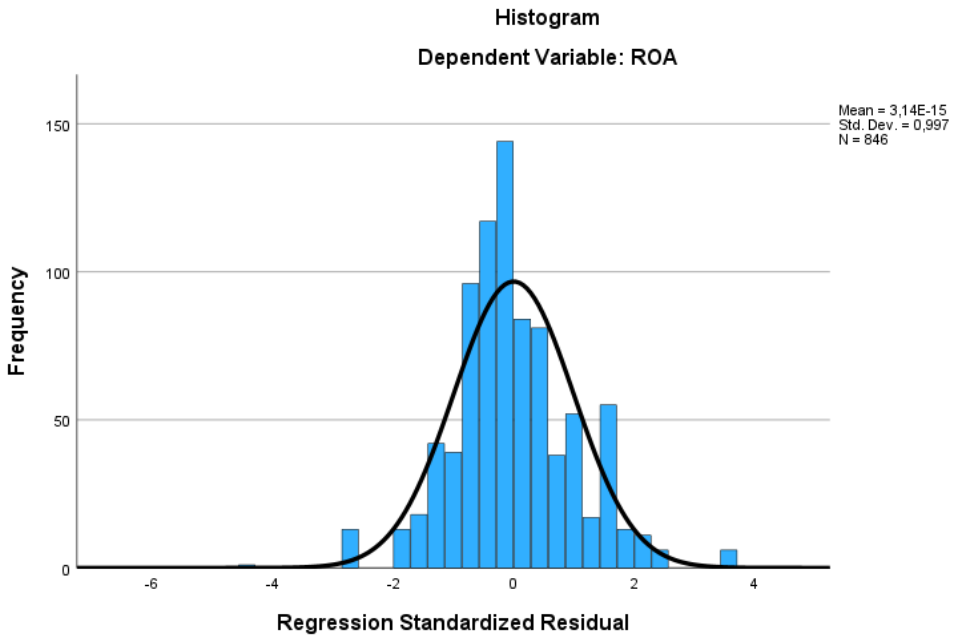
a. Dependent Variable: TobinQ

b. Predictors: (Constant), Herf, Age, DebtToAssets, Diff, Size

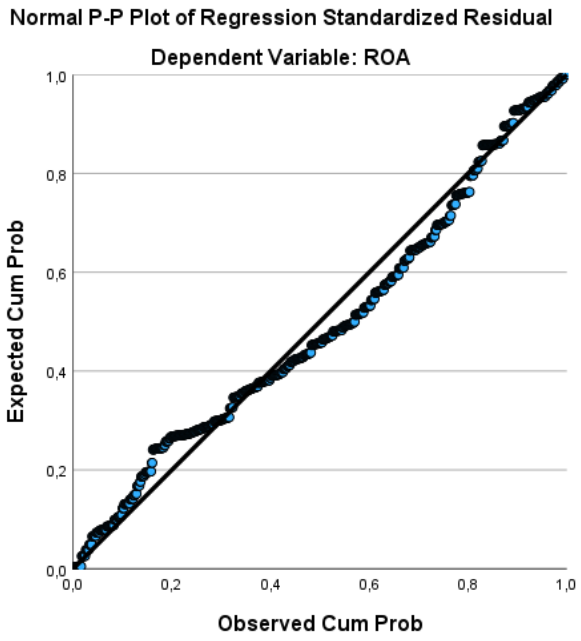
The analysis of variance results are significant and imply regression coefficients are not equal to zero.

Hypothesis 2.2: Normality Distribution test (residuals)

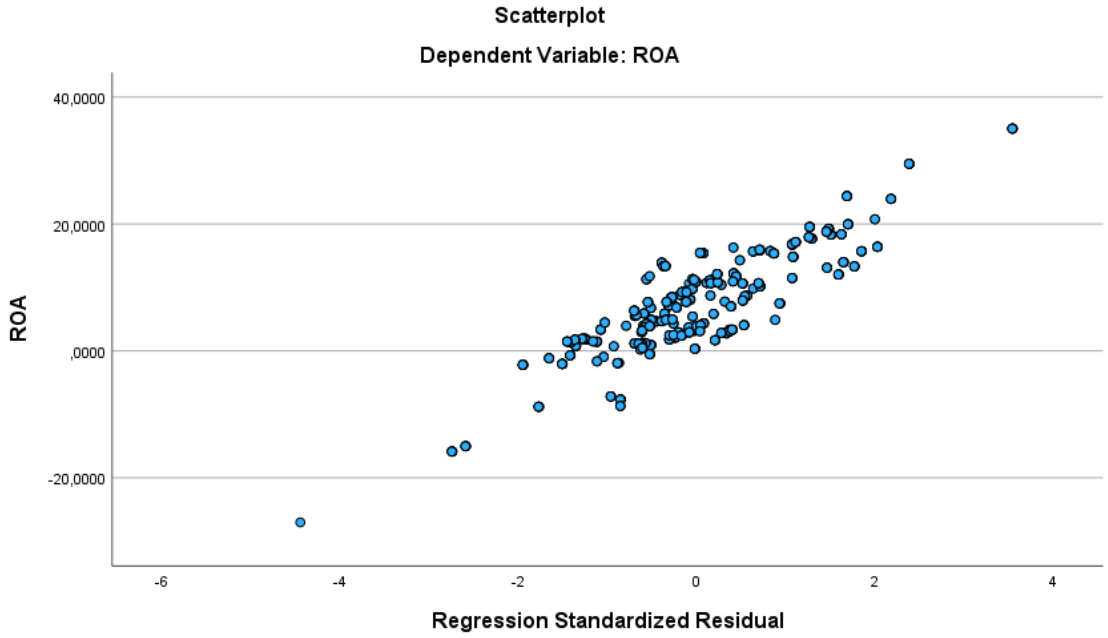
ROA as dependent variable



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.

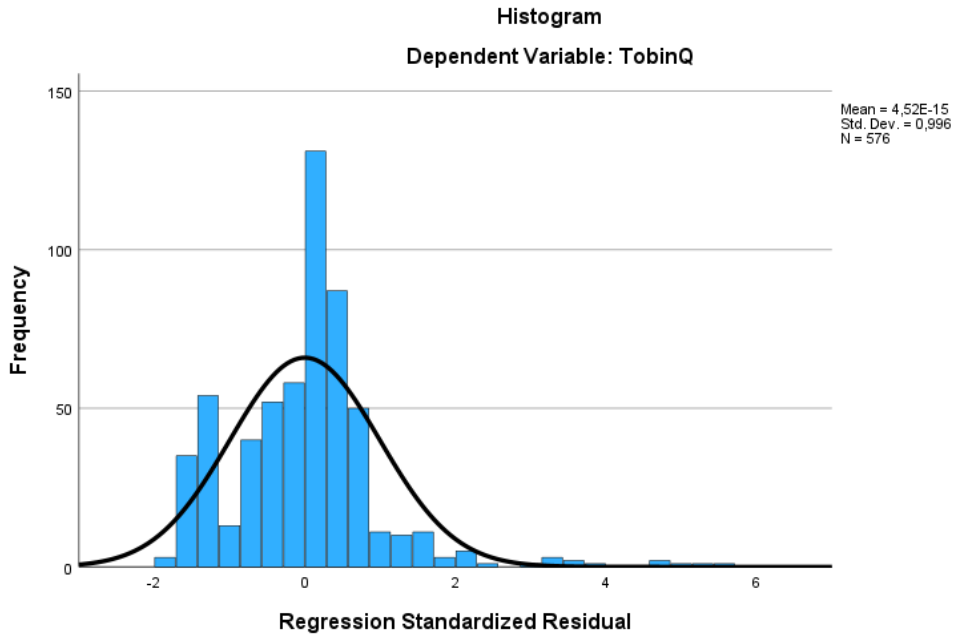


The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

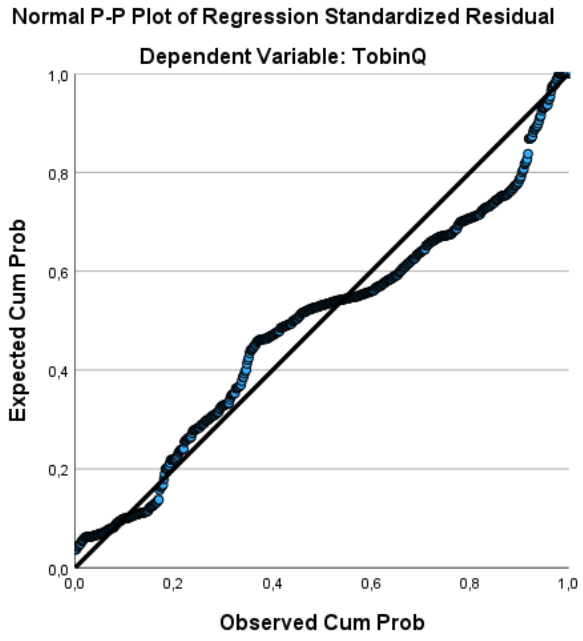


The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. All residuals are within 3 standard deviations which implies the regression model is not negatively impacted by outliers.

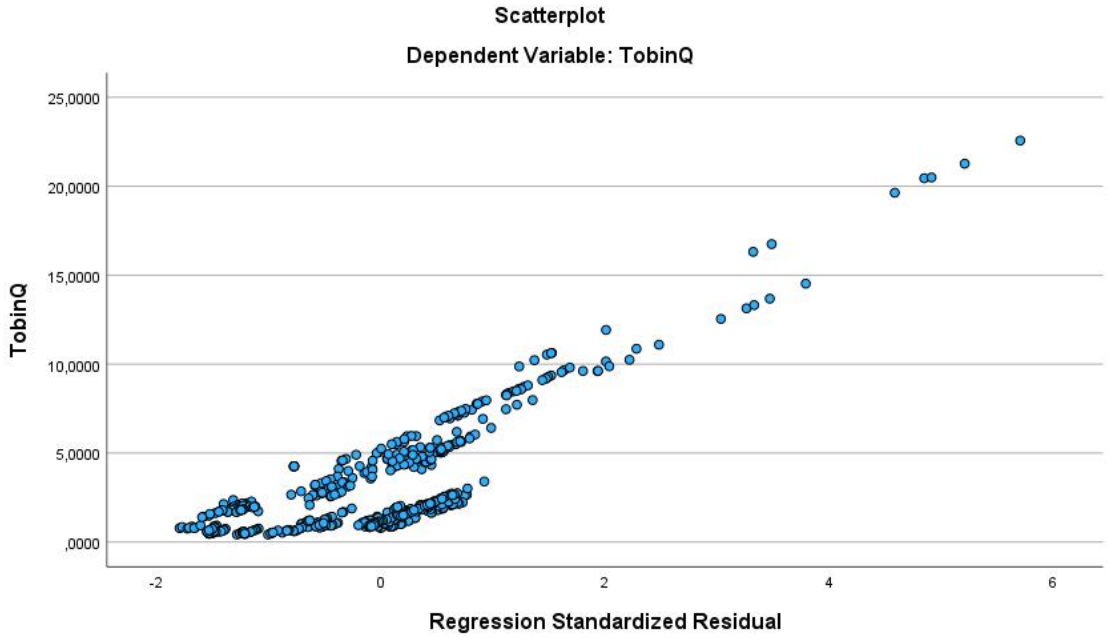
Tobin's Q (Price to Book) as dependent variable



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.



The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

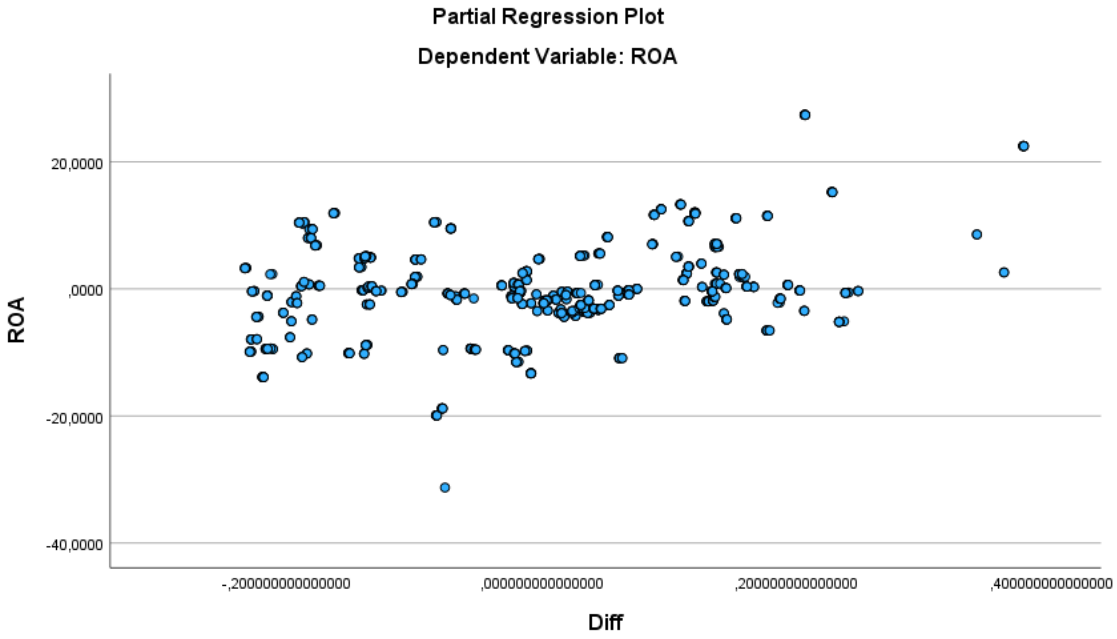


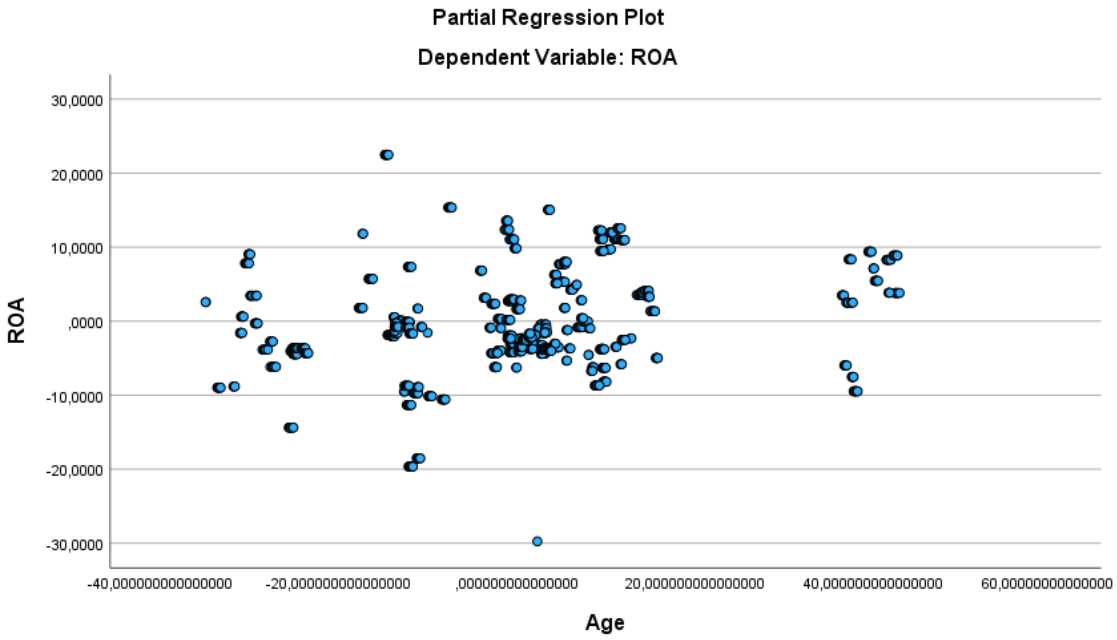
The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. All residuals are within 3 standard deviations which implies the regression model is not negatively impacted by outliers.

Hypothesis 2.2: Partial regression plots on independent and control variables

Linear relationship between dependent variables and independent and control variables is a condition of linear regression. The below graphs represent the relationship between dependent variables with one of the independent and control variables whilst the remaining variables are kept constant.

ROA as dependent variable




Partial Regression Plot
Dependent Variable: ROA
ROA
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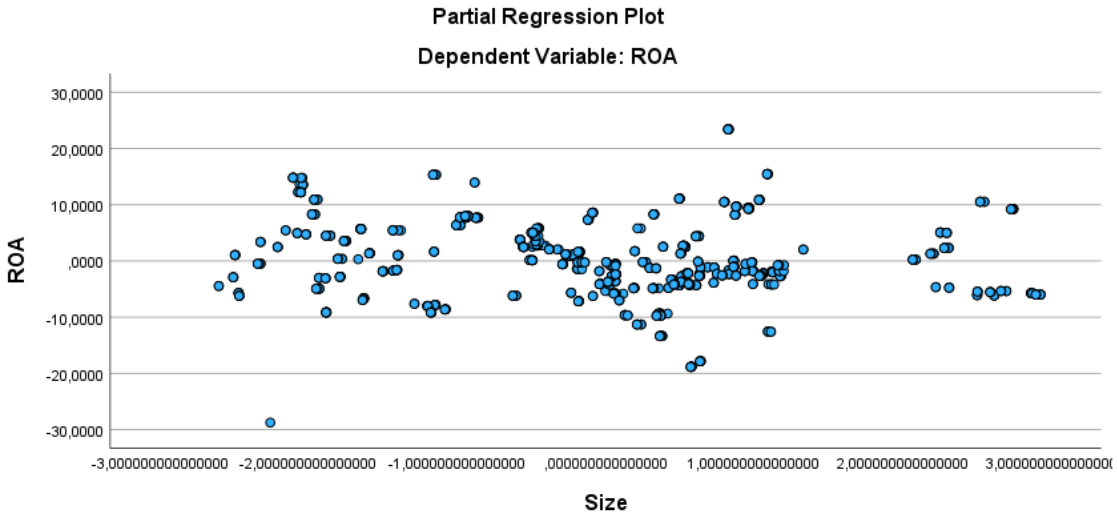
20,0000
10,0000
,0000
-10,0000
-20,0000
-30,0000
-40,000000000000000
-20,000000000000000
,000000000000000
20,000000000000000
40,000000000000000
60,000000000000000
Age


Partial Regression Plot
Dependent Variable: ROA
ROA
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20,0000
10,0000
,0000
-10,0000
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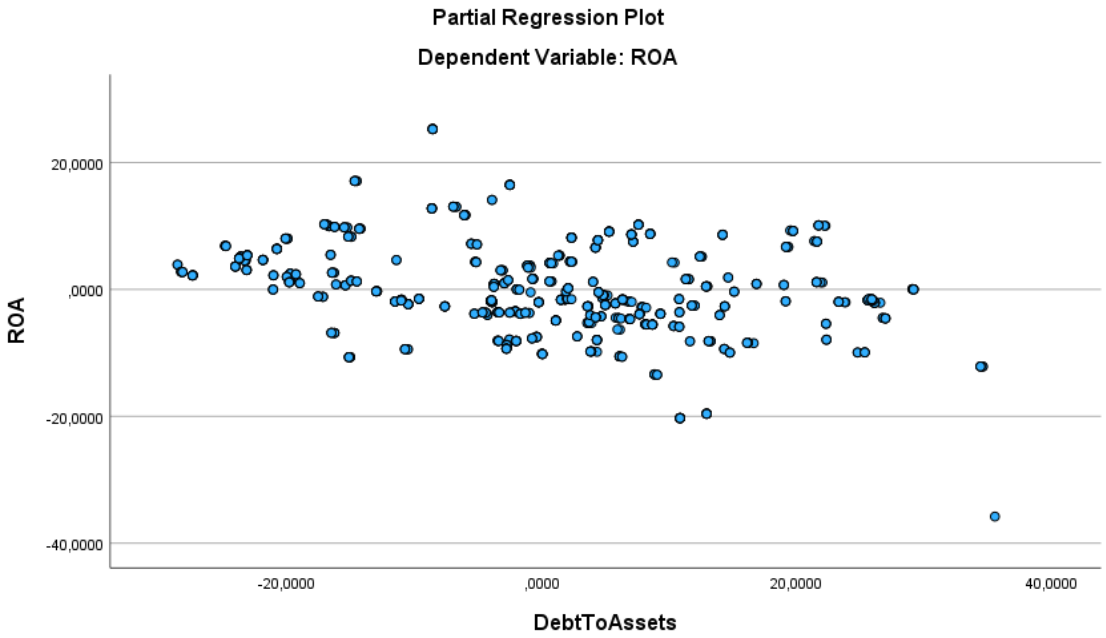
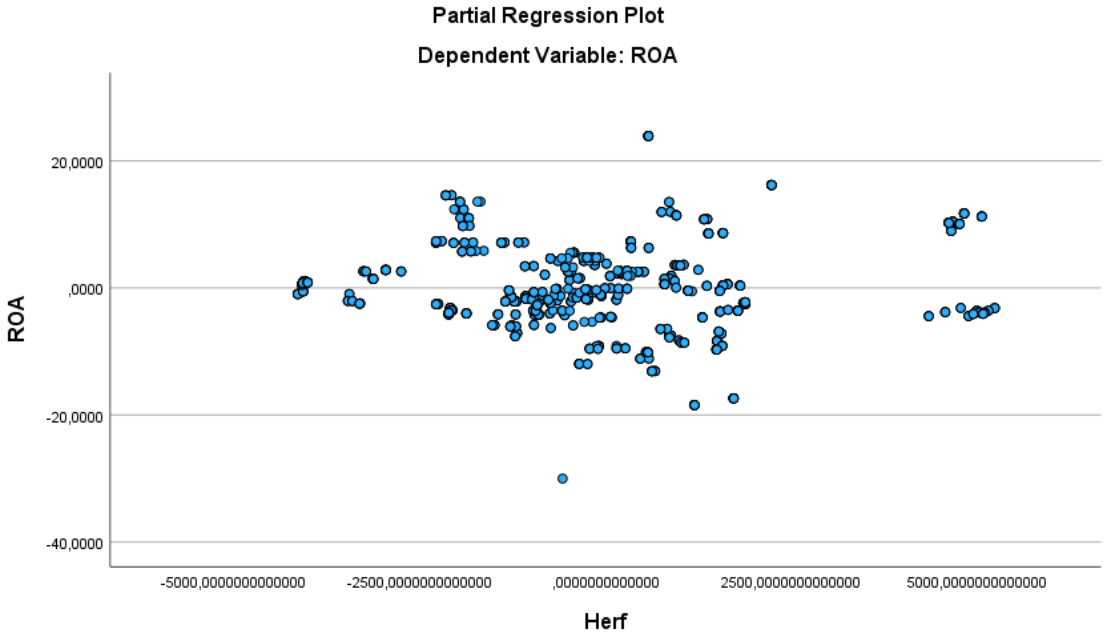
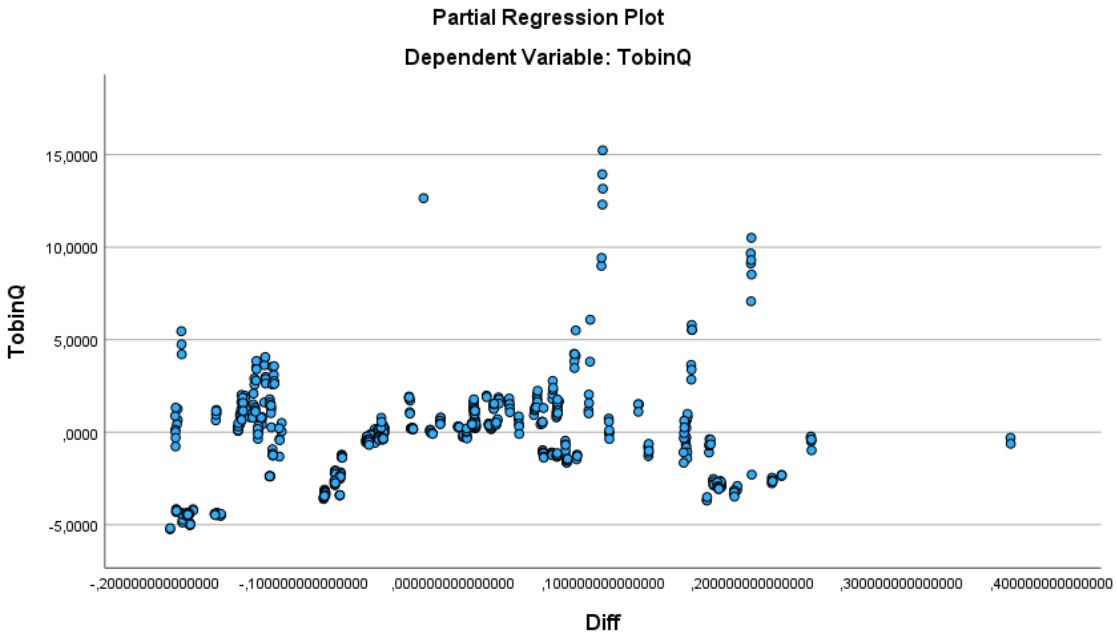
,000000000000000
1,000000000000000
2,000000000000000
3,000000000000000
Size





The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

Tobin's Q (Price to Book) as dependent variable


Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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5,0000
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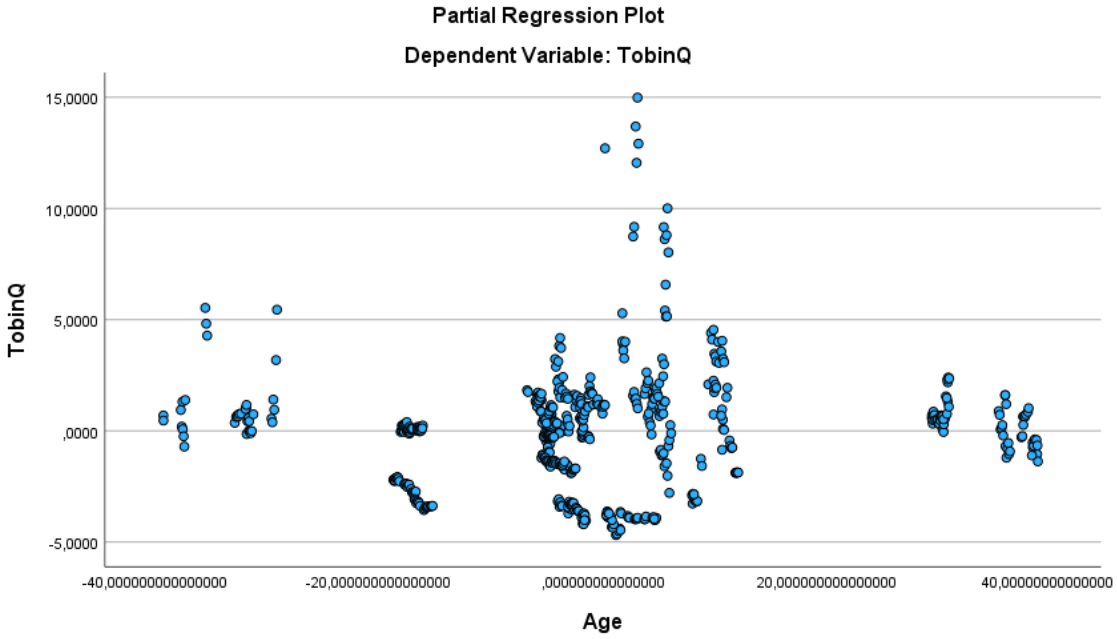
,0000000000000000
,1000000000000000
,2000000000000000
,3000000000000000
,4000000000000000
Diff


Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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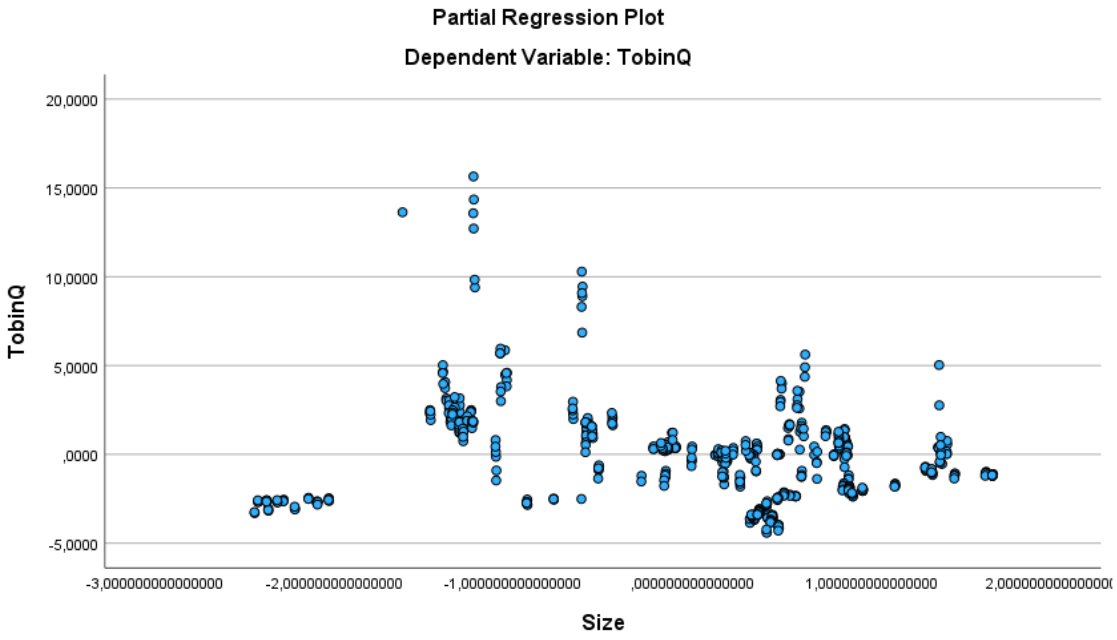
10,0000
5,0000
,0000
-5,0000
-40,0000000000000000
-20,0000000000000000
,0000000000000000
20,0000000000000000
40,0000000000000000
Age


Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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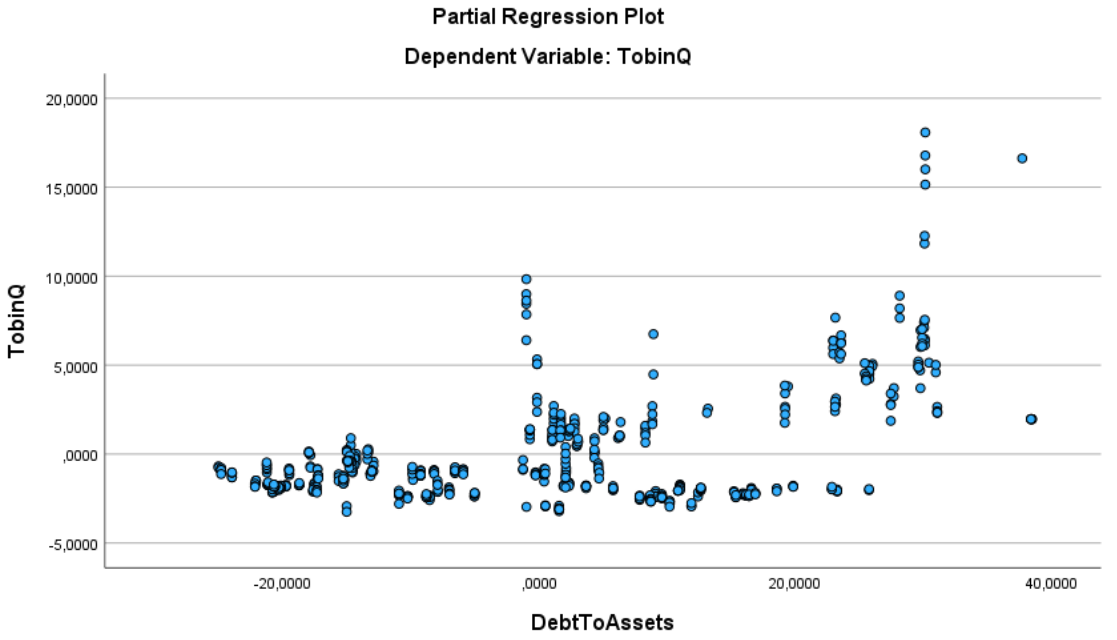
15,0000
10,0000
5,0000
,0000
-5,0000
-3,000000000000000
-2,000000000000000
-1,000000000000000
,000000000000000
1,000000000000000
2,000000000000000
Size


Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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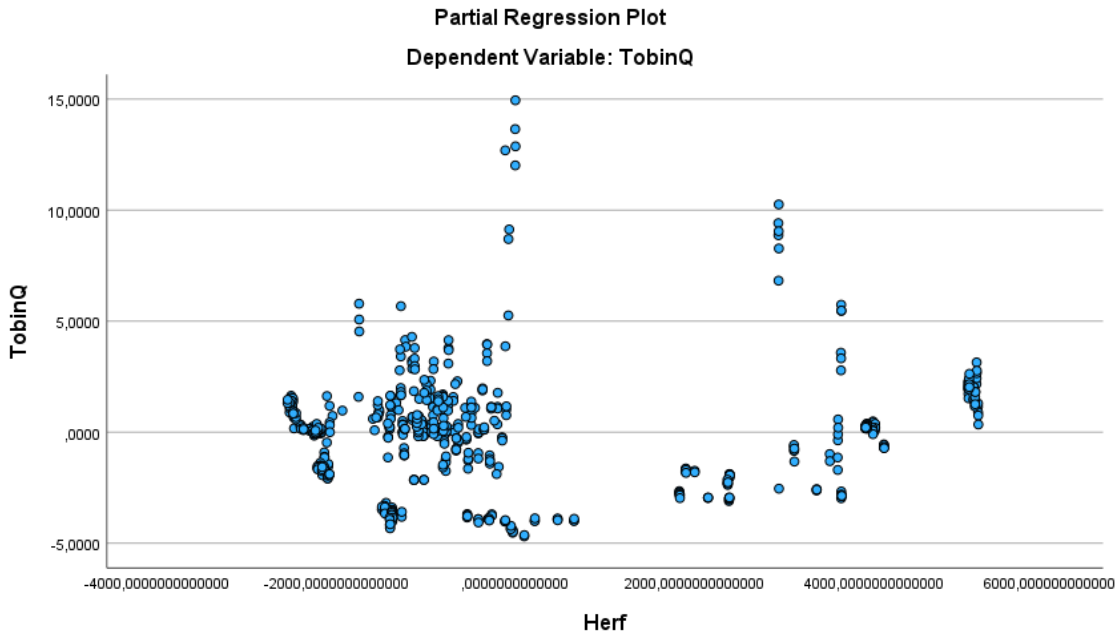
15,0000
10,0000
5,0000
,0000
-5,0000
-20,0000
,0000
20,0000
40,0000
DebtToAssets



The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

5. Hypothesis 3 test results

Hypothesis 3: Underlying Variables normal distribution tests

ROA as dependent variable

One-Sample Kolmogorov-Smirnov Test

			ESG	ROA	Age	Size	DebtToAssets	Herf
N			3132	3132	3132	3107	3132	3132
Normal Parameters[a,b]	Mean		3,9323	7,178137	23.729516601	9.0055614505	22,739012	1938.7949787
	Std. Deviation		1,31926	9,7811913	15.267178179	1.8340114498	15,9657745	1854.6379521
Most Extreme Differences	Absolute		,103	,143	,112	,077	,077	,429
	Positive		,103	,132	,112	,058	,077	,429
	Negative		-,050	-,143	-,061	-,077	-,077	-,315
Test Statistic			,103	,143	,112	,077	,077	,429
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 251863758.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Tobin's Q (Price to Book) as dependent variable

One-Sample Kolmogorov-Smirnov Test

			ESG	TobinQ	Age	Size	DebtToAssets	Herf
N			2556	2556	2556	2556	2556	2556
Normal Parameters[a,b]	Mean		3,7484	2,325653	26.851894698	9.3812564990	23,213107	2053.8632532
	Std. Deviation		1,15920	2,4920313	14.723463864	1.4495770533	16,2560290	1837.7508677
Most Extreme Differences	Absolute		,090	,216	,144	,060	,085	,398
	Positive		,090	,207	,144	,056	,085	,398
	Negative		-,049	-,216	-,039	-,060	-,077	-,304
Test Statistic			,090	,216	,144	,060	,085	,398
Asymp. Sig. (2-tailed)[c]			<.001	<.001	<.001	<.001	<.001	<.001
Monte Carlo Sig. (2-tailed)[d]	Sig.		<.001	<.001	<.001	<.001	<.001	<.001
	99% Confidence Interval	Lower Bound	,000	,000	,000	,000	,000	,000
		Upper Bound	,000	,000	,000	,000	,000	,000

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 1831435319.

The results of the Kolmogorov-Smirnov test show that the distributions for dependent, independent and control variables are likely to be normally distributed.

Hypothesis 3: VIF Test

ROA as dependent variable

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-0.319	4.152					
ESG	0.604	1.125	0.110	0.116	0.113	0.960	1.042
Age	0.002	0.048	0.020	0.038	0.037	0.893	1.119
Size	0.124	0.508	0.053	0.058	0.056	0.907	1.103
DebtToAssets	-0.130	-0.087	-0.192	-0.176	-0.173	0.975	1.025
Herf	0.000	0.001	0.095	0.088	0.086	0.964	1.037

VIF results are below 5 which implies the variables are independent.

Tobin's Q (Price to Book) as dependent variable

Model	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-0.034	1.477					

ESG	-0.351	-0.188	-0.150	-0.127	-0.124	0.980	1.020
Age	-0.010	0.003	0.005	-0.023	-0.022	0.980	1.021
Size	0.171	0.302	0.131	0.139	0.135	0.971	1.030
DebtToAssets	0.018	0.030	0.164	0.160	0.156	0.973	1.028
Herf	0.000	0.000	-0.048	-0.024	-0.023	0.989	1.011

VIF results are below 5 which implies the variables are independent.

Hypothesis 3: Analysis of variance (ANOVA)

ROA as dependent variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17523,182	5	3504,636	38,635	<.001[b]
	Residual	281294,320	3101	90,711		
	Total	298817,502	3106			

a. Dependent Variable: ROA

b. Predictors: (Constant), Herf, Age, DebtToAssets, ESG, Size

The analysis of variance results are significant and imply regression coefficients are not equal to zero.

Tobin's Q (Price to Book) as dependent variable

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1012,140	5	202,428	34,749	<.001[b]
	Residual	14854,973	2550	5,825		
	Total	15867,112	2555			

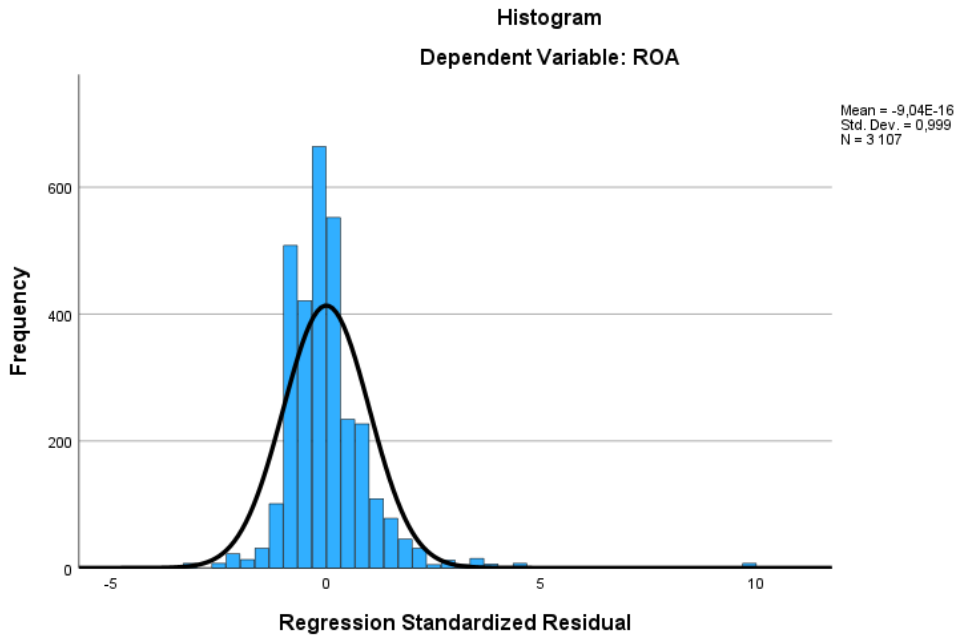
a. Dependent Variable: TobinQ

b. Predictors: (Constant), Herf, Age, ESG, DebtToAssets, Size

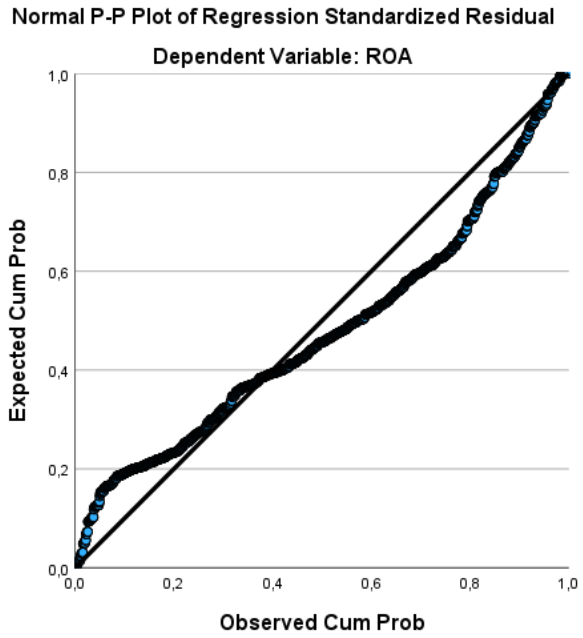
The analysis of variance results are significant and imply regression coefficients are not equal to zero.

Hypothesis 3: Normality Distribution test (residuals)

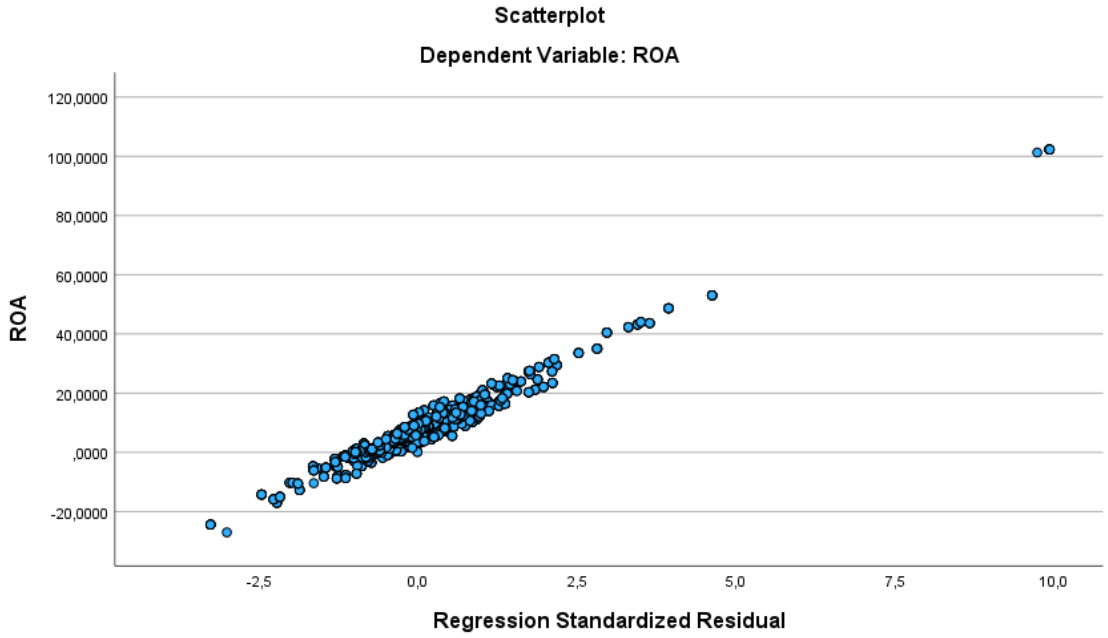
ROA as dependent variable



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.

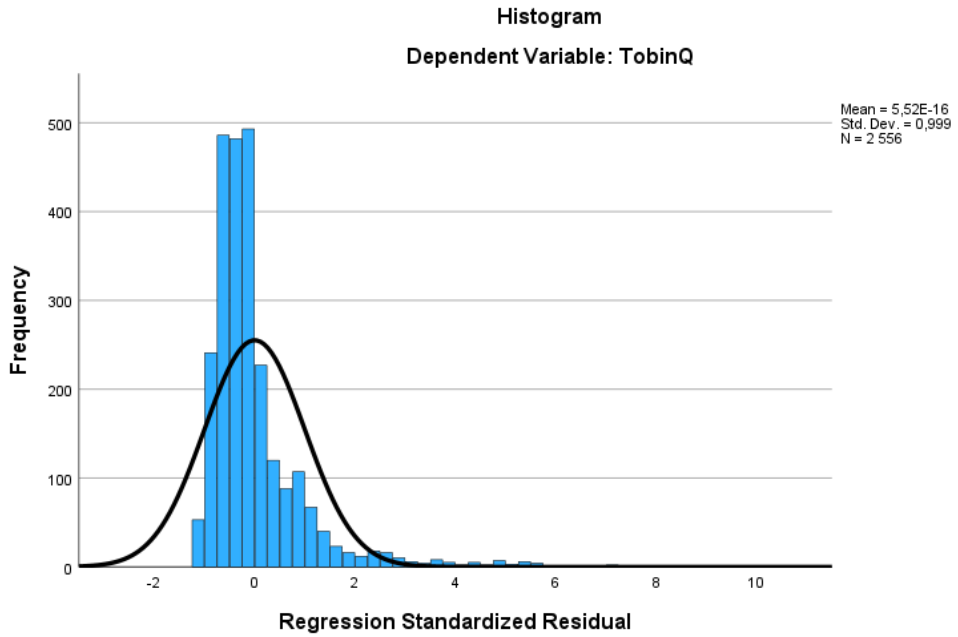


The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

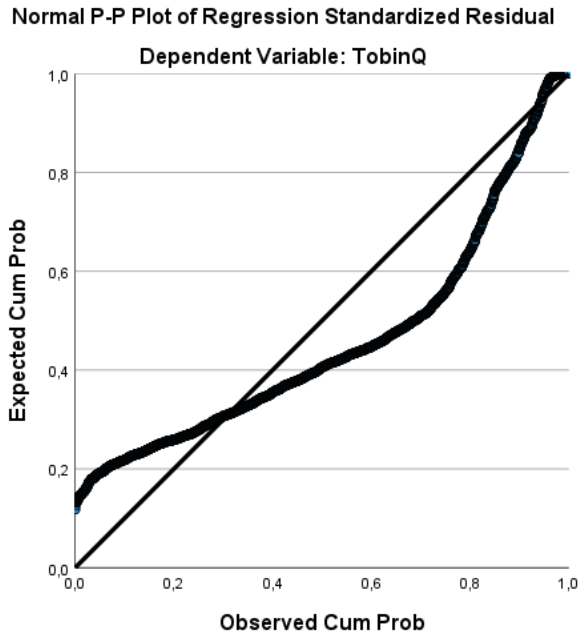


The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. All residuals are within 3 standard deviations which implies the regression model is not negatively impacted by outliers.

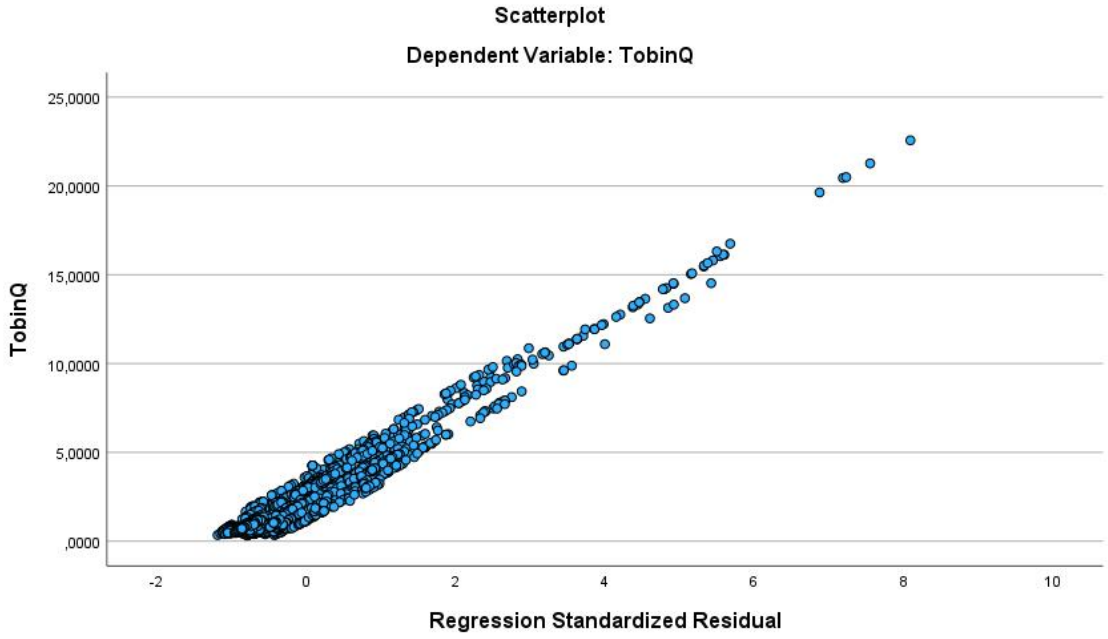
Tobin's Q (Price to Book) as dependent variable



The above histogram confirms that standardized residuals have normal distribution with approximately mean zero and variance 1. This is line with the assumptions assumed for linear regression.



The normal P-P plot shows that the residuals are approximately along the Normal distribution straight line which confirms the normality assumption.

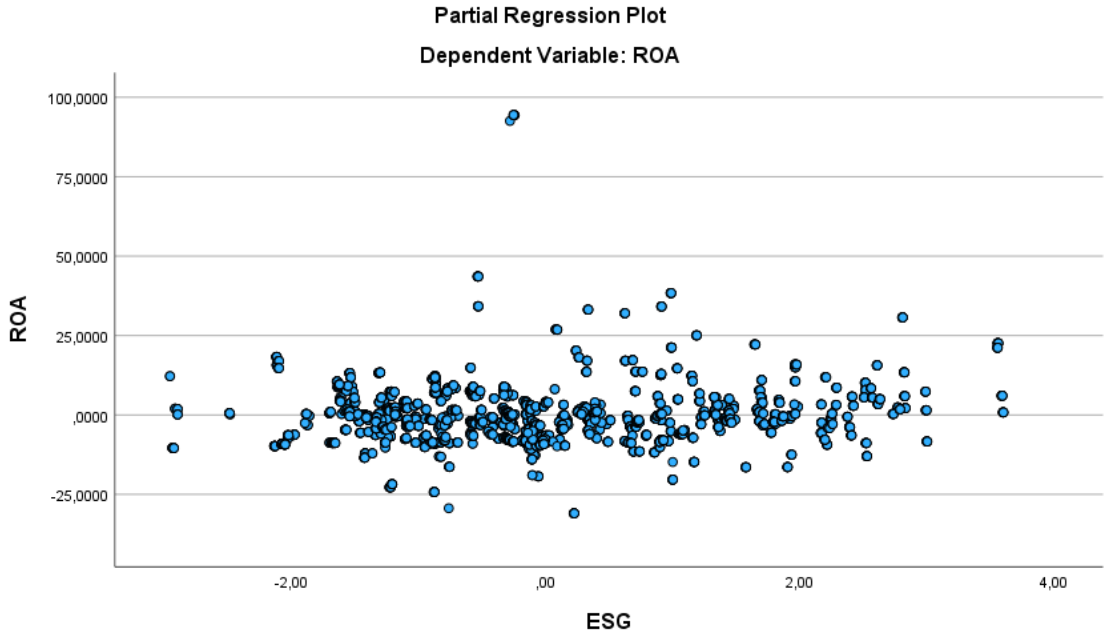


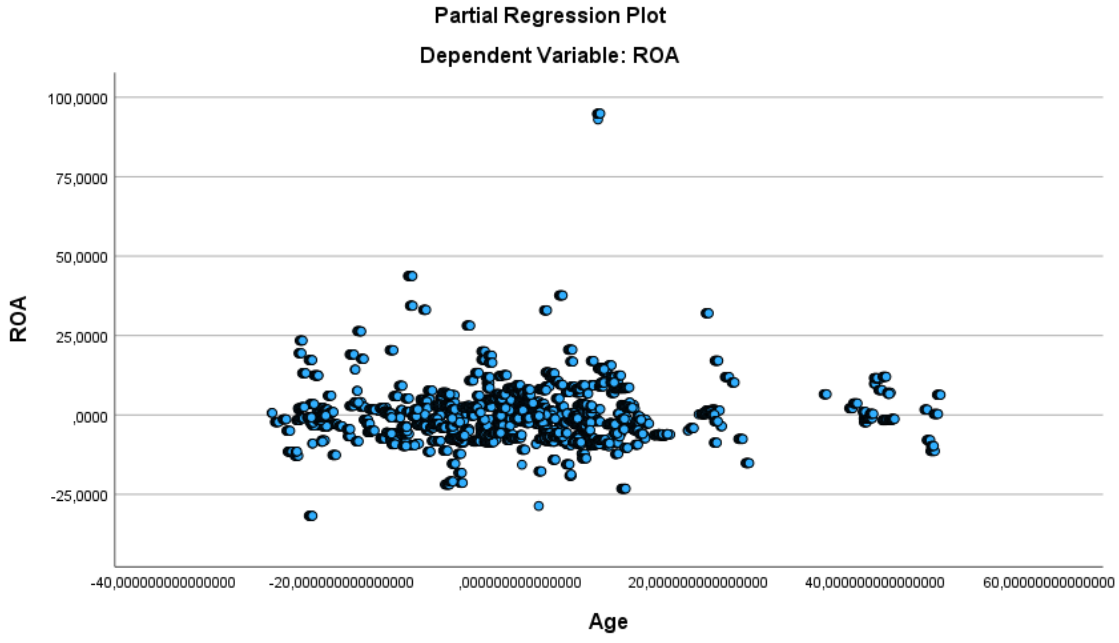
The above scatterplot assists in determining if there are outliers in the data. Outliers would be residuals that are more than 3 or 4 standard deviations from the mean. Some residuals are not within 3 or standard deviations which implies the regression model may be negatively impacted by outliers.

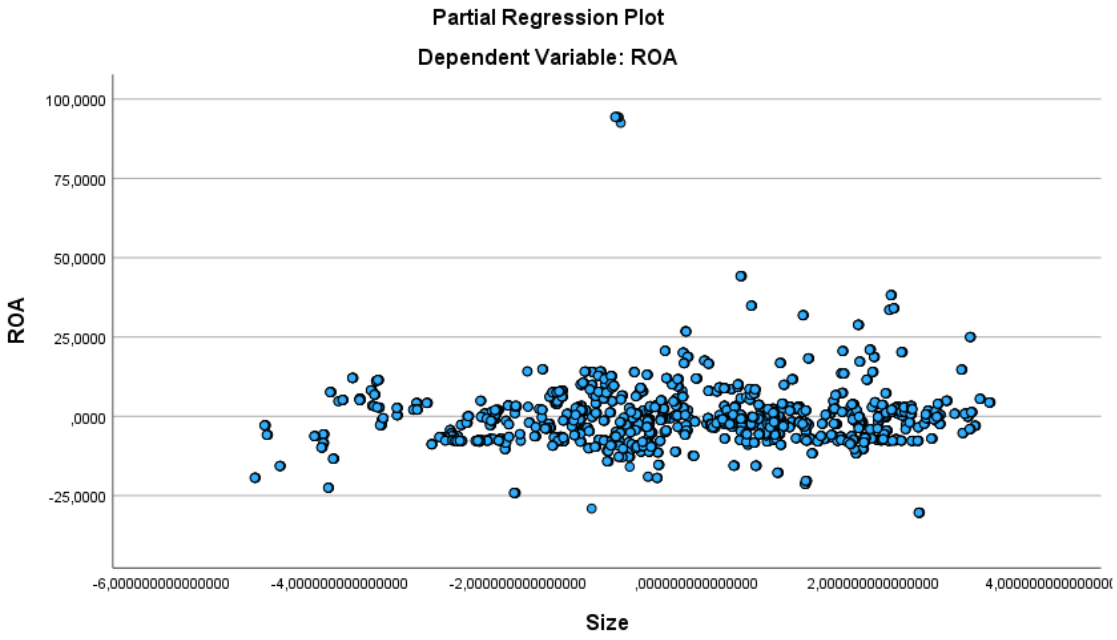
Hypothesis 3: Partial regression of independent and control variables

Linear relationship between dependent variables and independent and control variables is a condition of linear regression. The below graphs represent the relationship between dependent variables with one of the independent and control variables whilst the remaining variables are kept constant.

ROA as dependent variable






Partial Regression Plot
Dependent Variable: ROA
ROA
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50,0000
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-25,0000
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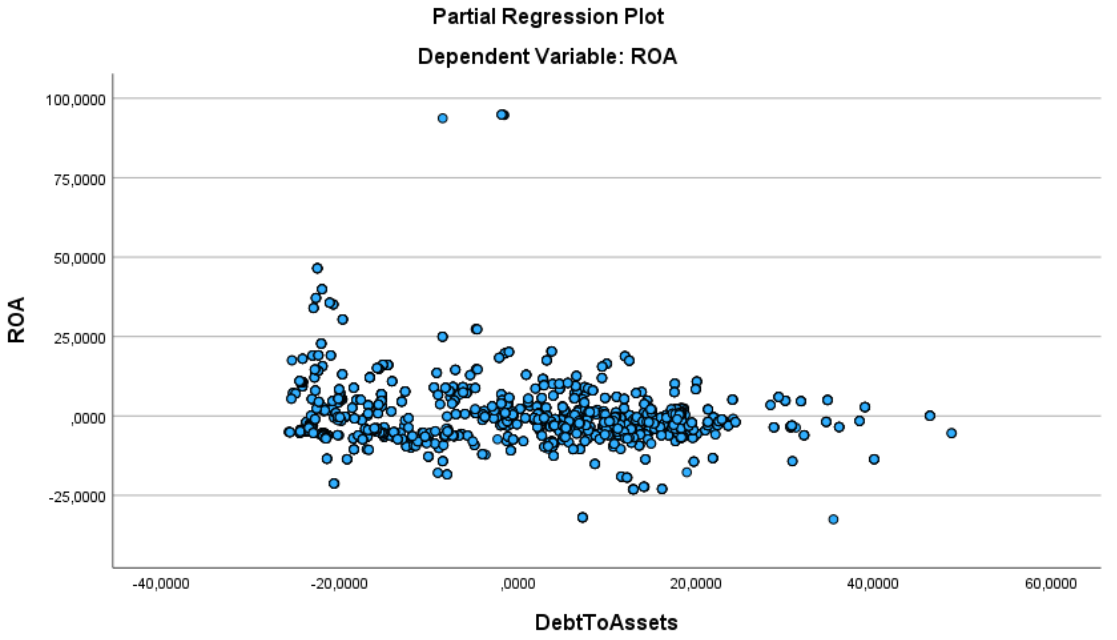
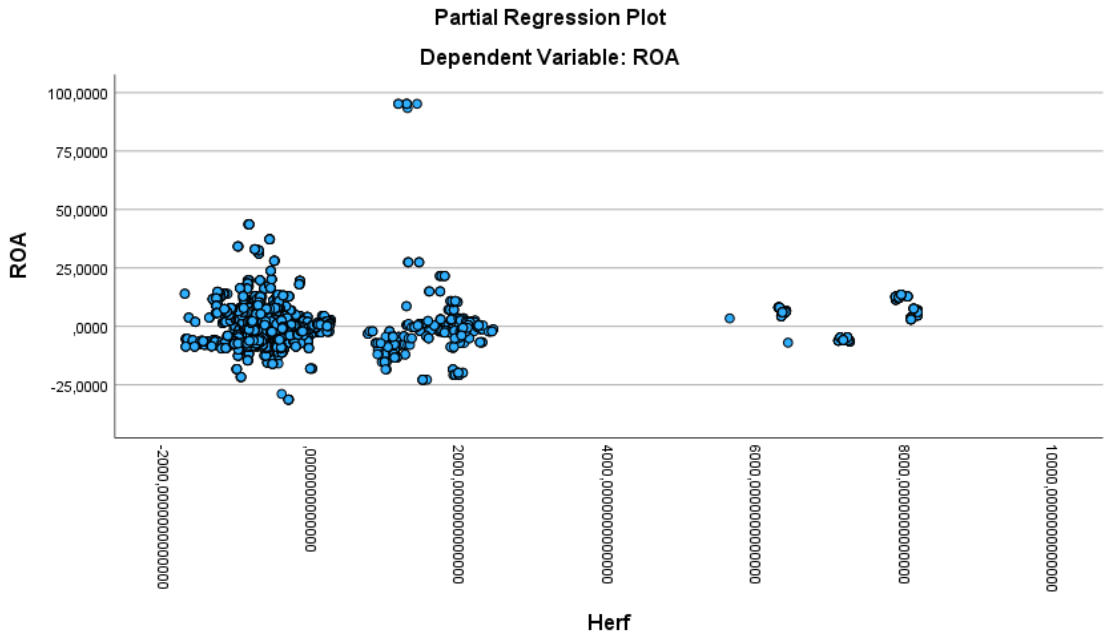
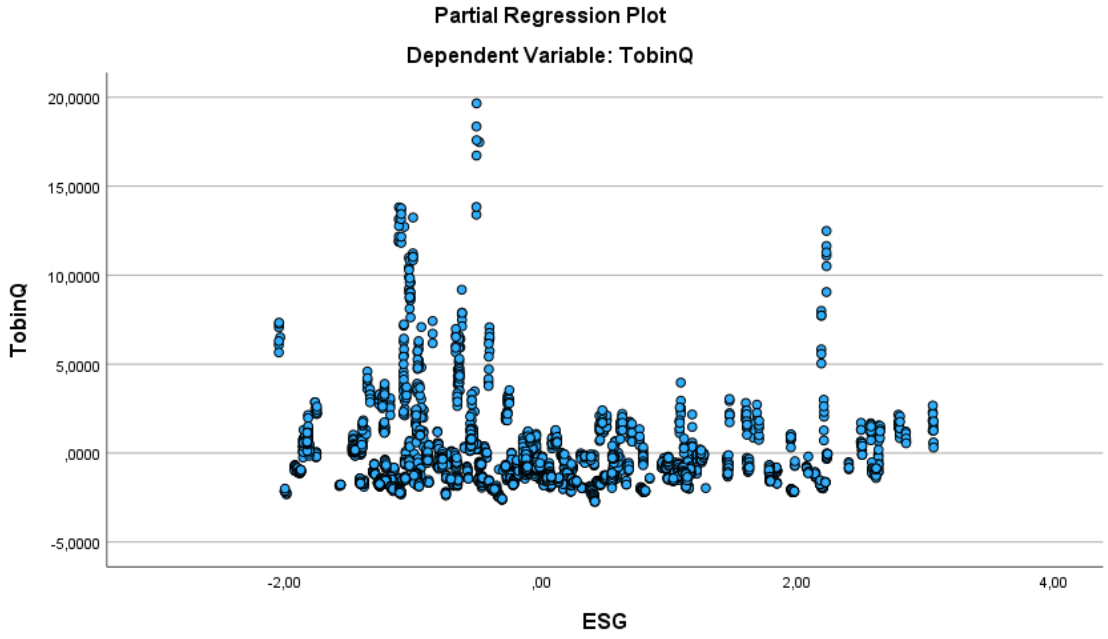
Size

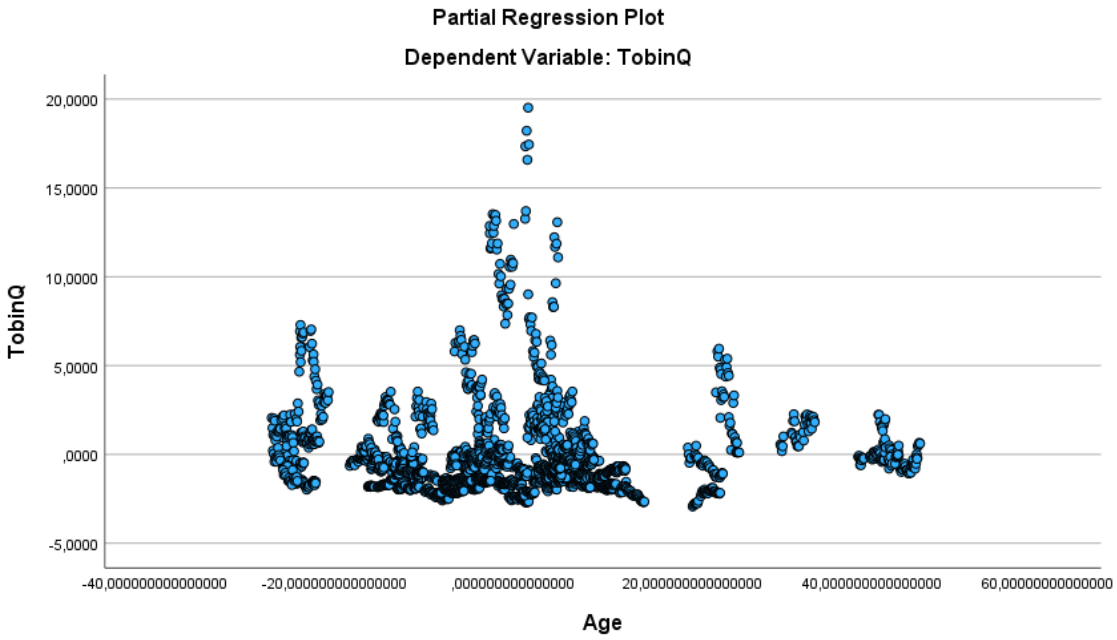

Partial Regression Plot
Dependent Variable: ROA
ROA
100,0000
75,0000
50,0000
25,0000
,0000
-25,0000
-40,0000
-20,0000
,0000
20,0000
40,0000
60,0000
DebtToAssets



The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.

Tobin's Q (Price to Book) as dependent variable




Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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15,0000
10,0000
5,0000
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-5,0000
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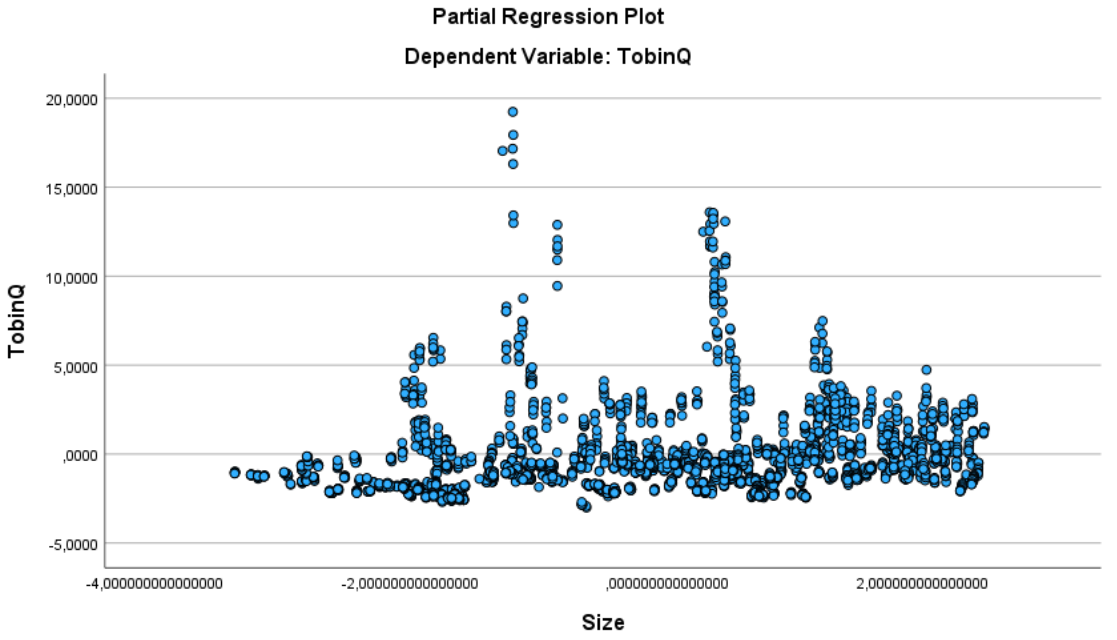
-20,000000000000000
,000000000000000
20,000000000000000
40,000000000000000
60,000000000000000
Age


Partial Regression Plot
Dependent Variable: TobinQ
TobinQ
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10,0000
5,0000
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-5,0000
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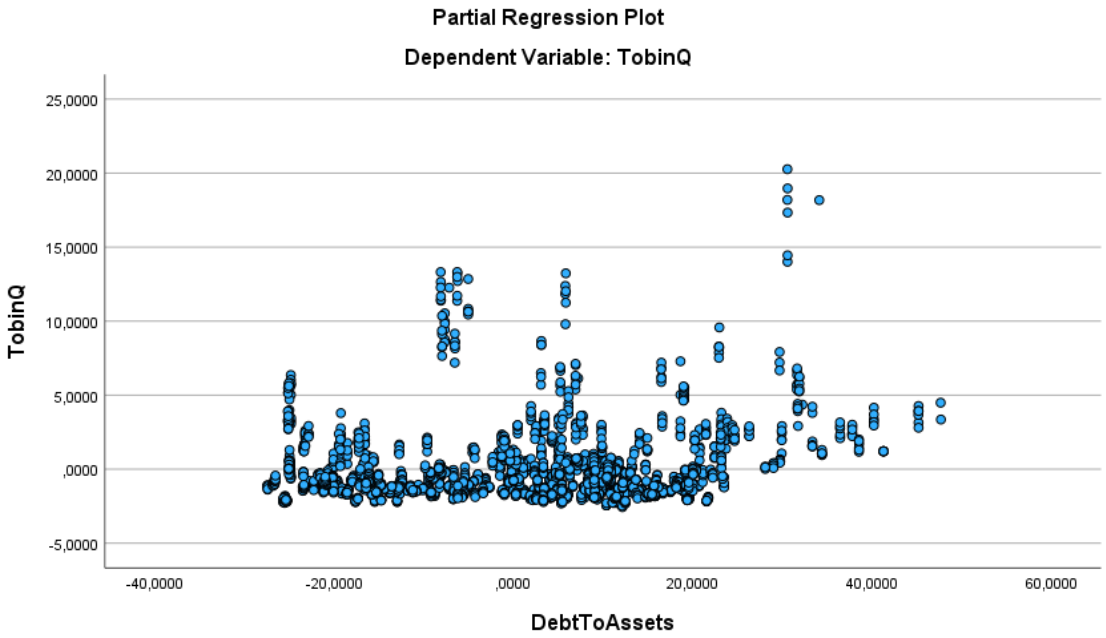
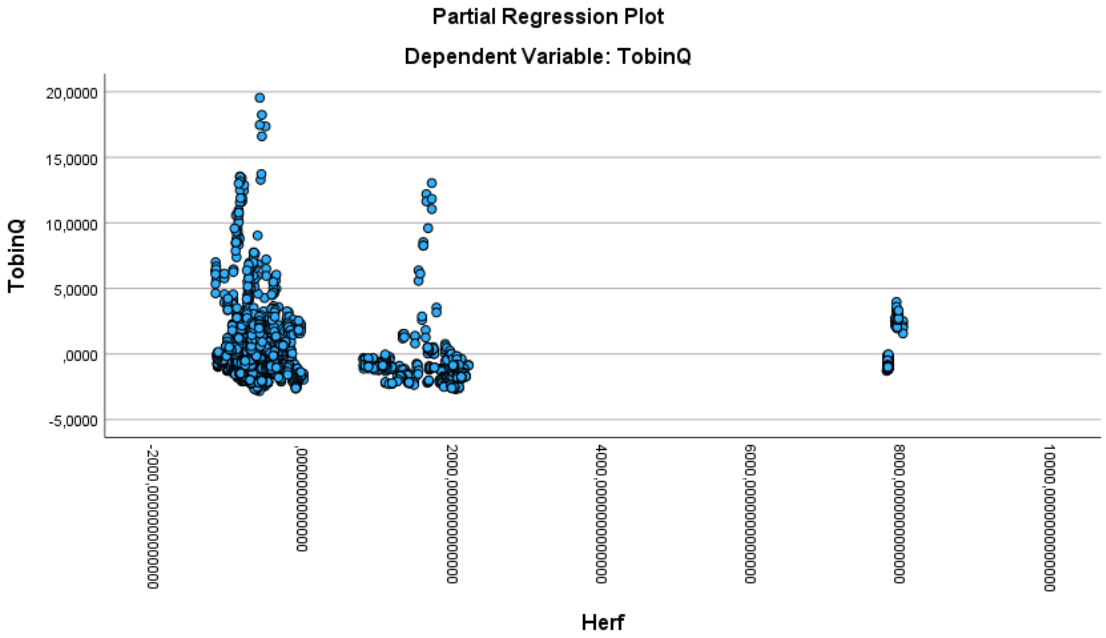
-2,000000000000000
,000000000000000
2,000000000000000
Size





The partial regression plots show that the independent control variables have an approximate linear relationship with the dependent variable which is one of the underlying assumptions of linear regression.