

Adopting a green strategy and related practices: Lessons from small food establishments in an emerging economy

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ABSTRACT

The food and beverage industry is under pressure to adapt its management practices to meet consumers' heightened expectations concerning quality, food safety, and environmental sustainability. This includes addressing concerns related to waste management, plastic usage, and pollution. A survey of 376 small and medium-sized food and beverage establishments in an emerging market context was conducted to assess the influence of these companies' green market orientation on their environmental performance. Findings provide a unique theoretical contribution by examining green market orientation in terms of its underlying dimensions, offering a more nuanced view of the relationship with companies' green performance. Findings also confirm a positive relationship between businesses' green market orientation and their green performance, indicating that green practices mediate the interaction between businesses' green market orientation and their green performance. These findings highlight the need for further research to distinguish additional elements of small businesses' conduct that could elevate their green performance.

1. Introduction

The food and beverage (F&B) industry integrates various businesses involved in the preparation, serving, packaging, and transportation of food and different types of beverages. Due to concerns about this industry's unwarranted use of plastics, waste generation, pollution, and excessive use of resources such as water and energy, pressure is mounting for them to adapt their environmental management practices and become more sustainable (Fatoki, 2019; Pawaskar et al., 2018; Madanaguli et al., 2022; Tjahjadi et al., 2020). Unfortunately, the sustainability research community has not given small businesses the attention they deserve (Jansson et al., 2017; Leonidou et al., 2017), notwithstanding their significant role in terms of economies' job creation and income generation (Wang, 2020; Balasubramanian et al., 2021). To date, scholars have primarily focussed on large companies as part of their corporate social responsibility (CSR) initiatives (Rehman et al., 2022; Leonidou et al., 2017), large manufacturing organisations (Green et al., 2015; Jaramillo et al., 2019; Jiang et al., 2020; Li et al., 2018), and hi-tech, electrical, and electronics industries (Borazon et al., 2022; Wang, 2020). It is, therefore, uncertain whether a green marketing strategy, as understood by larger companies, also applies to small businesses.

Researchers could also not yet confirm a significant link between the components of green market orientation and businesses' green performance (Ngo, 2022b; Wang, 2020). Efforts to clarify the market orientation-performance link have also produced conflicting outcomes (Ngo, 2022b; Nwokah, 2008; Sin et al., 2005), probably due to scholars' different perspectives on the green performance construct. Inconsistent outcomes may be attributed to scholars' departure from different perspectives, for example, environmental (Li et al., 2018), environmental and social (Fatoki, 2019), environmental, social, and financial (Wang, 2020), or adopting an operational performance view (Ngo, 2022b). Equally important, is the proposition – which has not been proven yet – that intervening processes mediate relationships between businesses' market orientation and green performance (Gotteland and Boulé, 2006).

Academia and governments are increasingly prioritising the global environmental crisis in search of solutions to the adverse effects of human and business practices on nature (Jiang et al., 2018). This study, therefore, focused on small, medium, and micro enterprises (SMMEs) in the food and beverage industry in South Africa. It aimed to address existing gaps in the literature concerning the green market orientation and performance link, and the lack of evidence from specific consumer markets, smaller businesses, and those with alternative areas of specialisation.

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South Africa was an ideal location for the study due to Sub-Saharan Africa's significant population growth (Kimaru, 2022), which presents an opportunity for enhanced productivity, improved innovation, and the transformation of African economies (AfDB, 2015a, 2015b; Kimaru, 2022). Furthermore, Africa, the second-largest continent, is considered the new source of sustainable development (George et al., 2016) and the world's next breadbasket, given its agriculture's potential to guarantee food security (Kimaru, 2022). Being the second largest economy on the African continent (IDC & InvestSA, 2019; MFAD, n.d.), South Africa is also the most advanced, diversified, and productive economy, with one of the most pro-business environments (IDC & InvestSA, 2019; ITA, 2023). The country has an advanced financial services and banking sector and is the economic hub for Africa (IDC & InvestSA, 2019). However, South Africa is one of nine countries that account for 90% of the world's coal production (CCPI, 2023), heavily relying on fossil fuels for energy. This explains why it is the world's 12th most significant source of greenhouse gases (GHG) (Sguazzin, 2021).

This study's results could increase awareness, encourage more sustainable business practices in the F&B sector, and inspire similar businesses worldwide to benefit from the lessons learned.

The next section outlines the theoretical foundation from which the study's hypotheses emerged, followed by a description of the research methodology. It delves into the intricate factors that influence the environmental performance of food and beverage companies in an era where sustainability is more than just an academic concern. It outlines the main concepts, and poses hypotheses based on recent literature.

2. Theoretical foundation and hypotheses

2.1. Overview of the sustainability debate

In line with Goal 12 of the Sustainable Development Goals (SDGs) (UNDP, 2017), responsible consumption and production are crucial for a business's strategic outlook. Consequently, companies such as F&B SMMEs, which are familiar with waste and pollution, are required to cautiously consider their approach, flexibility in business models, and societal impacts to transform and prepare for the future (WEF, 2021). To this effect, several recent studies have highlighted external as well as internal factors such as tactical philosophies, processes and behaviours (Wales et al., 2020) that would shape businesses' strategies to become more environmentally sustainable, achieving a so-called "green" focus (Gast et al., 2017; Sarkis and Zhu, 2018) in pursuit of a green market orientation that aims to reduce environmental degradation and facilitate superior competitive performance (Wang, 2020).

Sometimes, subcultures with different viewpoints within companies can impede companies' progress in reaching their goal of becoming more environmentally sustainable (Hillary, 2004; Kok et al., 2019). This is why it is important for a company's strategic orientation to influence companies' decision-making at the corporate level (Rehman et al., 2022; Narver et al., 1998). Two of the most widely studied orientations are *market orientation* and *entrepreneurial orientation* (Schweiger et al., 2019), of which *market orientation* is the more predominant (Abdulsamad et al., 2021; Green et al., 2015; Jiang et al., 2020; Liao, 2018). It is regarded as the foundation of modern marketing theory and is considered a significant facet of thriving business culture (Jansson et al., 2017; Montiel-Campos, 2018; Wijesekara et al., 2016). The seminal works by Kohli and Jaworski (1990) and Narver and Slater (1990) brought the market orientation concept to the forefront of marketing theory. They explained that a company's market orientation empowers them to develop long-term customer value and to obtain vital information concerning market needs and trends that would improve companies' decision-making capabilities (Nasution et al., 2011). The philosophy is that organisations' performance will increase when they are better connected to their customers' needs Wang (2020).

Scholars have adopted different perspectives to define market orientation, either focusing on behavioural- (Jaworski and Kohli, 1993;

Kohli et al., 1993), cultural aspects (Hunt and Lambe, 2000; Kohli and Jaworski, 1990; Narver and Slater, 1990), or a combination of these (Homburg and Pflesser, 2000; Na et al., 2019; Oakley, 2012). This study adopted a cultural perspective, arguing that organisational culture and related decision-making abilities impact business performance (Abdulsamad et al., 2021; Green et al., 2015; Jiang et al., 2020). Accordingly, and supporting Abdulsamad et al. (2021), this study defined the construct as "the organisation culture that most effectively and efficiently creates the necessary behaviours for the creation of superior value for buyers, and thus continuous superior performance for the business" (Narver and Slater, 1990, p. 21). Wang (2020) extends this definition, including the need for a "business' superior inter-functional collaboration and customer-linking capabilities" to achieve exceptional business performance (p. 3124).

It is envisaged that enhanced awareness of the environment will change individuals' buyer behaviour and encourage demand for pro-environmental regulation changes (Pawaskar et al., 2018). Amid these growing ecological pressures, a market orientation that integrates green resources and skills into businesses' market orientation is non-negotiable when aiming to gain a competitive advantage in the marketplace (Crittenden et al., 2011; Hart and Dowell, 2011; Pawaskar et al., 2018). By strategically aligning sustainability with their marketing strategies (Crittenden et al., 2011) the market orientation of a business is extended to a green market orientation (Li et al., 2018; Wang, 2020).

2.2. Green market orientation

With the exception of Crittenden et al. (2011) and González-Benito and González-Benito (2005), most research concerning market orientation focussed on business profitability (Iyer et al., 2018; Jaworski and Kohli, 1993), largely negating the relationship between market orientation and environmental sustainability. Some scholars (Cuerva et al., 2014; Perez-Sanchez et al., 2003; Triguero et al., 2013), however, suggest that SMMEs are strongly influenced by customer and stakeholder pressures to apply environmentally friendly measures. Therefore, the emergence of green consumers has changed the competitive landscape of the business world (Fatoki, 2019; Tjahjadi et al., 2020), which was predicted more than a decade earlier by Kammerer (2009) who noted customers' concerns about environmental degradation.

An extension of the market orientation concept, therefore, adopts a sustainable and environmental perspective (Green et al., 2015; Jiang et al., 2020; Wang, 2020) that distinguishes *organisational performance*, *customer-*, *innovation-*, and *employee consequences* (Jiang et al., 2020). Green market orientation, as an extension of market orientation, is part of the environmental consequences category (Chen et al., 2015; Green et al., 2015; Li et al., 2018; Wang, 2020), and reflects a business orientation that is committed to the environment and all related concerns (Jansson et al., 2017; Li et al., 2018; Menon and Menon, 1997). Earlier on, Banerjee et al. (2003, p. 106) defined green market orientation as "the recognition of the importance of environmental issues facing their businesses" which Li et al. (2018) expanded to acknowledge the customer. They described a green market orientation as a business philosophy that aims to determine and address customers' requirements and wishes by offering appropriate products and services. An even more extensive view is that a green market orientation is typical of "an inter-functional organisation that responds to social and environmental needs of its customers, facing competitors' engagement in environmental management" (Wang, 2020, p. 3124). This definition embraces the three components of green market orientation applied in this study) namely *green customer orientation*, *green competitor orientation*, and *green inter-functional coordination* to acknowledge businesses' response in terms of social and environmental aspects (Fatoki, 2019; Wang, 2020), as suggested by Cheng and Krumwiede (2012) earlier on. Accordingly, this study assumed that a green market orientation indicates the ability of a business to acknowledge prevailing environmental issues and to

develop the necessary ecological skills, products, processes, and services to respond to social and environmental issues and engage with competitors to achieve superior performance (Cheng and Krumwiede, 2012; Li et al., 2018; Wang, 2020).

2.3. Green market orientation (GMO) and green performance (GP)

Businesses' around the world are increasingly implementing environmental initiatives reflecting concerns about environmental sustainability (Tuan, 2021). This topic has sparked considerable debate in the literature (Wang, 2020). Based on the established relationship between market orientation and businesses' performance, the relationship between green market orientation and green performance is assumed. Furthermore, green performance is driven by internal and external factors (Jiang et al., 2020). The internal drivers constitute, among others, organisations' board characteristics and their environmental innovation, while external drivers include social- (Jiang et al., 2020) and customer pressure (Zailani et al., 2012a,b), regulatory frameworks (Wagner, 2015), and competition in the marketplace (Graafland, 2016).

This study took note of the multidimensionality of green performance, distinguishing *financial performance*, as well as two non-financial indicators, *social-* and *environmental performance* (Fatoki, 2019; Malik et al., 2021; Wang, 2020) that admit companies' social and environmental responsibility (Fatoki, 2019). Despite much controversy about the phenomenon's definition and measurement, green performance as defined by Wang (2020, p. 3125) entails "businesses' intention to meet its financial objectives, exceed social expectations for environmental responsibility, and mitigate environmental challenges caused by its production activities" expanding value creation to include economic – as well as non-profit gains. In the end, all the components of green market orientation (*green customer orientation (GCuO)*, *green competitor orientation (GCoO)*, and *green inter-functional coordination (GfC)*) have to be considered in terms of businesses' green performance, as discussed next.

2.3.1. Green customer orientation (GCuO) and green performance (GP)

Green customer orientation concerns the development of information about significant environmental changes to address consumers' concerns about ecological conservation (Wang, 2020), and optimising the information to establish a strategy that aptly addresses customers' needs (Kohli and Jaworski, 1990; Narver and Slater, 1990; Ziggers and Henseler, 2016). Most studies that have adopted a component-wise approach to green consumption (Day and Wensley, 1988; Deshpandé and Farley, 1998; Sin et al., 2005) concluded that green customer orientation shapes the performance of an organisation (Tsiotsou, 2010) and that it, as a fundamental element of companies' value strategy, provides the basis for a sustainable competitive advantage that enhances financial performance (Deshpandé et al., 1993; Kohli and Jaworski, 1990; Tsiotsou, 2010). Various studies (Abdulsamad et al., 2021; Babu, 2018; Cantele and Zardini, 2020; Mubarak, 2019; Sin et al., 2005; Tsiotsou, 2010) concur that green customer orientation exerts a robust and significant impact on marketing and businesses' overall performance. The study, therefore, hypothesised that.

H1a. Green customer orientation (GCuO) significantly and positively impacts the green performance of F&B SMEs in South Africa.

2.3.2. Green competitor orientation (GCoO) and green performance (GP)

In the competitive environment of the F&B industry, business managers are obliged to position themselves relative to their competitors in the market (Arnett et al., 2021; Newman et al., 2016b), using their business activities as a yardstick to monitor relevant market activities and pre-empt action (Alhakimi and Mahmoud, 2020). Inevitably, therefore, a competitor analysis needs to be done to become acquainted with who and what the competitive landscape entails, particularly noting activities that could direct their environmental strategy (Wang, 2020). Simply stated, to succeed in an increasingly "green" orientated

world, businesses require a comprehensive understanding of competitors' goals and strategies and the resources necessary to facilitate the formulation of a green competitor-orientated business strategy (Arnett et al., 2021).

Although several scholars concur about a positive link between competitor orientation and business performance (Mubarak, 2019; Prayitno and Farida, 2017; Wang, 2020), even elevating it as the primary dimension of green market orientation and a primary determinant of business performance (Dawes, 2000; Noble et al., 2002b), other studies could not find empirical evidence to support the association (Chebet et al., 2018). Notwithstanding, in a highly competitive business environment, companies that prioritise environmental sustainability and have the ability to gather information about green practices from their competitors are better prepared to develop effective green strategies and improve their environmental performance (Wang, 2020). Accordingly, the study hypothesised that.

H1b. Green competitor orientation (GCoO) is significantly, and positively related to the sustainable performance of SMEs in South Africa.

2.3.3. Green inter-functional coordination (GfC) and green performance (GP)

Green inter-functional coordination indicates a company's ability to coordinate its resources across its business functions to generate more value for the customer (Jiang et al., 2020; Wang and Miao, 2015). It refers to the teamwork that is required to produce, gather, and distribute market environmental intelligence (Wang, 2020) to enhance unity, communication, and trust among the different functional sections of a business to facilitate superior sustainable performance (Auh and Menguc, 2005b; Wang, 2020).

Although GfC was neither considered in the work of Narver and Slater (1990) nor Jiang et al. (2020), it is regarded as a vital dimension of green market orientation in terms of managing pressure and having to deal with high volumes of information within an organisation, as well as to cope with uncertainty and change (Cantele and Zardini, 2020; Liu et al., 2018). It assumes the involvement of every employee to support activities that will generate value for consumers (Özcam and Kuscü, 2020), hence a high level of interaction and connectedness within a company (Liu et al., 2018) and commitment to optimise the company's resources as discussed in inter-organisational meetings (Özcam and Kuscü, 2020). GfC is particularly useful in accommodating different green initiatives as part of an organisation's green market orientation to achieve the united greater goal of sustainability (Liu et al., 2018).

Contrary to earlier studies that examined the direct effect of GfC on business performance (Dawes, 2000; Han et al., 1998; Sin et al., 2005; Tsiotsou, 2010) and which could not confirm the anticipated direct link, more recent studies (Abdulsamad et al., 2021; Babu, 2018; Tjahjadi et al., 2020; Wang, 2020), have indeed confirmed the link, suggesting change over time, linking higher GfC levels to higher customer satisfaction levels, increased profitability, and optimal strategic planning (Özcam and Kuscü, 2020). Therefore, GfC is indeed considered beneficial to promote an environmentally friendly image to customers and convey the value of sustainable performance (Auh and Menguc, 2005a; Wang, 2020). Accordingly, this study hypothesised that.

H1c. Green inter-functional coordination (GfC) is significantly, and positively related to the sustainable performance of SMEs in South Africa.

2.4. Green market orientation (GMO) and green internal practices (GIP)

Companies implement green internal practices to comply with consumers' changing requirements, to reduce the negative impacts of their manufacturing processes on the environment (Tjahjadi et al., 2020), and to facilitate a competitive sustainable performance and sustainable business operations (Lee et al., 2013) and enhance superior financial performance (Aragon-Correa and Sharma, 2003; Hart and Dowell, 2011;

Shrivastava, 1995). Both internal and external green practices are relevant in terms of environmental performance (Zhu et al., 2007), implying that the entire supply chain should become green (Suganthi, 2019).

Miroshnychenko et al. (2017) and Li et al. (2018) considered green practices through the sustainable-value framework of Hart and Milstein (2003), where sustainable value is created through the adoption of internal and external green practices. Miroshnychenko et al. (2017) subsequently expanded the construct to incorporate product stewardship and a sustainability vision, green supply chain management practices, green product development practices, and an environmental management system, even mentioning the prevention of pollution and clean technology in support of previous studies (González-Benito and González-Benito, 2005; Suganthi, 2019). In turbulent environments, such as in emerging markets and during the COVID-19 pandemic (Chowdhury et al., 2022; Telukdarie et al., 2020), businesses have to continually adapt to survive, in which case the combination of increased flexibility and green practices is conducive to boosting improved financial and environmental performance (Perez-Valls et al., 2016a).

The three components of green market orientation - namely *green customer orientation (GCuO)*, *green competitor orientation (GCoO)*, and *green inter-functional coordination (GIFC)* - are discussed next in terms of businesses' green internal practices (GIP).

2.4.1. Green customer orientation (GCuO) and green internal practices (GIP)

Customers' consumption behaviour is a vital indication to businesses of their regard for the environment (Cantele and Zardini, 2020; Pekovic et al., 2016a). Businesses' implementation of GIP results from customers' hidden demand and blatant market pressure (Klassen and McLaughlin, 1996). Businesses' GIP is, therefore, supposed to acknowledge customers' desires (Darnall et al., 2010) by promoting and supporting environmentally friendly products and services that customers highly value to the extent that they would be encouraged to share favourable satisfaction feedback that would enhance businesses' image, and cultural values that are aligned with environmental issues (Chen et al., 2015; Crittenden et al., 2011a; González-Benito and González-Benito, 2008). Indications are that customers well support environmental strategies that inspire innovations (Dibrell et al., 2011; Kammerer, 2009). Further support for the positive association between green customer orientation and green practices is available in corporate social responsibility (CSR) literature (Rehman et al., 2022; Pekovic et al., 2016), indicating that consumers develop positive attitudes, feelings and responses towards organisations that are intensely involved in CSR activities (Handelman and Arnold, 1999) inspiring the hypothesis that.

H2a. Green customer orientation (GCuO) is significantly and positively related to the implementation of green internal practices (GIP) by F&B SMMEs in South Africa.

2.4.2. Green competitor orientation (GCoO) and green internal practices (GIP)

In dynamic environments such as the F&B industry, fierce competition by existing and new market entrants must be effectively managed (Perez-Valls et al., 2016b). Therefore, it is crucial to continually monitor competitors' environmental actions to identify new opportunities and directions (Ngo, 2022a; Voss and Voss, 2000) and upgrade existing proactive environmental strategies (Dai et al., 2018). Click or tap here to enter text. While it is assumed that pressure from competitors can help strengthen businesses' capabilities and internal operational activities (Borazon et al., 2022), conclusive evidence that a green competitor orientation significantly influences business innovations could not be found (Gatignon and Xuereb, 1997; Han et al., 1998; Narver and Slater, 1990). Nonetheless, the focus on green competitors enables small and medium-sized enterprises to assess and update their current eco-friendly

internal practices, thus enhancing the value they bring to their business (Ngo, 2022b). This study proposed that.

H2b. Green competitor orientation (GCoO) is significantly and positively related to the implementation of green internal practices (GIP) by F&B SMMEs in South Africa.

2.4.3. Green inter-functional coordination (GIFC) and green internal practices (GIP)

GIFC entails collaboration between departments, businesses, and suppliers to address current market issues. Empirical evidence exists that GIFC improves the implementation of green supply chain management capability (Borazon et al., 2022) and is positively associated with explorational and exploitation green innovation (Ngo, 2022b), positively impacting green innovation (Tjahjadi et al., 2020; Wang, 2020), which inspired the study's hypothesis that.

H2c. Green inter-functional coordination (GIFC) is significantly, and positively related to the implementation of green internal practices (GIP) by F&B SMMEs in South Africa.

2.5. Green internal practices (GIP) and green performance (GP)

Of particular interest in this study, was that business performance is distinguished in terms of *financial-* (economic cost), *operational-* (manufacturing), *social-* (market), and *environmental* (green) performance (Jabbour et al., 2015). The relationship between green internal practices and business performance has received attention in management as well as economics literature, suggesting that green internal practices, which consider resource optimisation, would most likely boost organisational performance (Geng et al., 2017; Golcic and Smith, 2013) and facilitate a company's competitive advantage (Pekovic et al., 2016; Porter & Van Der Linde, 1995). Various studies (González-Benito and González-Benito, 2005; Jabbour et al., 2012; Li et al., 2018; Miroshnychenko et al., 2017) concur that green practices enhance business performance in general, mainly that businesses' marketing performance improves when green practices are integrated with other organisational functions (Wagner, 2008). However, the financial profitability of green internal practices is still disputed (Dowell and Muthulingam, 2017). Some argue that implementing green practices could potentially increase expenses and hinder business processes, negatively impacting a company's financial performance (Li et al., 2017; Ambec and Lanoie, 2008). According to Li et al. (2017). The impact of green initiatives varies across industry sectors. Adverse outcomes are often the result of companies reacting to environmental concerns, rather than proactively implementing green strategies. It is important to note that the positive effects of environmentally friendly practices on financial performance may not be immediate and could take some time for companies to realize and benefit from.

Not surprisingly, therefore, businesses are often inclined to question the merit of "going green" and the circumstances conducive to adopting green internal practices (Ambec and Lanoie, 2008; Dowell and Muthulingam, 2017; Hart and Dowell, 2011). On the positive side, Darnall et al. (2008) positively link proactivity in green practices with better financial results and greater operational efficiency. Therefore, this study proposed that.

H3. Businesses' implementation of green internal practices (GIP) is significantly, and positively related to the green performance (GP) of F&B SMMEs in South Africa.

2.6. The mediating effect of GIP in the relationship between GMO and the GP of SMMEs

Previous studies (Abdulsamad et al., 2021; Fatoki, 2019; Li et al., 2018; Tjahjadi et al., 2020; Wang, 2020) have determined a direct relationship between green market orientation (GMO) and green

performance (GP). Others (Jabbour et al., 2015; Miroshnychenko et al., 2017; Suganthi, 2019) have also reported a direct relationship between green practices (GP) and green performance (GP). Considering that the mediating effect of a variable (Z) is tested based on established proof of a relationship between X and Y (Hayes, 2018), this study proposed that.

H4. The relationship between green market orientation (GMO) and the green performance (GP) of F&B SMMES in South Africa is mediated by their green internal practices (GIP).

Noting the different dimensions of GMO, the following sub-hypotheses are distinguished.

H4a. The relationship between **green customer orientation** (GCuO) and **green performance** (GP) of F&B SMMES in South Africa is mediated by the implementation of **green internal practices** (GIP).

H4b. The relationship between **green competitor orientation** (GCoO) and **green performance** (GP) of F&B SMMES in South Africa is mediated by the implementation of **green internal practices** (GIP).

H4c. The relationship between **green inter-functional coordination** (GIfC) and **green performance** (GP) of F&B SMMES in South Africa is mediated by the implementation of **green internal practices** (GIP).

The study adopted a quantitative approach, as explained below.

3. Research methodology

To contribute to the academic discourse, a quantitative approach was chosen to expand recent, related studies (Borazon et al., 2022; Li et al., 2018; Tjahjadi et al., 2020; Wang, 2020). With a lack of studies conducted on typically African phenomena (Barnard et al., 2017; George et al., 2016), this research expands on previous studies in Western and Eastern markets by focusing on the African continent (Barnard et al., 2017; George et al., 2016). The study’s hypotheses were tested in a South African food manufacturing and service context, given the vital role and potential of this sector frequently blamed for excessive waste and pollution (Madanaguli et al., 2022). Considering neglect in previous research of smaller businesses (Jansson et al., 2017; Leonidou et al., 2017) on the topic. The findings of this study will be instrumental in formulating business strategies for F&B SMMES that further global climate change initiatives.

3.1. Sample and data collection

Through an electronic survey, 376 service and manufacturing SMMES were recruited across the nine provinces in South Africa, prioritising the three provinces of Gauteng, Kwa-Zulu Natal, and Western Cape with more established green initiatives (PAGE & DEA, 2017). Gauteng is South Africa’s economic hub, while Kwa-Zulu Natal and the Western Cape are major agricultural production areas.

Various data sources were used, such as government and private sector company lists, university associations’ connections, and market consultants. Initially, questionnaires were sent out electronically to reach owners and senior managers of F&B SMMES. The questionnaires targeted individuals with decision-making responsibilities who were well-acquainted with their establishments. Confidentiality was assured in the cover letter. To enhance the sample size in underrepresented provinces, especially in KwaZulu Natal, field workers trained by a well-established research company were tasked with recruiting suitable respondents. After conducting interviews with closed-ended questions and reaching out to different geographical areas, the researchers received 491 completed questionnaires, which produced 376 fully completed questionnaires, resulting in a 76.58% response rate. The representation of F&B SMMES in the services industry (86.7%) exceeded those in food manufacturing. Most businesses were in operation for between 10 and 20 years (47.1%), and their customers were primarily individual consumers and households (77.1%). Most respondents were from the three

provinces that are mainly targeted for their involvement in green initiatives (Gauteng, 31.9%; KwaZulu Natal, 25%; Western Cape, 13.6%).

3.2. Variables and measures

Measurement items were inspired by the work of Wang (2020), adapting or adding items from other validated scales. Five increment Likert-type Agreement measurement scales ranged from 1 (Strongly disagree), to 5 (Strongly agree). First-order factor analysis served as a reliability measure to identify the factors for all the independent, mediator, and dependent variables. In contrast, second-order analysis served to verify the variables’ factor loadings. The initial analyses are reported next.

3.2.1. Measuring green Market orientation (GMO)

The three dimensions of Green Market Orientation (GMO) were covered by 14 items that were retrieved from previous studies (Borazon et al., 2022; Wang, 2020). They produced acceptable reliability measures during first-order factor analysis for the entire construct (Cronbach’s alpha = 0.93; scale mean = 3.62, SD = 0.87). Split into the relevant dimensions, *green customer orientation* (GCuO) was represented by five items (Cronbach’s alpha = 0.93, scale mean = 3.83, SD = 0.88); *green competitor orientation* (GCoO) by five items (Cronbach’s alpha = 0.93, scale mean = 3.45, SD = 1.01), and *green inter-functional coordination* (GIfC) by four items (Cronbach’s alpha = 0.96, scale mean = 3.56, SD = 1.08). Table 1 presents the first-order rotated factor matrix for the three dimensions - the independent variables - using Principal Axis Factoring, and Varimax rotation with Kaiser Normalization, which converged in six iterations.

Second-order analysis confirmed the three components to be part of the GMO construct: GCuO: Cronbach’s alpha = 0.78; GCoO: Cronbach’s alpha = 0.81; GIfC: Cronbach’s alpha = 0.831.

3.2.2. Measuring green internal practices (GIP)

Businesses’ implementation of green internal practices (GIP) - a mediator variable acting as both an independent and dependent variable (Hair et al., 2019) - was measured through 16 items. Using Principal Axis Factoring with Varimax rotation and Kaiser Normalization, four factors emerged after seven iterations, namely: *Consumption policies*, six items (Cronbach’s alpha = 0.91); *Waste policies*, two items (Cronbach’s alpha = 0.92); *Internal business practices* (IBP), five items (Cronbach’s alpha = 0.95); and *Internal supplier practices*, five items (ISP) (Cronbach’s alpha

Table 1

First order rotated factor matrix for the independent variable “green market orientation”.

Rotated Factor Matrix			
	Factor		
	1	2	3
B8.1	0.780		
B8.2	0.760		
B8.3	0.729		
B8.4	0.775		
B8.5	0.773		
B9.1			0.768
B9.2			0.768
B9.3			0.767
B9.4			0.765
B9.5			0.647
B10.1		0.865	
B10.2		0.840	
B10.3		0.823	
B10.4		0.777	
Extraction Method: Principal Axis Factoring.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

Note. Author’s own compilation showing results obtained.

= 0.94). Results are displayed in Table 2.

The four factors assimilated well in the second-order analysis, confirming them as components of GIP. They explained 62.9%, 18.71%, 12.55%, and 5.81% of the variance in the data, respectively.

3.2.3. Measuring green performance (GP)

Green performance (GP), a dependent variable, was measured using 35 items (Cronbach's alpha = 0.97) after the removal of one item (E15.1) with a weak loading. Factor loadings for the empirical factors differed from the theoretical factors and were challenging to label sensibly. Subsequently, the study reverted to the theoretical factors, relying on acceptable reliability measures: GP (across the scale of 34 items): Cronbach's alpha = 0.96, while reliability figures for the dimensions came to: *Financial/economic performance* (GFP), eight items, Cronbach's alpha = 0.88; *Environmental performance* (GEP), 16 items, Cronbach's alpha = 0.95; *Social performance* (GSP), ten items, Cronbach's alpha = 0.93. In second-order analysis, all three factors successfully loaded onto GP.

3.3. Validity and reliability measures

Exploratory factor analysis was conducted on the three independent variables, the mediating-, as well as the dependent variable. Principal axis factoring distinguished three factors that explained 77.7% of the variance, as well as four factors for the mediator variable, explaining 76.7% of the variance, and four factors for the dependent variable, explaining 64.3% of the variance in the data. All items were retained as they loaded appropriately on their respective constructs without any cross-loading. Hence, the scales met the criterion of uni-dimensionality. The three factors assimilated when measuring GMO as a second-order construct, confirming GMO as a multidimensional construct. Construct reliability was confirmed by Cronbach's alpha figures ranging from 0.91 to 0.97, exceeding the threshold of 0.7 (Hair et al., 2019).

The following section presents the outcomes of the statistical analyses.

4. Results

Descriptive analyses were followed by multiple regression analyses.

Table 2
First-order rotated factor matrix for the mediator variable "green internal practices".

Rotated Factor Matrix				
	Factor			
	1	2	3	4
C11.1	0.909			
C11.2	0.894			
C11.3	0.851			
C11.4	0.750			
C11.5	0.651			
C11.6	0.577			
C11.7				0.849
C11.8				0.805
C12.1			0.842	
C12.2			0.868	
C12.3			0.768	
C12.4			0.709	
C12.5			0.601	
C13.1	0.591			
C13.2	0.843			
C13.3	0.871			
C13.4	0.855			
C13.5	0.747			

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

Note. Author's own compilation showing results obtained.

4.1. Sample profile

With males representing 50.3% of the sample, the gender distribution was almost equal. Concerning respondents' age, 43.2% were younger than 40 years, and 51% were between 40 and 59 years old, with less than 10% younger than 30, or older than 60 years. The vast majority (86.7%) represented the F&B services industry, while the rest were in food manufacturing. Testimony of the businesses' experience is that 26.1% and 53.5% had been in operation for 5–9 years and more than ten years, respectively. Nearly a third of the sample did not complete secondary school; about half of the sample (48.6%) completed secondary schooling, while 17,6% possessed a tertiary diploma or degree.

4.2. Hypotheses testing

Hypotheses were tested using multiple regression analyses to examine the proposed main and mediating effects between the constructs, attending to the direct relationships first. Table 3 presents the results for hypotheses 1 to 3, discussed thereafter.

4.2.1. The relationships between F&B SMMEs' GMO and GP (H1a, H1b, H1c)

Green market orientation (GMO) was analysed using the three related dimensions.

A positive relationship was proposed between **green customer orientation** and the **green performance** of F&B SMMEs in South Africa. *Linear regression was used to test if GCuO positively influences GP. Based on the linear line of the scatter plot, and Pearson's bivariate correlation coefficient (r) (Campbell and Machin, 1999), a positive relationship between GCuO and GP was affirmed: $GP = 1.94 + 0.48 GCuO$. The Pearson's Correlation Coefficient for the linear relationship between GCuO and GP indicated a positive association, moderate in strength ($r = 0.603$). A significant regression equation was found ($F = 213.460, p < 0.001$) with an R^2 of 0.363. The adjusted R-square indicated that GCuO explained 36.2% of the variability of GP. The regression coefficient was significant, with a p-value < 0.001 . Therefore.*

H1a. proposing that green customer orientation is directly and positively related to the green performance of F&B SMMEs in South Africa, is supported.

For the second dimension, **green competitor orientation**, the hypothesis (**H1b**). proposed a positive association between **green competitor orientation** and the **green performance** of F&B SMMEs in South Africa. *Linear regression analysis and the related scatter plot suggested a positive relationship between the constructs (Equation: $GP = 2.32 + 0.42 GCoO$) and a moderately strong association ($r = 0.607$). A significant regression equation was found ($F = 218.408, p < 0.001$) with an R^2 of 0.369. The adjusted R-square indicated that GCoO explained 36.7% of the variability of GP. The regression coefficient was significant (p-value < 0.001). Therefore.*

H1b. proposing that green competitor orientation is positively related to the sustainable performance of SMMEs in South Africa, is supported.

For the third dimension, **green inter-functional coordination**, **H1c** proposed a positive relationship between **green inter-functional coordination** and the **green performance** of SMMEs in South Africa. *Linear regression analysis and the scatter plot suggested a positive relationship between the constructs (Equation: $GP = 2.38 + 0.39 GIfC$). The Pearson's correlation test indicated a moderately strong positive association between GIfC and GP, $r = 0.605$, and a significant regression equation ($F = 216.003, p < 0.001$) with an R^2 of 0.366. Per the adjusted R-square, GIfC explained 36.4% of the variability of GP. The regression coefficient is significant, with a p-value < 0.001 . Therefore.*

H1c. proposing that green inter-functional coordination is positively related to the sustainable performance of SMMEs in South Africa, is

Table 3
Evidence concerning the relationships proposed in the hypotheses.

Hypothesis No.	H1a	H1b	H1c	H2a	H2b	H2c	H3
Relationship	GCuO-GP	GCoO-GP	GfC-GP	GCuO-GIP	GCoO-GIP	GfC-GIP	GIP-GP
β	0.478	0.421	0.393	0.602	0.496	0.589	0.564
t	14.610	14.779	14.697	15.350	13.998	21.493	18.342
Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Status	Supported	Supported	Supported	Supported	Supported	Supported	Supported

supported.

4.2.2. The relationships between F&B SMMEs' green market orientation (GMO) and green internal practices (GIP)

Again, GMO was analysed in terms of the three dimensions.

First, the relationship between GCuO and GIP was explored to test the proposed significant positive relationship between **green customer orientation** and implementing **green internal practices** by F&B SMMEs in South Africa. The scatter plot suggested a positive linear relationship between the constructs (Equation: $GP = 1.14 + 0.60 \text{ GCuO}$). The Pearson's Correlation Coefficient for the relationship between GCuO and GIP indicated a moderate association ($r = 0.622$), presenting a significant regression equation ($F = 235.607$, $p < 0.001$), with an R^2 of 0.386, indicating that GCuO explained 38.5% of the variability of GIP. The regression coefficient was significant, with a p-value < 0.001 . Therefore.

H2a. proposing that green customer orientation is positively related to implementing green internal practices by F&B SMMEs in South Africa, is supported.

Concerning the proposed positive relationship between the second dimension of GMO, **green competitor orientation** (GCoO), and **green internal practices** (GIP) (**H2b**), linear regression analysis and the related scatter plot suggested a positive relationship (Equation: $GP = 1.74 + 0.50 \text{ GCoO}$). The Pearson's Correlation Coefficient suggested a moderately strong association between GCoO and GIP ($r = 0.586$). A significant regression equation was found ($F = 195.951$, $p < 0.001$) with an R^2 of 0.344. The adjusted R-square indicated that GCoO explains 34.4% of the variability of GIP. The regression coefficient was significant (p-value < 0.001), and therefore.

H2b. proposing that green competitor orientation is positively related to implementing green internal practices by F&B SMMEs in South Africa, is supported.

Similarly, for the third dimension of GMO, **green inter-functional coordination** (GfC), **H2c** proposed a positive relationship with GIP. Linear regression analysis and the relevant scatter plot suggested a positive relationship between the two constructs (Equation $GP = 1.35 + 0.59 \text{ GfC}$). The Pearson's Correlation Coefficient for the relationship was calculated ($F = 152.238$, $p < 0.001$), revealing ($r = 0.743$) that GfC and GIP are strongly correlated. The adjusted R-square indicated that GfC explained 55.1% of the variability of GIP. The regression coefficient was significant (p-value < 0.001). Therefore.

H2c. proposing that green inter-functional coordination is positively related to implementing green internal practices by F&B SMMEs in South Africa, is supported.

4.2.3. The relationship between F&B SMMEs' green internal practices (GIP) and their green performance (GP)

The study proposed a positive relationship between **green internal practices** (GIP) and the **green performance** (GP) of F&B SMMEs in South Africa (**H3**). The linear regression and the relevant scatter plot showed a positive relationship between GIP and GP. The equation for the relationship was $GP = 1.83 + 0.56 \text{ GfC}$. Pearson's Correlation Coefficient between GIP and GP revealed a strong association between GIP and GP ($r = 0.743$). A significant regression equation ($F = 336.415$,

$p < 0.001$) with an R^2 of 0.474 and a correlation coefficient ($r = 0.688$) indicated that GIP and GP are strongly correlated. The adjusted R-square indicates that GIP explained 47.2% of the variability of GP. The regression coefficient is significant (p-value < 0.001). Therefore.

H3. proposing that businesses' implementation of green internal practices positively relates to the green performance of F&B SMMEs in South Africa, is supported.

4.2.4. The envisaged mediating effect of GIP on the relationship between GMO (per its dimensions) and GP (H4)

This study proposed that the implementation of **green internal practices** (GIP) mediates the relationship between **green customer orientation** (GCuO) and **green performance** (GP) (**H4a**), that **green internal practices** (GIP) mediates the relationship between **green competitor orientation** (GCoO) and **green performance** (GP) (**H4b**), and that GIP **green internal practices** (GIP) mediates the relationship between **green inter-functional coordination** (GfC) and **green performance** (GP) (**H4c**). Mediation alludes to a situation when the relationship between a predictor variable (X) and an outcome variable (Y) can be explained by their relationship to a third variable (Z), the mediator (Frazier et al., 2004; Hayes, 2013; Preacher and Hayes, 2004). In this study, $X = \text{GCuO/GCoO/GfC}$; $Y = \text{GP}$; $Z = \text{GIP}$. Mediation occurs when the strength of the relationship between X and Y is reduced by including the mediator Z (Hayes, 2013).

The scenario is depicted in Fig. 1, where path a reflects the direct relationship between the specific dimension of GMO and GIP; path b the direct relationship between GIP and GP; path c the direct relationship between GMO, and GP, and path c' reflects the indirect relationship of the dimension of GMO on GP with GIP as a mediator. For mediation to occur, paths a, b, and c needed to be statistically significant. Path c was tested to test for full or partial mediation on the premise that if the path becomes statistically insignificant after adding the mediator, then the relationship is not significant, suggesting full mediation. If the path is statistically significant after adding the mediator, GIP, then the relationship is statistically significant, signifying partial mediation.

Concerning the regression analysis:

Path c in Fig. 1 is discussed first because it indicates that a possible direct relationship exists between the independent predictor variable (GCuO) and the dependent outcome variable (GP) (Frazier et al., 2004).

Path a is interpreted next, where the mediator variable, GIP, was regressed on the predictor independent variable (GCuO) to create Path a (Frazier et al., 2004).

Lastly, **Paths b** and **c'** are then evaluated. The outcome-dependent variable (GP) was regressed on the predictor-independent variable (GCuO) as well as the mediator (GIP) (Frazier et al., 2004).

In Fig. 1, path a reflects the direct relationship between GCuO/GCoO/GfC and GIP; path b the direct relationship between GIP and GP; path c the direct relationship between GCuO/GCoO/GfC and GP; and path c' the indirect relationship of GCuO/GCoO/GfC on GP through GIP as a mediator. For mediation to occur, paths a, b, and c needed to be significant. To test for full or partial mediation, path c was tested: if this path becomes insignificant after adding the mediator, then the relationship is not significant, indicating full mediation. If this path is significant after adding the mediator, the relationship reflects partial mediation. The results are discussed next.

This study hypothesised (H4a) that GIP mediates the

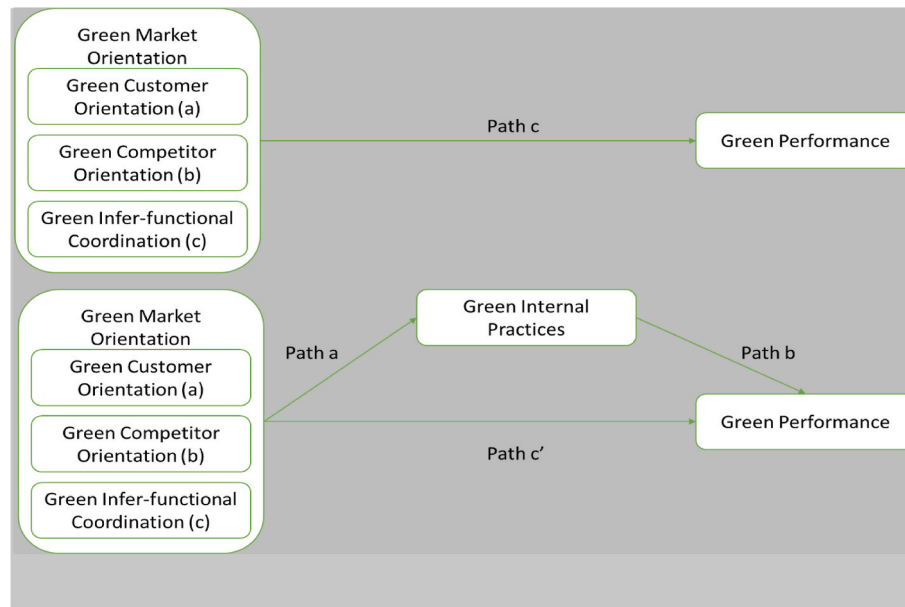


Fig. 1. The mediation effect in the relationship between green market orientation and green performance. Note. Author's compilation showing results obtained. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

relationship between GCuO and GP. The following apply.

- Concerning path c, which entails the direct relationship between GCuO and GP, Pearson's Correlation Coefficient ($r = 0.603$; $p = 0.000$) indicates a significant, positive, and moderate relationship, whereby GCuO explains 36.3% of the variance in performance. The direct effect from GCuO to GP is positive, statistically significant, and moderately strong ($\beta = 0.478$, $t = 14.610$, $p = 0.000$).
- Path a, reflecting the direct relationship between GCuO and GIP, is significant ($p = 0.000$) and contributes 38.7% to the variance in the data. The direct effect from GCuO to GIP is positive, statistically significant, and moderately strong ($\beta = 0.602$, $t = 15.350$, $p = 0.000$).
- For path b, which reflects the direct relationship between GIP and GP, GP, as an outcome variable, is significant ($p = 0.000$). The direct effect from GIP to GP (path b) is positive and significant ($\beta = 0.419$, $t = 12.246$, $p = 0.000$), suggesting that SMMEs with more established GIP are more likely to achieve favourable GP outcomes than their counterparts who are not yet aptly aligned.
- Path c', indicating the direct effect from GCuO to GP with the inclusion of the mediator (GIP) is positive and significant ($\beta = 0.226$, $t = 6.2502$, $p = 0.000$), concluding that SMMEs with a stronger GCuO are more likely to implement GIP than businesses with a less profound GCuO.

To test the mediating effect of GIP in the relationship between GCuO and GP (H4a), the method of Frazier et al. (2004) was used. Because the z-score of 9.023 exceeds 1.96, the mediating effect is significant, and GIP's effect on this relationship is 52.69%. The confidence estimate of the indirect impact ranged from 0.197 to 0.307 for the lower and upper limits, excluding zero; therefore, mediation is evident. Therefore.

H4a. proposing that businesses' green internal practices mediate the relationship between green customer orientation (GCuO) and their green performance (GP), is supported.

To test hypothesis 4b, the proposed mediating effect of GIP on the relationship between GCoO and GP.

- Path c in Fig. 1 presents the direct relationship between GCoO and GP. The Pearson's Correlation Coefficient indicated a positive,

moderately strong relationship. Per the regression results, the direct effect from GCoO to GP is positive, statistically significant, and moderately strong ($\beta = 0.421$, $t = 14.779$, $p = 0.000$), with indications that GCoO explains 36.9% of the variance in performance.

- Concerning path a, which reflects the direct relationship between GCoO and GIP, the conclusion is that GIP, as an outcome variable, is significant ($p = 0.000$) and contributes 34.4% to the variance in the data. The direct effect from GCoO to GIP is positive, statistically significant, and moderately strong ($\beta = 0.496$, $t = 13.998$, $p = 0.000$).
- Path b reflects the direct relationship between GIP and GP, including the mediator (GIP). The direct effect from GIP to GP (Path b) is positive and significant ($\beta = 0.415$, $t = 11.634$, $p = 0.000$), indicating that SMMEs with more secure GIP are likelier to have better GP than those scoring lower.
- Path c' is positive and significant ($\beta = 0.215$, $t = 7.136$, $p = 0.000$), suggesting that SMMEs with a stronger GCoO are more likely to have secure GIP.
- Concerning the total, direct, and indirect relationship between GCoO, GIP and GP, it was found that the total effect - the relationship between GCoO and GP - is significant ($\beta = 0.420$, $t = 14.779$, $p = 0.000$). At the same time, the direct impact is also significant ($\beta = 0.215$, $t = 7.136$, $p = 0.000$) as zero does not fall between the upper and lower limits. The impact of the indirect effect is also significant ($p = 0.000$; $\beta = 0.297$, $CI = 0.230, 0.366$) with zero excluded from the upper and lower limits.
- The mediation effect of GIP was calculated using the method used by Frazier et al. (2004). The mediating effect is significant because the z-score of 8.94 is higher than 1.96. The amount of mediation exerted by GIP on the relationship between GCoO and GP is 48.87%, indicating that GIP mediates the total impact of GCoO on GP. As the confidence around estimates of the indirect effect lie between 0.165 and 0.251 for the lower and upper limits, respectively, excluding zero, mediation is confirmed. Therefore:

H4b. proposing that businesses' green internal practices (GIP) mediate the relationship between a green competitor orientation (GCoO) and green performance (GP), is supported.

To test hypothesis 4c, proposing that GIP mediates the relationship between GfC and GP.

- For path c, which concerns the direct relationship between **green inter-functional coordination (GfC)** and **green performance (GP)**, Pearson's Correlation Coefficient was used to assess the linear relationship between the constructs, concluding a positive, moderate association ($\beta = 0.605$), and that GP as an outcome, is significant ($p = 0.000$), with indications that GfC explains 36.6% of the variance in performance. The direct effect from GfC to GP is positive, statistically significant, and moderately strong ($\beta = 0.393$, $t = 14.697$, $p = 0.000$).
- Path a reflects the direct relationship between GfC and GIP (the outcome), whereby GIP, as an outcome variable, was found to be significant ($p = 0.000$), and that GfC contributes 55.3% to the change. The direct effect from GfC to GIP is positive, moderately strong and statistically significant ($\beta = 0.589$, $t = 21.493$, $p = 0.000$), with zero not falling between the upper and lower limits.
- Path b reflects the direct relationship between GIP and GP. Accordingly, GP, as the outcome variable, is significant ($p = 0.000$). The direct effect from GfC to GP with the inclusion of the GIP, the mediator (Path c') is positive and significant ($\beta = 0.136$, $t = 3.793$, $p = 0.000$). Therefore, SMMEs better at GfC are more likely to implement GIP than their counterparts. The direct effect from GIP to GP (Path b) is positive and significant ($\beta = 0.436$, $t = 9.667$, $p = 0.000$), with zero not falling between the upper and lower limits. Therefore, it is likely that SMMEs' GP will be better when their GIPs are better.
- Concerning the total effects of GfC on GP, the relationship is significant ($\beta = 0.393$, $t = 14.697$, $p = 0.000$), with zero not falling between the upper and lower limits; the direct effect is also significant ($\beta = 0.136$, $t = 3.793$, $p = 0.000$); and so is the indirect impact ($\beta = 0.2571$, $CI = 0.190, 0.332$), with zero not included between the upper and lower limits.
- The mediating effect of GIP in the relationship between GfC and GP (H4c) was calculated in terms of Frazier et al. (2004). The mediation is significant based on a z-score of 8.816, which exceeds 1.96. Furthermore, the mediating effect of GIP on the relationship between GfC and GP is 65.44%. The confidence around the estimate of the indirect impact ranges from 0.199 to 0.314 for the lower and upper limits, respectively, excluding zero, affirming mediation, and supporting the hypothesis. Therefore:

H4c. proposing that businesses' green internal practices (GIP) mediates the relationship between their green inter-functional coordination (GfC) and green performance (GP), is supported.

4.3. Summary of the results

Table 4 presents a summary of the results.

5. Discussion and implications

Although the literature highlights the importance of the relationship between businesses' green performance (GP) and their green management orientation (GMO) (Li et al., 2018; Wang, 2020), limited context and industry-specific evidence exists concerning how food and beverage (F&B) SMMEs could enhance their green performance. This study addressed this shortcoming in a South African context, which could set a trend in emerging economies. The investigation explored the influence of green market orientation (GMO) in terms of its components, namely green customer orientation (GCuO), green competitor orientation (GCoO), green inter-functional coordination (GfC), and green internal practices (GIP). The study also considered the possible mediating role of

Table 4
Summary of the outcomes of the testing of the hypotheses.

No.	Research Question	Hypothesis	Outcome
H1a	What is the relationship between green customer orientation and green performance in F&B SMMEs in South Africa?	Green customer orientation is directly and positively related to the green performance of F&B SMMEs in South Africa.	Supported
H1b	What is the relationship between green competitor orientation and green performance in F&B SMMEs in South Africa?	Green competitor orientation is positively related to the green performance of SMMEs in South Africa.	Supported
H1c	What is the relationship between green inter-functional coordination and green performance in F&B SMMEs in South Africa?	Green inter-functional coordination is positively related to the green performance of SMMEs in South Africa.	Supported
H2a	What is the relationship between F&B SMMEs' green customer orientation and their implementation of green internal practices?	Green customer orientation is positively related to the implementation of green internal practices by F&B SMMEs in South Africa.	Supported
H2b	What is the relationship between F&B SMMEs' green competitor orientation and their implementation of green internal practices?	Green competitor orientation is positively related to the implementation of green internal practices by F&B SMMEs in South Africa.	Supported
H2c	What is the relationship between F&B SMMEs' green inter-functional coordination and their implementation of green internal practices?	Green inter-functional coordination is positively related to the implementation of green internal practices by F&B SMMEs in South Africa.	Supported
H3	What is the relationship between the implementation of green internal practices and green performance in F&B SMMEs in South Africa?	Green internal practices are positively related to the green performance of F&B SMMEs in South Africa.	Supported
H4a	What is the mediating influence of the implementation of green internal practices in the relationship between green customer orientation and green performance in F&B SMMEs in South Africa?	The relationship between green customer orientation and green performance is mediated by the green internal practices of F&B SMMEs in South Africa.	Supported
H4b	What is the mediating influence of the implementation of green internal practices in the relationship between green competitor orientation and green performance in F&B SMMEs in South Africa?	The relationship between green competitor orientation and green performance is mediated by the green internal practices of F&B SMMEs in South Africa.	Supported
H4c	What is the mediating influence of the implementation of green internal practices in the relationship between green inter-functional coordination and green performance in F&B SMMEs in South Africa?	The green internal practices of F&B SMMEs in South Africa mediate the relationship between green inter-functional coordination and green performance .	Supported

green internal practices to develop a more comprehensive understanding of the relationships between the three dimensions of GMO and GP. This information is essential for structuring businesses' sustainability strategies and enhancing efforts that are resource intensive, beyond a "hit and miss" exercise.

The outcomes of this study support the hypotheses that the GMO of F&B SMMEs - per its components - are positively and significantly related to businesses' green practices (GP) and their green internal practices (GIP), respectively. This addresses a gap in the literature where the effect of each of the components of green market orientation on the

implementation of green internal practices is not yet fully explicated (Crittenden et al., 2011). Evidence also supports the relationship between green internal practices (GIP) and businesses' green performance, supporting previous studies conducted in First-World countries, and in alternative business contexts, primarily in manufacturing (Li et al., 2018; Tsiotsou, 2010; Wang, 2020). The influence of a business's green orientation, therefore, is encompassing. Rather than attending to selected dimensions of their GMO, businesses have to acknowledge the role of all the dimensions of the phenomenon coherently, to accomplish the anticipated green performance (GP) and green internal practices (GIP). The evidence clarifies that negating one of the dimensions of GMO could jeopardise F&B businesses' initiatives to enhance and achieve sustainable green performance, emphasising the need for an all-or-nothing commitment. Deconstructing GMO into the three theoretical components was helpful in expanding the debate on the GMO-performance nexus. The supported relationship between GP and GIP demonstrates that all these phenomena are intricately intertwined and reciprocal regarding F&B companies' green performance. This finding expands previous research that could not find empirical support for a relationship between the implementation of green internal practices and sustainable/green performance (Maas et al., 2016). Empirical evidence of the mediating influence of businesses' green internal practices provides insight into the importance of every role player in a company's efforts to promote green practices.

This study provides evidence that a relevant green market orientation, which considers all aspects of the phenomenon, is essential for F&B SMMEs to attain the highly desired green performance necessary to meet the environmental sustainability standards expected by today's consumers. Business conduct with an environmentally friendly (green) perspective is likely to enhance business performance in the highly competitive F&B industry. F&B establishments should subsequently robustly advance their environmental-related competencies, products, and services to facilitate the development of their green market orientation as a valuable, inimitable and non-substitutable resource (Li et al., 2018). "Corporate greening" is a term often used to describe businesses' development and implementation of services and products to attain superior environmental performance (Daddi et al., 2011; Fraj et al., 2013; Lin et al., 2020).

Particularly insightful from a business perspective, is the relevance of inter-functional coordination that supposes the involvement of all divisions across a business as a coordinated effort to boost a business's green initiatives. The significant positive relationship between green internal practices and green performance supports previous studies and extends our understanding of the relationship between green market orientation and green internal practices.

Previous studies (Abdulsamad et al., 2021; Han et al., 1998) cautioned about a missing link between green market orientation and green performance, which warranted the testing of mediating variables. This study contributes to the gap in the literature by identifying the mediating role of green internal practices between green market orientation and businesses' green performance. All three dimensions of green market orientation, i.e., green customer orientation, green competitor orientation, and green inter-functional coordination, maintained significant positive relationships with the green performance of F&B SMMEs, which was mediated by the implementation of green internal practices. The findings of this study expand the literature, indicating that the implementation of green internal practices is the link between the GMO-performance relationship. Practically, green internal practices can lower costs, enhance quality, and improve distribution, operational flexibility, and performance (Famiyeh et al., 2018). Inevitably, therefore, the management of businesses should devote more attention to these practices to enhance their green/sustainable performance and become better aligned with environmental regulations and standards. This would improve - not only the reputation of the business - but also boost customer patronage as their needs and demands are met.

6. Conclusions

The study's findings contribute to our understanding of green market orientation, business sustainability, green practices, and environmental performance in the service sector, which has not yet been thoroughly investigated. This investigation responds to the need for more research on these topics in different business scenarios (e.g., Borazon et al., 2022; Wang, 2020), as previous studies have mainly focused on manufacturing industries in more developed countries. As recommended in earlier literature, the study also considered possible mediating influences in the relationship between a green market orientation and green performance, confirming the mediating influence of green internal practices, which accentuates the invaluable contribution of every employee/function in a business in achieving their goal.

The concept of Green Market Orientation (GMO) is relatively new. This study builds on previous quantitative research conducted on the environmental aspect of market orientation within Food and Beverage Small, Medium and Micro-sized Enterprises (SMMEs) in South Africa. It expands the research to an international level by verifying the results in a broader geographical scope. By examining GMO in terms of its three components, the study provides a more detailed explanation of the importance of the GMO strategy for F&B SMMEs. Given the importance of SMMEs in the conversation about environmentally sustainable practices as explained before, disclosure of the relationships between the three dimensions of green market orientation and green performance will guide business owner-managers' conduct more specifically in endeavours to deal with customers' profound expectations about so-called green operations. Rather than adopting a holistic "blanket" stance, businesses can subsequently focus on specific dimensions of their green market orientation, distinguishing *green customer orientation* (GCuO), *green competitor* (GCoO) orientation, and *green inter-functional* (GIFC) coordination to ensure attention to all the dimensions, not neglecting either, and/or to devote specific attention where needed the most. This study also provides a blueprint for businesses' interaction with stakeholders. F&B SMMEs' recent successes in adopting green initiatives were applauded in, for example, *Eat Out* (2023). An understanding of green market orientation will further their green environmental performance in South Africa to set an example that would benefit the surrounding environment, extending to socio-economic benefits.

Future research

Several opportunities for future research exist. **First**, the measurement instrument developed for this study should undergo confirmatory factor analysis to validate the factor structure and content of the measurement scales for future use. **Second**, green market orientation as a phenomenon could be explored further to verify the multidimensionality of the construct and the content, considering how the idea of green marketing has evolved in recent years. **Third**, green performance is a complex concept. This study had to rely on theoretical components (financial, social, and environmental influences) as the empirical factors that emerged after exploratory factor analysis were incoherent and difficult to label. This construct should be further examined to establish a possibly more appropriate measurement scale. Subsequent studies could also explore the interactive relationship between the components of the construct in terms of green marketing orientation. **Fourth**, as green market orientation is a novel concept, most of the studies to date have been quantitative in nature. Future research may use qualitative means to obtain richer data on the concepts and their components. **Lastly**, green internal practices include many aspects, including operational practices, innovation, environmental management practices, green supply chain management practices, and so forth. Future research could focus on a specific area, for example, innovation, to explore how selected management practices may enhance the business.

Limitations

Limitations experienced are resourceful avenues for future research. The study began during the COVID-19 pandemic in 2021. This was an unprecedented situation and a significant departure from the norm. The crisis brought attention back to the connection between business and society after the economic and social impacts of the pandemic (Lehmann et al., 2021). The adverse effects of the pandemic on businesses was severe, especially for the food and beverage industry. Managers of F&B SMMEs struggled to survive and were not very cooperative when asked to complete the survey questionnaire, resulting in a lower-than-anticipated response rate. Secondly, with the implementation of the SA POPI Act that aims to protect individuals' personal information, it was very challenging to reach out to business owners as organisations were not permitted to share the contact details of F&B business owners on their databases. Thirdly, the time horizon for this study was cross-sectional, excluding explanatory longitudinal evidence. It is envisaged that "business greening" will instigate considerable change in the years to come, providing rich evidence for future research. Fourthly, the survey questionnaire was directed at owners and senior managers of the F&B SMMEs, assuming that they are the business decision-makers, which may have overseen essential role players. Lastly, a marketing agency was employed to expand the database in low-response areas. Even though the field workers were trained and advised to use easy-to-understand language, fieldworkers may have interpreted certain questions differently.

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CRedit authorship contribution statement

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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Further reading

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