

# Harnessing Green Marketing for SME Prosperity in Gauteng's Manufacturing Landscape

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## Keywords

Green packaging  
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Business performance

## Abstract

This study examined the impact of green marketing practices on the competitive advantage and business performance of small and medium-sized enterprises (SMEs) in the manufacturing sector of South Africa. The research utilized a quantitative approach, focusing on managers and Heads of Marketing Departments in manufacturing SMEs. Data analysis was carried out using SPSS v29 for demographic analysis and AMOS 29 for structural equation modeling and path modeling. The findings revealed that green packaging, green advertising, and green product innovation were found to positively impact competitive advantage. Moreover, green packaging, green advertising, competitive advantage, green product innovation, and green process innovation were positively correlated with business performance. Interestingly, green process innovation was found to have a negative effect on competitive advantage. This study contributes to the existing knowledge in the areas of green marketing, competitive advantage, and SME business performance. The findings are particularly relevant for manufacturing SME managers seeking to achieve a competitive advantage and improve profitability and business sustainability.

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## 1. Introduction

Small and medium-sized enterprises (SMEs) are crucial for economic, environmental, and social-cultural sustainability in the business ecosystem, leading to a growing interest in research focused on their growth (Hajipour et al., 2024). SMEs are the fastest-growing segment in most economies, driving continuous research efforts (Ogundare et al., 2024). According to the OECD (2022), South Africa (SA) had an estimated 2.6 million SMEs in 2022, up from 2.2 million in 2018. These SMEs contribute 34-40% to the nation's GDP and employ about 87% of the workforce (OECD, 2022; Ogundare et al., 2024). A study by FinMark (2020) revealed that 42% of businesses in South Africa are formal SMEs, while 58% operate informally. Ogujiuba et al. (2023) emphasized the role of SMEs in economic development, being the primary source of employment and output growth in both developing and developed economies. Specifically, Pertheban (2023) highlighted the significant contribution of SMEs in the manufacturing sector to economic growth, particularly in job creation.

Despite the apparent significance of SMEs and the numerous policy initiatives introduced by governments in developing economies over the past decade to accelerate the growth and survival of SMEs, their performance has been disappointing (Maziriri, & Chivandi, 2020). Ebitu et al. (2015) argue that small businesses face many challenges. Makwara (2022) highlights that SMEs in the manufacturing sector in SA struggle to compete with large established businesses. Omar and Anas (2014) agree that intense competition among SMEs, competition from large firms, and seasonal demand are serious problems often experienced by SMEs. Cant and Wiid (2013) also emphasize that competition is a marketing factor that negatively impacts SMEs.

On the other hand, the Gauteng provincial government in South Africa aims to support and grow small and medium-sized enterprises (SMEs) in the manufacturing sector by forming partnerships with successful SME initiatives through governmental and non-governmental agencies and local municipalities within the province, such as the Small Enterprise Development Agency (SEDA) (2023). These partnership efforts are designed to facilitate the sharing of essential knowledge, capabilities, capital, and critical mass to foster the growth of innovative businesses and enhance the quality and diversity of products (Dwikat et al., 2023). Despite the government's efforts to assist in developing the SME sector, many manufacturing SMEs in the Gauteng province struggle to become successful and sustainable businesses (Mthabela, 2015). Ramsern et al. (2023) conducted a study on the use of marketing strategies by SMEs, revealing a lack of marketing knowledge and expertise, as well as limited utilization of marketing strategies by the owners/managers of these SMEs.

Small and medium-sized enterprises (SMEs) operate in a competitive environment, both locally and globally. Effective marketing practices are essential for SMEs to gain a competitive edge over their rivals and enhance business performance (Ebitu, 2016). To thrive in a highly competitive global market, managers of manufacturing SMEs should adopt green marketing practices to stay ahead of the

competition and improve business performance (Osuga, 2016). Kimani (2015) argues that green marketing practices have a significant impact on performance, including innovativeness, effectiveness, and competitive advantage.

The available literature on green marketing practices, competitive advantage, and business performance of SMEs has several deficiencies. Most international studies, such as those conducted in Peru, Mexico, and the US, have primarily focused on crisis management and strategic orientation in SMEs (Parnell, 2015). Other studies have explored topics like entrepreneurial orientation and SME performance in China's evolving business landscape (Tang & Tang, 2012), innovation and competitive advantage in food manufacturing SMEs in Malaysia with the moderating effects of firm age (Aziz & Samad, 2016), SME performance in Nigeria (Aminu & Shariff, 2015), intellectual capital as a competitive advantage in Latin America (Jardon & Martos, 2012), E-business, organizational innovation, and firm performance in manufacturing SMEs in Spain (Soto-Acosta et al., 2016), and the impact of intangible resources and competitive strategies on the export performance of industries in Turkey (Kumlu, 2014). It is important to note that while these studies cover various regions like Europe, Asia, and West Africa, there is a lack of evidence from southern African countries, particularly South Africa, located at the southernmost tip of the African continent.

Despite the theoretical contributions of international scholars on green marketing practices, competitive advantage, and business performance, there is a lack of research studies in the South African context that explore the impact of green marketing practices on competitive advantage and how competitive advantage affects the business performance of manufacturing SMEs in South Africa. Previous research in South Africa has focused on various aspects of SMEs, such as the reasons for SMEs adopting green practices (Hamann et al., 2017), the effectiveness of E-commerce among SMEs in Polokwane, South Africa (Molapo, 2014), barriers to supply chain management implementation, and their impact on the business performance of SMEs in South Africa (Dubihlela & Omoruyi, 2014).

There are deficiencies in the existing literature regarding the impact of green marketing practices on competitive advantage and business performance of manufacturing SMEs in developing countries in Africa. This paper aims to address this gap by providing empirical evidence and filling theoretical deficiencies in the literature. It is worth noting that there is limited research on green marketing practices as predictors of competitive advantage among SMEs, with most studies focusing on larger firms. Chong (2008) and Harif et al. (2013) have highlighted this imbalance, emphasizing the need for more studies on how SMEs measure their performance. Kumar (2015) also points out that while there is a significant body of research on green marketing practices in companies, the understanding of factors influencing green marketing decisions in small firms remains underdeveloped.

Based on the research problem outlined above and the identified research gap, this study aims to investigate the influence of green marketing practices on competitive advantage and examine the

relationship between competitive advantage and business performance in small and medium-sized enterprises (SMEs) in the manufacturing sector of South Africa.

### **Theoretical Stance**

For the purpose of developing the framework that supports a research study's theory, a theoretical foundation is offered. The theoretical underpinnings of this work are provided in the discussion that follows.

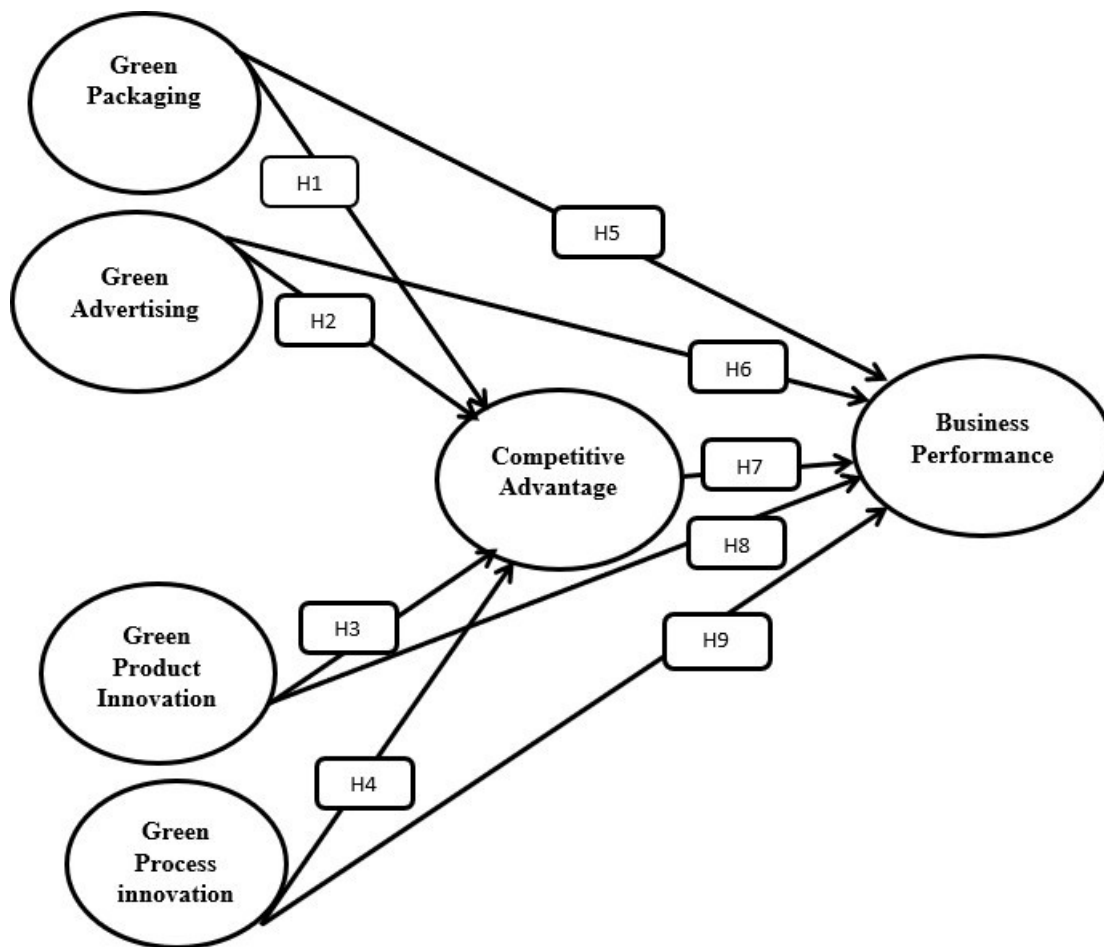
### **Natural resource-based view theory (NRBV)**

The theory being considered in evaluating the impact of green marketing practices on the competitive advantage and business performance of small and medium-sized enterprises (SMEs) in South Africa's manufacturing sector is the Natural Resource-Based View (NRBV) theory. This theory, introduced by Hart (1995) and further developed by Emlyon et al. (2021), focuses on the firm's interaction with the natural environment and consists of three interconnected strategies: pollution prevention, product stewardship, and sustainable development. The theory argues that these strategies are essential for achieving sustainable competitive advantage and firm performance. It also highlights the need to adapt existing theories to align with environmental concerns, as proposed by Hoffmann & Georg (2012) and emphasized in Emlyon's research. The NRBV theory explores how firms can strategically integrate their green marketing initiatives into their manufacturing operations to promote sustainable development. It examines whether a firm's resources and capabilities contribute to superior performance, with a specific emphasis on tangible and intangible assets that support pollution prevention, product stewardship, and sustainable development. In the context of this study, the theory suggests that SMEs should leverage their resources and capabilities to implement green marketing practices, thereby fostering prosperity in South Africa's manufacturing sector.

### **Conceptual model and hypothesis formulation**

Based on a synthesis of the converging literature related to the research variables, a conceptual model was proposed to guide the empirical study, as shown in Figure 1.

**Figure 1: Conceptual model**



### **Green packaging and competitive advantage**

Obiso et al (2023) conducted a study which aimed at determining the effect of green distribution practices on the competitiveness of food manufacturing firms in Kenya. Their findings revealed that green packaging as one of the green distribution practices that positively and significantly influences the competitiveness of Kenya’s food manufacturing firms. Additionally, Majeed et al (2022) also discovered ecological or green packaging as one of the practices of ecological marketing which creates scope for attaining competitive advantage over other competitors. Anderson and Rowley (2017) conducted a study entitled “The mediating role of competitive advantage between green packaging and the retention of consumers: empirical evidence from SMEs in Port of Spain, Trinidad and Tobago”. The empirical results of their study reviewed that green packaging has a positive and a significant impact on competitive advantage. In addition of the empirical results, Anderson and Rowley (2017) emphasized that small business enterprises that are embracing sustainability fully and promoting their capability to produce green packages for their products will gain competitive advantage since green packaging will create even further differentiation from larger or more

traditional competitors. Deducing from the foregoing discussion, this study therefore, proposes the following hypothesis:

*H1: Green packaging has a positive impact on competitive advantage.*

### **Green advertising and competitive advantage**

It is essential to clarify the nexus between green advertising and competitive advantage. In today's post-modern era, apart from adopting and adapting the "green strategies", firms rationally inculcate sound and credible environmental claims into advertising messages and communication, in order to differentiate from competitors and to possibly gain a competitive advantage (Ina, 2020). Kao and Du (2020) as well as Maziriri (2020) elucidate that "green advertising can be used as an effective tool in an organization's overall environmental marketing strategy and this, ultimately, translates into a competitive advantage". However, to achieve green advertising benefits, organisations must win over the trust of both consumers and stakeholders (Kao and Du, 2020). In addition, Jarin (2014) conducted a study which aimed at investigating ecological marketing practices for creating competitive advantage. Jarin (2014) revealed that eco-advertising or green advertising as an ecological marketing practice creates scope for attaining competitive advantage within an organisation. Furthermore, Reddy et al (2023) point out that "green advertising should be regarded as an indispensable part of the firm's overall environmental marketing strategy that can help it gain sustainable competitive advantage".

*H2: Green advertising has a positive impact on competitive advantage.*

### **Green product innovation and competitive advantage**

It is essential to note the important impact that green product innovation has on competitive advantage. Bombiak (2023) conducted a study which focused on the positive effect of green intellectual capital on competitive advantages of firms. The results of their study revealed that green product innovations are positively associated with competitive advantage of firms. Arsalan et al (2020) investigated the effect of greening the supplier and innovation on environmental performance and competitive advantage. The research found that green product innovation had a significant relation to environmental performance and competitive advantage. Thus, green product innovation creates a competitive advantage for a company and simultaneously addresses environmental aspects. Sen, Bohidar, Shrivastava, Sharma and Modi (2015) elucidate that engaging in green product innovation actively has positive influence upon corporate competitive capability. Firms which use environmental applications to differentiate their products from others gain a competitive capability, according to Reinhardt (1998) and Bombiak (2023) found that green product innovations are positively associated with competitive advantage of firms. Therefore, inferring from the literature and the empirical evidence above, it is hypothesised that:

*H3: Green product innovation has a positive impact on competitive advantage*

## **Green process innovation and competitive advantage**

Prior studies have found that process innovations contribute to a firm's competitive advantages (Myllyla et al., 2019). Innovative processes which are green confer cost advantage on a firm over its competitors (Somarathna, 2020). Arenhardt, Battistella, and Grohmann (2016) found out that the level of adoption of innovative green practices among the participating companies is high and that the relationship between green processes and the achievement of competitive advantage is significant. Arenhardt, Battistella, and Grohmann (2016) found that green process innovation positively affects the search for competitive advantage of companies in the electrical and electronic sectors in Brazil, in a moderate way. It was also found that green process innovations are more significant to achieve competitive advantage than the innovations of green products (Arenhardt, Battistella, & Grohmann, 2016). Küçükoğlu and Pinar (2015) also conducted a study that aimed at determining the positive influences of green innovation on company performance. Results of this study state that green process innovation had a significant effect on a company's competitive advantage. Thus, drawing from the above-mentioned discussion, it is therefore hypothesised that:

*H4: Green process innovation has a positive impact on competitive advantage*

## **Green packaging and business performance**

Green packaging can assist firms in the optimisation of the resources, material and waste to achieve the triple bottom line (economic, social and environmental) of the firm's sustainability objectives. Thus, manufacturing firms need to consider giving due diligence to the eco- efficiency practices as a means to increase the adoption of sustainable packaging in order to achieve higher performance (Zailani, et. al. 2015). Rao and Bhargav (2016) conducted a study on green packaging with special reference to Dell Inc. The authors found out that companies that have adopted green packaging saw a drop in their shipment damage from 12% to 1% which increases customer satisfaction and shipping savings (Rao & Bhargav 2016). In the same accord, Boz et al (2020) point out that "focusing on sustainable packaging not only helps the environment but also can improve consumer perceptions and lead to increased sales". This clearly shows an improvement in business performance for those firms which incorporate the use of green packaging. It can be hypothesised that:

*H5: Green packaging has a positive impact on business performance*

## **Green advertising and business performance**

In order for manufacturing SMEs to improve their business performance, it is imperative for them to resort to green advertising. Reddy et al (2023) revealed that green advertising should be regarded as an indispensable part of the firm's overall environmental marketing strategy that can help the firm to achieve superior performance. Ghodeswa and Kumar (2014) explain that green advertising is aimed at conveying direct usefulness and advantage provided to the consumers by green products compared to

the conventional ones. Nyilasy, Gangadharbatla and Paladino (2013) suggest that green advertising is conducive to good business results. It exhibits environmental commitment of companies which enables them to compete in the market (Pancic' et al, 2023). Therefore, inferring from the literature and the empirical evidence above, it is hypothesised that:

*H6: Green advertising has a positive impact on business performance*

### **Competitive advantage and business performance**

In most organizations, there is a strong correlation between the company's competitive advantage and its performance (Majeed et al, 2022). Malhotra et al. (2024) assert that the resource- based view connects superior business performance to the ownership and control of unique competitive resources that create a sustainable competitive advantage for businesses. Farida and Setiawan. (2022) suggest that to achieve enhanced competitive advantage and sustain business operations, a series of actions are required to explore opportunities, adjust production processes, and tailor products to meet customer needs, ultimately leading to improved business performance. Amankwaa and Anku-Tsede (2015) emphasize that businesses that view employees as core assets and productive resources, rather than expenses, are more likely to gain a competitive edge in their industry. Therefore, competitive advantage can be achieved through the effective utilization of human capital, resulting in increased productivity and higher business performance.

Moreover, resources that are valuable, rare, inimitable, and non-substitutable enable businesses to establish and maintain competitive advantages, ultimately enhancing business performance (Horng & Huang, 2012). Sustainable competitive advantage leads to consistently superior business performance (Malhotra et al., 2024). By strategically leveraging resources to promote competitiveness, businesses can drive better business performance. Farida and Setiawan (2022) highlight the positive impact of competitive advantage on business performance, as it allows a business to outperform its competitors. Ribeiro et al. (2014) define competitive advantage as achieving a profit rate higher than the industry average, indicating the business's ability to create more economic value and returns than its competitors. Therefore, businesses should utilize their resources effectively to generate profitable returns for the company and stakeholders. Based on the discussion and empirical evidence, it can be hypothesized that:

*H7: Competitive advantage positively influences business performance.*

### **Green product innovation and business performance**

Yurdakul and Halim (2020) investigated the impact of green product innovation on firm performance among Turkish manufacturer firms and found that green product innovation significantly positively affects firm performance. Alsughayir (2017) conducted a study aimed at investigating the impact of green product innovation on firms' performance of Saudi Chemical Industrial Firms and the results



showed that green product innovation has a statistically significant impact on firms' performance. Meanwhile, Liu (2023) studied the gap between green product innovations and firm performance and firms' ability to enhance their competitive capability under the moderating effect of managerial environmental concern in this relationship. Liu (2023) constructed a model to link the aforementioned constructs, and data was collected through a questionnaire-based survey across 140 Turkish manufacturing firms from various sectors, which were then analysed using structural equation modelling. That study showed that green product innovation generally has a positive effect on firm performance. This result demonstrated the strongest and most significant influence of green product innovation on firm performance and competitive capability, with a strong effect of moderates (Liu, 2023). Drawing from the foregoing discussion, this study therefore, proposes the following hypothesis:

*H8: Green product innovation has a positive impact on business performance*

### **Green process innovation and business performance**

Singh, Chakraborty and Roy's (2016) research findings strongly validated that green process innovation has a significant impact on business performance of manufacturing micro, small and medium enterprises (MSME). Among the studies which support the positive relationship between green process innovation and business performance is the one conducted by Quoquab, Thurasamy and Mohammad (2017). The study provides extra evidence to support previous literature that green process innovation of businesses has a positive impact on performance (Quoquab, Thurasamy & Mohammad 2017).

Cheng, Yang and Sheu (2014) conducted a study which focused on the link between eco- innovation and business performance within Taiwanese industry and found that business performance (measured by ROI, market share, profitability, and sales) can be enhanced by eco- process innovation. Thus, the greater the firm's eco-process innovation, the greater its business performance (Wu, 2023). In addition, Alhadid and As'ad (2014) investigated the impact of green innovation on organisational performance and found that green process innovation has a significant and a positive impact on organisational performance. De Oliveira

Brasil, de Abreu, da Silva Filho and Leocádio (2016) investigated the relationship between process eco-innovation (green process innovation) and business performance and found that there is a positive relationship between process eco-innovation and business performance. Zahari and Ramaya (2017) examined the nexus between green innovation and firm performance in view of the ecological modernisation perspective and found that the adoption of green process innovation positively affects the firm economic performance.

*H9: Green process Innovation has a positive impact on business performance*

## Methodological aspects

Our ontological assumption in an objective manner was that green packaging, green advertising, green product innovation and green process innovation are all instrumental in determining competitive advantage, business performance. Therefore, from the ontological perspective of objectivism of the research, this investigation adopted a positivist paradigm and deductive reasoning, as it seeks to discover a link between the variables presented for this analysis as well as the use of measurement instruments for gathering data. Hence, a quantitative approach was applied as it improves accuracy of findings by means of statistical analysis. The design was suitable to solicit the required information relating to green packaging, green advertising, green product innovation, green process innovation and competitive advantage, business performance. Being quantitative in nature, the measurement instrument was compiled from several existing scales that were adapted to suit the purpose of the study. Once scale reliability and validity were established, structural equation modelling (SEM) was used to test the model fit, followed by the hypotheses testing and path modelling. Structural equation modelling was performed using AMOS 25 software, and the descriptive statistics were obtained through SPSS 25 software.

## Sample and data collection

The population for this examination included small and medium business organisations classified as SMEs operating within the manufacturing sector. **Gauteng was chosen for this study due to its status as the economic hub of South Africa and its high concentration of manufacturing SMEs. As the smallest but most economically significant province, Gauteng contributes significantly to the country's GDP and serves as a central hub for industrial and commercial activities. The province boasts a robust infrastructure, including advanced transportation networks and business services, which create a conducive environment for SMEs. Moreover, Gauteng is home to various industry associations, research institutions, and policy-making bodies, making it an ideal setting for investigating the impact of green marketing practices on SMEs. The province's diverse economic landscape and dense population of manufacturing firms offer a fertile ground for exploring the practical application and outcomes of green marketing strategies. These factors collectively position Gauteng as a pertinent and strategic location for this research.** The target population was characterised as managers of SMEs and heads of marketing divisions within manufacturing SMEs located in the Gauteng province of South Africa. Gauteng was selected as it is the economic hub of South Africa, it is the province where most manufacturing SMEs are found (Maziriri, 2018). **The study's sampling frame consisted of manufacturing SMEs operating within the region of Gauteng. A list of 1945 manufacturing small and medium enterprises in Gauteng was acquired from the Small Enterprise Development Agency (SEDA), a focal point for small enterprise development in South Africa.** Respondents who were included in the survey were provided with questionnaires, which they had to complete. This study, however, only employed the simple random probability sampling technique.

The sample size was calculated using the Raosoft sample size calculator since this study employed the simple random sampling method. The estimated 1945 population was used with a 5 percent margin of error, a 95 percent trust interval and a 50 percent response distribution, whereby the sample size was 321 manufacturing SMEs.

### **Data analysis**

Initially, preliminary analysis of the data was conducted using the statistical software SPSS, version 29.0. Thereafter, an SEM procedure was applied to perform the hypotheses testing using the AMOS (version 29.0) package.

### **Measures**

The variables under investigation were operationalized from previous studies (Sambu 2016; Kong, Harun, Sulong & Lily 2014; Ghodeswa & Kumar 2014; Cheng, Yang, & Sheu 2014; Kawai, Strange & Zucchella 2016; Mtshali's 2017; Zulkiffli & Perera 2011). Modifications to the scales were made to reflect the study context of the study. The scale items used in the study were adapted from existing research to better fit the specific context of this study. By modifying these items, the researchers aimed to ensure that the measurement tools accurately captured the unique aspects of green marketing practices relevant to manufacturing SMEs in South Africa. This adaptation process involved tailoring the questions and scales to align with the local industry dynamics, business practices, and environmental concerns specific to the region. Such customization was intended to enhance the relevance and reliability of the data collected, ensuring that the results would be meaningful and applicable to the context of South African SMEs. The measurement scales, items used and sources for the scales are indicated in Appendix A. The scale indicators were affixed to a strongly disagree (1) to strongly agree (5) Likert-scale continuum.

### **The demographic profile of the respondents**

The demographic profile of the respondents indicates a diverse sample in terms of gender, age, education level, business characteristics, and location. In terms of gender, male respondents (61.5%) were more compared to female respondents (32.6%), with a small portion opting not to disclose their gender preference (5.9%). Age distribution varied widely, with the highest percentage falling within the 31 to 39 years category (31.9%), followed closely by respondents aged 50 to 59 years (31.6%). Education levels varied as well, with a significant portion holding diplomas (39.1%) and degrees (30.3%). In terms of business characteristics, a notable proportion of respondents indicated involvement in family businesses (35.9%), with varying sizes of full-time employees, primarily falling between 10 and 100 employees. The age of businesses also varied, with a substantial number falling within the 4 to 20-year range. Additionally, the majority of businesses were located in

industrial areas (74.0%) rather than in central business districts (26.0%). This diverse demographic profile provides a comprehensive understanding of the sample population, laying the groundwork for further analysis and interpretation of the study findings. Each of these features is presented in Table 1.

Table 1: Sample demographic Characteristics

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	187	61.5%
Female	99	32.6%
Prefer not to say	18	5.9%
<b>Total</b>	<b>304</b>	<b>100%</b>
<b>Age distribution of the respondents</b>	<b>Frequency</b>	<b>Percentage</b>
18 to 30 years	37	12.2%
31 to 39 years	97	31.9%
40 to 49 years	56	18.4%
50 to 59 years	96	31.6%
60 years and above	18	5.9%
<b>Total</b>	<b>304</b>	<b>100%</b>
<b>Level of Education</b>	<b>Frequency</b>	<b>Percentage</b>
No formal education	57	18.8%
Basic Education	36	11.8%
Diploma	119	39.1%
Degree	92	30.3%
<b>Total</b>	<b>304</b>	<b>100%</b>
<b>Family business</b>	<b>Frequency</b>	<b>Percentage</b>
Yes	109	35.9%
No	195	64.1%
<b>Total</b>	<b>304</b>	<b>100%</b>
<b>Number of employees (full-time)</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 10 employees	7	2.3%
Between 10 and 50 employees	131	43.1%
Between 50 and 100 employees	76	25.0%
Between 100 and 200 employees	90	29.6%
<b>Age of business (years)</b>	<b>Frequency</b>	<b>Percentage</b>
1 to 3 years	9	3.0%
4 to 6 years	120	39.5%
7 to 10 years	16	5.3%
11-20years	159	52.2%
<b>Total</b>	<b>304</b>	<b>100%</b>
<b>The location of the business</b>	<b>Frequency</b>	<b>Percentage</b>
CBD	79	26.0%
Industrial	225	74.0%
<b>Total</b>	<b>304</b>	<b>100%</b>

Source: Summarised SPSS output

## Research results

The results section focuses on the results of Confirmatory Factor Analysis (CFA), hypothesis tests performed through Structural Equation Modeling (SEM) and discussions. A CFA is a unique type of factor analysis used to assess whether a construct's measurements are compatible with that construct's nature (Kline 2011). The SEM method is used to evaluate interactions between variables that are latent (unobservable) such as dependent and independent constructs (Mafini & Loury-Okoumba, 2018; Bagozzi & Yi, 2012).

### Psychometric properties of measurement scales

The assessment of the measurement scales' psychometric properties was performed through a CFA to determine the constructs' reliability, validity, and model fit. Table 2 presents the outcomes of the CFA assessment.

**Table 2: Psychometric properties of measurement scales**

Research Construct		Cronbach's Test		Factor Loading	CR	AVE	Highest shared variance
		Item-Total	$\alpha$ Value				
GP	GP1	0.690	0.806	0.850	0.83	0.56	0.32
	GP2	0.676		0.828			
	GP3	0.536		0.585			
	GP4	0.672		0.688			
GA	GA3	0.580	0.787	0.572	0.76	0.44	0.30
	GA4	0.593		0.676			
	GA5	0.573		0.770			
	GA6	0.521		0.614			
GPI	GPI3	0.557	0.798	0.588	0.74	0.42	0.10
	GPI5	0.556		0.616			
	GPI6	0.578		0.651			
	GPI7	0.557		0.731			
GPRI	GPRI1	0.565	0.763	0.696	0.76	0.52	0.11
	GPRI2	0.585		0.727			
	GPRI3	0.630		0.739			
CA	CA5	0.523	0.846	0.619	0.86	0.52	0.02
	CA6	0.627		0.693			
	CA7	0.571		0.886			
	CA8	0.693		0.711			
	CA9	0.590		0.763			
	CA10	0.646		0.603			
BP	BP7	0.540	0.856	0.560	0.88	0.44	0.11
	BP8	0.571		0.647			
	BP9	0.581		0.627			
	BP10	0.530		0.523			
	BP11	0.546		0.634			
	BP12	0.623		0.720			
	BP13	0.662		0.776			

	BP14	0.589		0.719			
	BP15	0.598		0.748			

Note: GP=green packaging; GA=Green advertising; GPI=Green product innovation; GPRI= Green process innovation; CA=Competitive advantage; BP=Business performance.

C.R= Composite Reliability

A.V.E= Average Variance Extracted

\* Scores: 1= Strongly Disagree; 2= Disagree; 3=Neutral; 4=Agree; 5 Strongly Agree

Significance level <0.05; \*\* significance level <0.01; \*\*\* significance level <0.001

Table 2 presents the psychometric properties of various measurement scales used in the research, focusing on constructs related to green packaging (GP), green advertising (GA), green product innovation (GPI), green process innovation (GPRI), competitive advantage (CA), and business performance (BP). The reliability analysis conducted through Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) tests indicates strong internal consistency and reliability across all constructs, with values exceeding recommended thresholds. Specifically, Cronbach's alpha values ranged from 0.763 to 0.856, indicating high internal consistency, while CR indexes ranged from 0.74 to 0.88, surpassing the recommended threshold of 0.70 for adequate internal consistency. Additionally, AVE values, ranging from

0.42 to 0.56 is also above the recommended 0.4 (Fraering & Minor 2006). Moreover, item loadings exceeded the recommended value of 0.5, reflecting strong convergent validity, as each item adequately measured its respective construct. These findings collectively suggest that the measurement scales employed in the study possess robust psychometric properties, thus providing a solid foundation for further validity analyses and subsequent interpretation of research results.

### **Discriminant validity**

Field (2013) states that discriminant validity refers to items measuring different concepts. One of the methods used to check the discriminant validity of the research constructs is the evaluation of whether the correlations among latent constructs were less than 1.0. As indicated in Table 3, the inter-correlation values for all paired latent variables are less than 1.0, therefore indicating the existence of discriminant validity. Respectively, the variables did not present any problems of multi-collinearity, such as a high correlation value greater than 0.89 (Brown & Cudeck, 1993). All correlations were below 0.8 and were therefore in conformity with the recommended threshold, hence indicating discriminant validity (Fraering & Minor, 2006). Precisely the inter-construct correlations ranged between -0.022 to 0.568 (showing signs of discriminant validity), Based on the inter-construct correlation matrix, discriminant validity existed as a result of highly dissimilar constructs.

**Table 3: Inter-construct correlation matrix**

<b>Correlations</b>
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Research Construct	GP	GA	GPI	GPRI	CA	BP
GP	1.000					
GA	0.568**	1.000				
GPI	0.435**	0.547**	1.000			
GPRI	0.320**	0.346**	0.317**	1.000		
CA	0.180**	0.085	-0.022	0.010	1.000	
BP	0.324**	0.260**	0.300**	0.328**	0.128*	1.000
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Note: GP=green packaging; GA=Green advertising; GPI=Green product innovation; GPRI= Green process innovation; CA=Competitive advantage; BP=Business performance.

### Model fit analysis

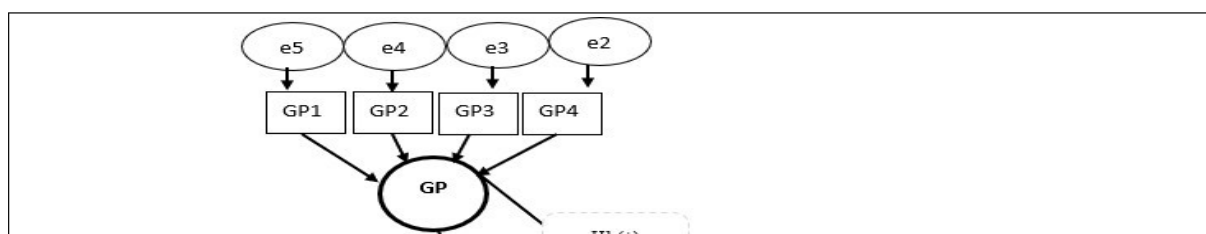
According to Anderson and Gerbing (1988), model fit analysis is a process that assesses how well the data represents the model. In this study, model fit was tested by using the following indices: Chi-square/degrees of freedom, comparative fit index (CFI), incremental fit index (IFI), Tucker-Lewis index (TLI), normative fit index (NFI), goodness of fit (GFI) and random measure of standard error approximation (RMSEA). The acceptable thresholds should be equal to or higher than 0.90 for CFI, IFI, RFI, NFI, GFI and AGFI (Lysons & Farrington 2012). For Chi-square/degrees of freedom a ratio of 3:1 or less is recommended and RMSEA value should be equal to or less than 0.08 (Lysons & Farrington 2012). The general model fit indices for both the CFA and SEM models are presented in Table 4.

**Table 4: Model fit statistics.**

Fit indices	Acceptable indices	fit	CFA (measurement model)	SEM (structural model)
Chi-square/degree of freedom (df)	<3.0		1.425	1.391
Incremental fit index (IFI)	> 0.90		0.953	0.932
Tucker-Lewis index (TLI)	> 0.90		0.943	0.945
Comparative fit index (CFI)	> 0.90		0.959	0.969
Normative fit index (NFI)	> 0.90		0.921	0.951
Goodness of fit (GFI)	> 0.90		0.912	0.924
Root mean square error of approximation (RMSEA)	< 0.08		0.041	0.039

CFA, confirmatory factor analysis; SEM, structural equation modelling

**Figure 2: Structural model**



**Table 5: Summary of the hypotheses testing.**

Path / proposed hypothesis relationship	Hypothesis	Estimate	P - Value	Decision rejected/supported
Green packaging (GA) → Competitive advantage (CA)	H <sub>1</sub> (+)	0.103	0.113	Supported, however, not significant
Green advertising (GA) → Competitive advantage (CA)	H <sub>2</sub> (+)	0.072	0.270	Supported, however, not significant
Green product innovation (GPI) → Competitive advantage (CA)	H <sub>3</sub> (+)	0.188	0.010	Supported and significant
Green process innovation (GPRI) → Competitive advantage (CA)	H <sub>4</sub> (+)	-0.009	0.895	Not supported and not significant
Green packaging (GP) → Business performance (BP)	H <sub>5</sub> (+)	0.228	0.000	Supported and Significant
Green advertising (GA) → Business performance (BP)	H <sub>6</sub> (+)	0.065	0.298	Supported, however, not significant
Competitive advantage (CA) → Business performance (BP)	H <sub>7</sub> (+)	0.231	0.000	Supported and Significant
Green product innovation (GPI) → Business performance (BP)	H <sub>8</sub> (+)	0.232	0.000	Supported and Significant
Green process innovation (GPRI) → Business performance (BP)	H <sub>9</sub> (+)	0.274	0.000	Supported and Significant

\* Significance level <0.05; \*\* significance level <0.01; \*\*\* significance level <0.001

### Discussion of findings

The association between green packaging and competitive advantage was found to be positive and not significant. The results of this study are argued contrary to the findings in literature. **For instance, the empirical evidence from Obiso et al (2023), who determined the effect of green distribution practices on the competitiveness of food manufacturing firms in Kenya. Their findings revealed that green packaging, as one of the green distribution practices, positively and significantly influences the competitiveness of Kenya's food manufacturing firms. Also, Wandosell (2021) contended that green**



packaging should not be considered only as a tool for gaining a competitive advantage and satisfying the needs of customers but also as a tool to help reduce production expenses.

The testing of the relationship between green advertising and competitive advantage revealed a positive and insignificant relationship. The results of this study are argued contrary to the findings in literature. For instance, Jarin (2014) conducted a study aimed at investigating ecological marketing practices for creating a competitive advantage. Jarin (2014) revealed that eco-advertising or green advertising as an ecological marketing practice creates scope for attaining a competitive advantage within an organization. The findings obtained in this study are in line with the literature, where Kao and Du (2020) as well as Maziriri (2020) clarify that “green advertising can be used as an effective tool in an organization's overall environmental marketing strategy, and this, ultimately, translates into a competitive advantage.”

The statistical analysis exposed that green product innovation has a positive impact on competitive advantage. This finding has ample support from previous empirical research studies such as that conducted by Bombiak (2023), who focused on the positive effect of green intellectual capital on the competitive advantages of firms. The results of their study revealed that green product innovations are positively associated with the competitive advantage of firms. The result obtained from testing this hypothesis is also in agreement with a survey conducted by Arsalan et al (2020), who investigated the effect of greening the supplier and innovation on environmental performance and competitive advantage. The research found out that green product innovation had a significant relation to environmental performance and competitive advantage.

The association between green process innovation and competitive advantage was found to be negative, meaning that the outcome of this study reinforces a negative association between green process innovation and competitive advantage. Alsughayir (2017) postulates that this could be due to the fact that the utilization of green process innovation is still relatively new for chemical industrial firms, and green innovation investments in general are long-term investments which, in time, will have more effect on firms' competitive advantage. Also, firms dealing with green process innovation normally start taking baby steps, easing their way to green process innovation gradually to avoid any shocks and major changes to their operation (Alsughayir, 2017). It is also imperative to note that the results of this study contradict the findings of Küçükoğlu and Pınar (2015), who found that green process innovation had a positive and a significant effect on a company's competitive advantage.

Moreover, the results obtained in this study are in line with the literature; for instance, Zhu et al (2023) assert that a firm's implementation of green process innovation is positively related to its corporate competitive advantage.

Empirical evidence was also found in this research, which confirmed that there is a positive association between green packaging and business performance. This finding substantiates the fact that green packaging does impact the business performance of a manufacturing SME. This further extends the findings of previous studies conducted by Sambu (2016), whose results indicated that green packaging is a key determinant of business performance in the manufacturing firms of Kenya. Furthermore, the result obtained from testing this hypothesis is also coherent with a survey conducted by Diab, AL-Bourini, and Abu-Rumman (2015), which supports a positive relationship between green packaging and business performance. The study confirmed that there is a positive impact of eco-packaging on organizational performance. Moreover, findings obtained from this study are in line with the literature where Zailani et al. (2015) emphasize that manufacturing firms need to consider giving due diligence to the eco- efficiency practices as a means of increasing the adoption of sustainable packaging to achieve higher performance.

The findings of this study authenticate the existence of a positive connection between green advertising and performance. The results obtained in the current study are not without empirical support. Bhat, Darzi, and Parrey (2014) conducted a study that gives a basic conceptual framework of green marketing as a driver of sustainable development. Bhat, Darzi, and Parrey (2014) suggested that companies need to identify a unique segment of the market (niche market) enriched by green consumerism and then target this segment using green marketing tools, such as green or eco-advertisements, to achieve sustainable business performance. The results obtained in this study are in accord with the literature; Nyilasy, Gangadharbatla, and Paladino (2013) suggest that green advertising is conducive to good business results. In addition, Pancic' et al (2023), point out that green advertising exhibits the environmental commitment of companies, enabling them to compete in the market.

Deducing from the presentation of the results, it was found out that competitive advantage provides a positive impact on business performance. The results of this study are consistent with the empirical evidence from Mohebi and Farzollahzade (2014), who conducted a study focused on improving competitive advantage and business performance of SMEs by creating entrepreneurial social competence. The results of the study revealed that competitive advantage has a positive effect on the SME's business performance. Furthermore, the results obtained in this study are in line with the

literature, where Malhotra et al. (2024) state that “the resource- based view links superior business performance to the ownership and control of unique competitive resources that create a source of sustainable competitive advantage for businesses.” Moreover, the results of this study are also consistent with the empirical evidence from Farida and Setiawan (2022), which found a positive, as well as a significant relationship, between competitive advantage and performance.

Deducing from the findings presented, it was found that green product innovation has a positive impact on business performance. The results coincide with the works of Ma et al (2018), who assessed the influence of green product innovation toward business performance in any selected industry; Ma et al’s study results indicated that green product innovation had an influence on business performance. In addition, these are in line with Alhadid and As’ad (2014), who conducted a study aimed at determining the impact of green innovation on organizational performance and based on the findings of statistical analysis, green product innovation had a positive impact on organizational performance. Furthermore, the results are also in accord with the works of Alsighayir (2017), who investigated the impact of green product innovation on firms’ performance. Alsighayir’s results showed that green product innovation has a statistically significant impact on firms’ performance.

Furthermore, the findings obtained in this study coincide with the works of Liu (2023), who studied the gap between green product innovation and firm performance. Liu constructed a model to link the aforementioned constructs, and data collected through a questionnaire-based survey across 140 Turkish manufacturing firms from various sectors, which were then analyzed using structural equation modeling. That study showed that green product innovation generally has a positive effect on firm performance. The result obtained from testing this hypothesis is also coherent with a survey conducted by Cainelli et al. (2015), which claims that green product innovation activities have a positive impact on performance. Furthermore, a study done by Chuang and Yang (2014) concluded that green product innovation is considered one of the key factors for improving firms’ environmental, social, and financial outcomes. Moreover, when firms have commitments to environmental management with active green innovation, it can enhance the overall productivity and performance (Wu, 2023).

Drawing from the presentation of the results, it was found that green process innovation produces a positive impact on business performance. The results obtained in this study are in accord with a study conducted by Alhadid and As’ad (2014), who investigated the impact of green innovation on organizational performance and found that green process innovation has a significant and positive impact on organizational performance. In a similar vein, Oliveira Brasil, de Abreu, da Silva Filho, and

Leocádio (2016) investigated the relationship between process eco-innovation (green process innovation) and business performance and found that there is a positive relationship between process eco-innovation and business performance. Moreover, the results obtained are also consistent with the works of Zahari and Ramaya (2017), who examined the nexus between green innovation and firm performance in view of an ecological modernization perspective and found that the adoption of green process innovation positively affects the firm's economic performance.

### **Implications of the study**

The implications of this study are significant both academically and managerially. Academically, this research contributes to the expanding knowledge base on green marketing, competitive advantage, and SME business performance. By empirically testing the relationships between green marketing practices and business outcomes in the context of South Africa's manufacturing SMEs, this study offers valuable insights that enhance our understanding of how sustainability initiatives impact business success. Furthermore, the findings contribute to theoretical frameworks on green marketing strategies and their implications for SMEs, paving the way for further research in this area. This study emphasizes the importance of considering environmental factors in business strategies, especially for small and medium enterprises striving for competitiveness and sustainability in dynamic markets.

From a managerial perspective, the implications of this study are significant for manufacturing SMEs in South Africa and beyond. The findings highlight the potential benefits of adopting green marketing practices, such as green packaging, advertising, and product/process innovation, to enhance competitive advantage and business performance. Managers and business owners can use these insights to guide strategic decision-making processes, informing investments in sustainable practices that align with environmental goals and improve financial performance and market positioning. Additionally, the identification of specific green marketing initiatives that positively influence competitive advantage and business performance offers actionable guidance for SMEs looking to differentiate themselves in environmentally-conscious markets. By integrating green practices into their operations and marketing strategies, SMEs can strengthen their resilience, appeal to customers, and ensure long-term viability in a rapidly evolving business environment. Therefore, the managerial implications of this study underscore the strategic importance of embracing sustainability as a key driver of business success in the manufacturing sector.

### **Actionable recommendations.**

To enhance their green marketing efforts, SMEs in the manufacturing sector should implement practical strategies. Firstly, integrating green packaging is essential. SMEs should invest in sustainable packaging solutions, such as recyclable materials and eco-friendly inks, and clearly communicate these efforts to consumers through labels and marketing campaigns. Additionally,

emphasizing the environmental benefits of products in green advertising can attract eco-conscious consumers. Developing advertising campaigns that highlight a company's commitment to sustainability across digital and traditional media is crucial, and evaluating the effectiveness of these campaigns can help refine strategies.

Focusing on green product innovation is also vital. SMEs should prioritize eco-friendly product designs by incorporating recycled materials, improving energy efficiency, and enhancing product longevity. Promoting these innovations effectively in marketing materials can educate consumers about their benefits and differentiate the company from competitors. Concurrently, implementing green process innovations involves optimizing manufacturing processes to reduce energy consumption, minimize waste, and improve resource efficiency. Continuous monitoring and evaluation of these innovations will ensure their effectiveness and facilitate data-driven improvements.

Leveraging competitive advantage to boost business performance requires SMEs to highlight their green initiatives as unique selling points. Emphasizing sustainability in all aspects of marketing and building strong customer relationships through transparency and engagement can enhance brand loyalty. Investing in training and development for employees is also important; providing education on green marketing and fostering a sustainability culture can align employees with the company's environmental goals. Engaging with stakeholders and forming partnerships with like-minded organizations can further strengthen green marketing efforts. By participating in industry initiatives and staying informed about sustainability trends, SMEs can enhance their environmental responsibility and achieve better business outcomes.

### **Limitations and suggestions for future research**

The study, while yielding meaningful results, faced several limitations that offer opportunities for future research. One major limitation was the restriction of the study population to SME managers in the Gauteng Province of South Africa, limiting the generalizability of the findings to SME managers nationwide. Future research should consider expanding data collection to include SME managers from other provinces such as the Eastern Cape or Limpopo to provide more comprehensive insights. This study serves as a foundation for future research on green marketing practices in South Africa, particularly in the manufacturing sector. However, future studies should explore other sectors of the economy to gain a broader understanding of the impact of green marketing practices on business performance. Objective measures should be used to assess business performance, and the introduction of moderation or mediation variables could enhance the understanding of the relationships between green marketing practices and business performance. To further enhance future research, comparative

analyses among SMEs from different sectors, such as manufacturing and retail, should be conducted. This comparative approach can shed light on how different sectors implement green marketing practices. Additionally, future research should consider employing a mix of research methods, including qualitative approaches, to gain a deeper understanding of SMEs in the South African context. Explorations through ethnographies, case studies, and experiments could provide valuable insights into customer reactions to green practices and the potential mediators and moderators influencing these relationships. Concepts like perceived ethics and concern for the future could be explored as potential mediators, while variations in industry norms could serve as potential moderators. While acknowledging these limitations, it is important to note that they do not diminish the contributions of this study but rather pave the way for future research endeavors.

## References

- Alhadid, A. Y., & As'ad, H. (2014). The Impact of green innovation on organizational performance, environmental management behavior as a moderate variable: An analytical study on Nuqul group in Jordan. *International Journal of Business and Management*, 9(7): 51-58.
- Amankwaa, A. & Anku-Tsede, O. (2015). The moderating effect of alternative job opportunity on the transactional leadership-turnover intention nexus: Evidence from the Ghanaian banking industry. *African Journal of Business Management*, 9(4): 553-561.
- Anderson, J.C. & Gerbing, D.W. (1988). Structural equation modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(1): 411-423.
- Arenhardt, D.L., Battistella, L.F & Grohmann, M.Z (2016). The influence of the green innovation in the search of competitive advantage of enterprises of the electrical and electronic Brazilian sectors”, *International Journal of Innovation Management*, 20(1): 1-20.
- Arsalan, Najmi., Huma, Maqbool., Waqar, Ahmed., Syed, Aziz Ur Rehman. (2020). The influence of greening the suppliers on environmental and economic performance. *International Journal of Business Performance and Supply Chain Modelling (IJBPSM)*, Vol. 11, No. 1, 2020
- Bagozzi, R.P. & Yi, Y. (2012). On the evaluation of structural equation models. *Journal of Academy of Marketing Sciences*, 16(1):74-94.
- Beck, R. B. (2013). *The History of South Africa*. Johannesburg: ABC-CLIO.
- Bhat, S.A., Darzi, M.A & Parrey, S.H. (2014). Green Marketing: A Driver for Green Brand Equity and Sustainable Development, *International Journal of Humanities & Social Studies*, 2(12): 131-133.

- Bombiak, Edyta. (2023). "Effect of Green Intellectual Capital Practices on the Competitive Advantage of Companies: Evidence from Polish Companies" *Sustainability* 15, no. 5: 4050. <https://doi.org/10.3390/su15054050>
- Boz, Ziyne, Virpi Korhonen, and Claire Koelsch Sand. (2020). "Consumer Considerations for the Implementation of Sustainable Packaging: A Review" *Sustainability* 12, no. 6: 2192. <https://doi.org/10.3390/su12062192>
- Cainelli, G., De Marchi, V., & Grandinetti, R. (2015). Does the development of environmental innovation require different resources? Evidence from Spanish manufacturing firms. *Journal of Cleaner Production*, 94(1): 211-220
- Cheng, C. C., Yang, C. L., & Sheu, C. (2014). The link between eco-innovation and business performance: a Taiwanese industry context. *Journal of Cleaner Production*, 64(1): 81-90.
- Chuang, S. P., & Yang, C. L. (2014). Key success factors when implementing a green- manufacturing system. *Production Planning & Control*, 25(11): 923-937.
- Diab, S. M., AL-Bourini, F. A., & Abu-Rumman, A. H. (2015). The impact of green supply chain management practices on organizational performance: a study of Jordanian food industries. *Journal of Management and Sustainability*, 5(1): 149-198.
- Dubihlela, J., Omoruyi. T. (2014). Barriers to and Determinants and Enablers of Market Orientation: Impact on Business Performance for Small and Medium Enterprises in South Africa. Philosophiae Doctor in Business Management Thesis. North-West University. Vaal Triangle Campus.
- Emlyon, C. G., & Julia, P. (2021, June 1-4). Resource-based view and natural resources: Propositions for sustainability. Paper presented at the XXXème conférence de l'AIMS [XXXth AIMS International Strategic Management Association Conference], Online. Retrieved from [<https://www.strategie-aims.com/conferences/32-xxxeme-conference-de-l-aims/communications/5722-resource-based-view-and-natural-resources-propositions-for-a-sustainable-management/download>]
- Farida, Ida, and Doddy Setiawan. (2022). "Business Strategies and Competitive Advantage: The Role of Performance and Innovation" *Journal of Open Innovation: Technology, Market, and Complexity* 8, no. 3: 163. <https://doi.org/10.3390/joitmc8030163>
- Fraering, M., & Minor, M. S. (2006). Sense of community: An exploratory study of US consumers of financial services. *International Journal of Bank Marketing*, 24(5), 284-306.

- Gupta, O. (2023). Using the resource – based view strategy for a competitive advantage. Retrieved on 29/04/2024 from: <http://www.saviom.com/blog/using-the-resource-based-view-strategy-for-competitive-advantage>
- Hamann, R., Smith, J., Tashman, P., & Marshall, R. S. (2017). Why do SMEs go green? An analysis of wine firms in South Africa. *Business & Society*, 56(1): 23-56.
- He, Y., Gai, Y., Wu, X. & Wan, H. (2012). Quantitatively analyze composition principle of Ma Huang Tang by structural equation modelling. *Journal of Ethnopharmacology*, 143:851- 858.
- Hernández-Perlines, F., Moreno-García, J., & Yáñez-Araque, B. (2016). Training and business performance: the mediating role of absorptive capacities. *SpringerPlus*, 5(1): 207.
- Ho, T. C., Ahmad, N. H., & Ramayah, T. (2016). Competitive capabilities and business performance among manufacturing SMEs: Evidence from an emerging economy, Malaysia. *Journal of Asia-Pacific Business*, 17(1): 37-58.
- Hong, D. & Huang, K. (2012). The process to affect entrepreneurship: The example of tourism in Taiwan. *African Journal of Business Management*, 6(25): 7583-7592.
- Ina Rizqiyana, Wahyono. (2020). The Influence of Eco-Brand, Eco-Labeling and Environmental Advertisement on Consumer Purchasing Behavior through Brand Image. *Management Analysis Journal* 9 (2) (2020).
- Jarin, A. (2014). Ecological Marketing Practices for Creating Competitive Advantage. *European Journal of Business and Management*, 6(24): 138-143.
- Kao Tsai-Feng., & Du Yi- Zhan. (2020). A study on the influence of green advertising design and environmental emotion on advertising effect. *Journal of Cleaner Production* 242 (2020) 118294.
- Kline, R.B. (2011). *Principles and practice of structural equation modeling*. 2nd ed. New York: The Guilford Press.
- Kumar, M., Talib, S. A., & Ramayah, T. (2014). *Business Research Methods*. Selangor, Malaysia: Oxford University Press.
- Kumar, P. (2015). Green marketing innovations in small Indian firms. *World Journal of Entrepreneurship, Management and Sustainable Development*, 11(3): 176-190.
- Liu, L. (2023). Green innovation, firm performance, and risk mitigation: evidence from the USA. *Environ Dev Sustain*. <https://doi.org/10.1007/s10668-023-03632-z>
- Ma, Y., Hou, G., & Xin, B. (2017). Green Process Innovation and Innovation Benefit: The Mediating Effect of Firm Image. *Sustainability*, 9(10): 1-15



- Ma, Yuan, Qiyue Yin, Yajun Pan, Wei Cui, Baogui Xin, and Ziqian Rao. (2018). "Green Product Innovation and Firm Performance: Assessing the Moderating Effect of Novelty-Centered and Efficiency-Centered Business Model Design" *Sustainability* 10, no. 6: 1843. <https://doi.org/10.3390/su10061843>
- Mafini, C., & Muposhi, A. (2018). The impact of green supply chain management in small to medium enterprises: Cross-sectional evidence. *Journal of Transport and Supply Chain Management*, 11(1): 1-11.
- Majeed, Muhammad Ussama, Sumaira Aslam, Shah Ali Murtaza, Szakács Attila, and Edina Molnár. (2022). "Green Marketing Approaches and Their Impact on Green Purchase Intentions: Mediating Role of Green Brand Image and Consumer Beliefs towards the Environment" *Sustainability* 14, no. 18: 11703. <https://doi.org/10.3390/su141811703>
- Malhotra, G., Dandotiya, G., Shaiwalini, S., Khan, A. and Homechaudhuri, S. (2024), "Benchmarking for organisational competitiveness: a resource-based view perspective", *Benchmarking: An International Journal*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/BIJ-09-2023-0668>
- Mark, J., & Nwaiwu, J. N. (2015). Impact of political environment on business performance of multinational companies in Nigeria. *African Research Review*, 9(3): 1-10.
- Maziriri, E.T. & Chivandi, A., (2020) 'Modelling key predictors that stimulate the entrepreneurial performance of small and medium-sized enterprises (SMEs) and poverty reduction: Perspectives from SME managers in an emerging economy', *Acta Commercii* 20(1), a773. <https://doi.org/10.4102/ac.v20i1.773>
- M. D. R. (2015). The organizational capabilities of rural enterprises, incremental innovation, and the university's contribution. *African Journal of Agricultural Research*, 10(21): 2203- 2212.
- Myllylä, J. (2019). How to Achieve Competitive Advantage Through Innovation. <https://www.smestrategy.net/about>.
- Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2013). Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. *Journal of Business Ethics*, 125(4): 693-707.
- Obiso I. Evans, Maendo Densford, Musau Enock. & Waribu James. (2023). Influence of Green Distribution on Performance of Private Oil and Gas Marketing Firms in Kenya: Moderating influence of Government Regulations. School of Business and Economics, Kisii University, Kisii, Kenya.

- Pancić, Mladen, Hrvoje Serdarušić, and Dražen Čučić. (2023). "Green Marketing and Repurchase Intention: Stewardship of Green Advertisement, Brand Awareness, Brand Equity, Green Innovativeness, and Brand Innovativeness" *Sustainability* 15, no. 16: 12534. <https://doi.org/10.3390/su151612534>
- Rao, P.K., & Bhargav, V.R. (2016). A Study on Green Packaging-A Case Study Approach With Reference To Dell Inc. *International Educational Scientific Research Journal*, 2(7): 83- 84.
- Reddy KP, Chandu V, Srilakshmi S, Thagaram E, Sahyaja Ch, Osei B. (2023). Consumers perception on green marketing towards eco-friendly fast moving consumer goods. *International Journal of Engineering Business Management*. 2023;15. doi:[10.1177/18479790231170962](https://doi.org/10.1177/18479790231170962)
- Reinhardt F L (1998). Environmental Product Differentiation: Implications for Corporate Strategy, *California Management Review*, 40(4): 43-73.
- Sambu, F.K. (2016). Effect of green packaging on business performance in the manufacturing in Nairobi County, Kenya *International Journal of Economics, Commerce and Management*, 4(2): 741-753.
- Sen, P.K., Bohidar, S.K, Shrivastava, Sharma, Y & Modi, V (2015). Study On Innovation, Research And Recent Development In Technology For Green Manufacturing, *International Journal of Mechanical Engineering and Robotics Research*, 4(1): 185-194.
- Singh, M. P., Chakraborty, A., & Roy, M. (2016). The link among innovation drivers, green innovation and business performance: empirical evidence from a developing economy. *World Review of Science, Technology and Sustainable Development*, 12(4): 316-334.
- Somarathna, T.W.D.S.P. (2020). Green Innovations as a Differentiation Strategy to Drive Sustainable Competitive Advantage. 2020 International Conference on Business Innovation (ICOBI), Colombo, Sri Lanka.
- Quoquab, F. Thurasamy, R & Mohammad, J. (2017). Driving Green Consumerism through Strategic Sustainability Marketing. IGI Global.
- Van den Berg, U., Labuschagne, J-P. & Van den Berg, H. (2013). The effects of greening the supplier and innovation on environmental performance and competitive advantage, *Journal of Transport and Supply Chain Management*, 7(1): 1-20.
- Wandosell, Gonzalo, María C. Parra-Meroño, Alfredo Alcayde, and Raúl Baños. (2021). "Green Packaging from Consumer and Business Perspectives" *Sustainability* 13, no. 3: 1356. <https://doi.org/10.3390/su13031356>

- Wu R. (2023). Environmental management, environmental innovation, and productivity growth: a global firm-level investigation. *Environment and Development Economics*. 2023;28(5):449-468. doi:10.1017/S1355770X23000049
- Yurdakul, Melek, and Halim Kazan. (2020). "Effects of Eco-Innovation on Economic and Environmental Performance: Evidence from Turkey's Manufacturing Companies" *Sustainability* 12, no. 8: 3167. <https://doi.org/10.3390/su12083167>
- Zahari, F.M & Ramaya, T. (2017). Green Innovation and Firm Performance: The Ecological Modernization Perspective. *Journal of Technology and Operations Management*, 12(1): 21- 31.
- Zailani, S., Shaharudin, M. R., Govindasamy, V., Ismail, M., & Mahdzar, S. F. A. S. (2015). The eco-efficiency practices of the sustainable packaging and its effect towards sustainable supply chain performance. In *Technology Management and Emerging Technologies (ISTMET), 2015 International Symposium on* (pp. 448-453). IEEE., August).
- Zhu, Yan, Huifang Zhang, Abu Bakkar Siddik, Yubin Zheng, and Farid Ahammad Sobhani. (2023). "Understanding Corporate Green Competitive Advantage through Green Technology Adoption and Green Dynamic Capabilities: Does Green Product Innovation Matter?" *Systems* 11, no. 9: 461. <https://doi.org/10.3390/systems11090461>
- Zulkiffli, S. & Perera, N. (2011). A literature analysis on business performance for SMES - subjective or objective measures? 2011 SIBR Conference on Interdisciplinary Business and Economics Research (pp. 1-9). Bangkok, Thailand: Society of Interdisciplinary Business Research (SIBR).

## **Appendix A: Measurement instruments**

### **Green packaging-Statements -Sambu (2016) and Kong, Harun, Sulong and Lily (2014).**

- The packaging of our products is non-biodegradable
- The packaging of our products is reusable
- We package most of our products in recycle materials
- We substitute our unfriendly packaging materials with friendly materials
- Our products have no excessive packaging

### **Green advertising-Statements - Ghodeswa and Kumar (2014).**

- Our messages on sustainability focus on environmental impact of the products
- Our messages on sustainability focus on environmental benefits of the products
- Our messages on sustainability intend to encourage environmentally responsible behaviour among consumers
- Our messages on sustainability focus on company's values regarding impact on environment

- Our messages on sustainability focus on company's mission regarding impact on environment
- We make environmental claims based on life expectancy of products (e.g. raw material production, manufacturing,)

#### **Green product innovation- Cheng, Yang, and Sheu (2014).**

- Our firm often places emphasis on developing new green-products through new technologies to simplify their package.
- Our firm often places emphasis on developing new green-products through new technologies to simplify their construction.
- Our firm often places emphasis on developing new green-products through new technologies to easily recycle their components.
- Our firm often places emphasis on developing new green-products through new technologies to easily decompose their materials.
- Our firm often places emphasis on developing new green-products through new technologies to use natural materials.
- Our firm often places emphasis on developing new green-products through new technologies to reduce damage from waste as much as possible.
- Our firm often places emphasis on developing new green-products through new technologies to use as little energy as possible.

#### **Green process innovation- Kawai, Strange and Zucchella (2016).**

- The manufacturing process of the business effectively reduces the emission of hazardous substances or waste.
- The manufacturing process of the business recycles waste and emission that allow them to be treated and re-used.
- The manufacturing process of the business reduces the consumption of water, electricity, coal, or oil.
- The manufacturing process of the business reduces the use of raw materials.

#### **Competitive advantage - Mtshali's (2017)**

- Our products are difficult for competitors to copy
- Our response to competitive moves in the market place is good
- Our ability to track changes in customer needs and wants is good
- We are quick to respond to customer complaints

- Our collection of strategic information about customers and competitors for use with strategic planning is good
- Our speed of disseminating information in-house about competitors is good
- Our analysis of customer satisfactions with the products is good
- We make effort for products changes to overcome customer dissatisfaction with existing products
- Our products have a significant advantage over those of our competitors.
- Our product designs are unique
- We are quick to respond in meeting changes to customer needs and wants

**Business performance - Zulkifli and Perera (2011).**

- Our market-share growth is the best in the industry
- Our sales turnover is the best in the industry
- We provide the best supplier product quality in the industry
- We provide the best Supplier communication in the industry
- We provide the best Supplier delivery performance in the industry
- We provide the best work in process (WIP)\* inventory in the industry
- We have the best order-fulfilment lead time\*\* in the industry
- We have the best product-quality development in the industry
- We have the best performance-appraisal results in the industry
- We have the best skill level of employees in the industry
- We have the best departmental communication in the industry
- Our resolution of customer complaints is the best in the industry
- Our customer loyalty/retention is the best in the industry
- Our quality reputation and award achievement is the best in the industry
- Our product returns rate is the best in the industry
- Our speed of order handling and processing is the best in the industry