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Dynamic marketing capabilities and competitive advantage in the South African B2B renewable energy industry

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Dynamic marketing capabilities and competitive advantage in the South African B2B renewable energy industry

A research project submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management (MMSM)

Catherine Pallett

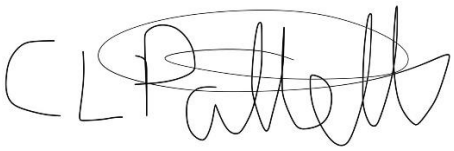
Final –11 September 2021

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Plagiarism Declaration

I, Catherine Pallett, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management (MMSM) in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university, except for the previous research proposal (titled "version 3", submitted on 9 November 2020 to WBS).



Catherine Pallett

Signed at Johannesburg

On Saturday, 11 September 2021

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Acknowledgements

Few could have foreseen, at the beginning of 2020, what the next two years would hold. During these tumultuous times, we have learned to be more grateful to the many humans who shape our lives, and been reminded about how important social interactions are. I'm no different. A number of thanks are due to those who have helped me on this journey during these strange times.

Many thanks to my supervisor, Dr Anning-Dorson, for the guidance and assistance with my research. Your insight is always succinct, direct and helpful. I appreciated learning about your body of work and approaches to strategic marketing during this process.

To the SOLA Group and especially Dom Wills, thank you for your steadfast belief in my abilities and for the support on this masters journey. It would not have been able to achieve this without your support.

To the South African Photovoltaic Industry Association (SAPVIA), and particularly Kim Thomas, thank you for assisting me with distributing the survey to your members and for the reminders that you sent periodically. To Katherine Persson and Khotso Selokoma, thanks for emailing your contacts in the Wind and Hydro industries and encouraging them to participate.

To the research participants, thank you so much for offering your insights. Although I can't contact you personally, I am very grateful for the time you took to respond to my survey.

To my family, I am grateful that despite the pandemic, I have been able to see more of you during the past two years. Thank you for your love and support throughout my life, and for the belief in education which has guided me to this moment.

To my friends, near and far, who provide me with support, laughter and meaning during tough times, thank you. I can't wait to hug you all in the future.

To Julian, thanks for your support, love and kindness. You were with me during the toils and celebrations of this process and your calm belief in me gave me the confidence to do it. Thank you.

Abstract

Research Problem – Creating competitive advantage is important for renewable energy firms to succeed, but there is little existing knowledge on the strategic marketing factors that add value to businesses operating in this space.

Research purpose – The research aims to understand how commercial dynamics affect renewable energy firm performance in an emerging economic context.

Research Methodology – This study uses a quantitative approach. A survey instrument was distributed to suitable B2B renewable energy companies in South Africa 56 fully completed responses were obtained. After a confirmatory factor analysis, a PLS-SEM model was used to map the relationships between the construct variables and firm performance.

Research Results – This research found a significant positive relationship between market orientation and firm financial and market performance and relationship capabilities. The research also found a significant positive relationship between relationship capabilities and customer performance.

Research Implications – This research contributes to the literature on dynamic marketing capabilities on B2B companies in emerging market settings. The research also offers the first perspective into how these dynamic marketing capabilities affect the business outcomes of renewable energy companies in South Africa.

Research limitations – This study was conducted in a cross-sectional nature, but performance is measured over time. Similarly, this study used a perceptive model for performance which may not be as accurate as objective measures of performance.

Keywords – Renewable energy, B2B, dynamic marketing capabilities, market orientation, relationship capabilities, firm performance, competitive advantage

Glossary of Acronyms

B2B: Business to Business

B2C: Business to Consumer

CA: Competitive Advantage

DC: Dynamic Capability

DMC: Dynamic Marketing Capability

EPC: Engineering, Procurement and Construction

GW: Gigawatt

IB: International business

IHA: International Hydropower Association

IM: Internal marketing

kWh: Kilowatt Hour

kWp: Kilowatt Peak

MC: Marketing Capabilities

MO: market orientation

PV: Photovoltaic

PLS-SEM: Partial Least Squares Structural Equation Modelling

PPA: Power Purchase Agreement

RBT: Resource Based Theory

RC: relationship capabilities

RM: relationship marketing

SANEA: South African National Energy Association

SAPVIA: South African Photovoltaics Industry Association

SAWEA: South African Wind Energy Association

STASA: Solar Thermal Association of Southern Africa

SCA: Sustained Competitive Advantage

SME: Small, Medium and Micro- Enterprises

1 Chapter 1 – Introduction and Relevance of research

"The gap between the promise of energy for all and the fact that almost one billion people still do not have access to electricity […] more than ever, energy decision makers need to take a hard, evidence-based look at where they stand and the implications of the choices they make"

- *(International Energy Agency, 2019).*

Although there has been much talk recently of the applicability of renewable energy in growing economies, there is little literature on the commercial tools and techniques that renewable energy companies should employ for success. Despite this, effective tools and tactics are imperative in highly competitive business environments in emerging markets (Dadzie, Amponsah, Dadzie, & Winston, 2017). Companies operating as renewable energy service and product providers function in a complex, rapidly-changing environment, and establishing successful business techniques is imperative to success. Strategic Marketing can be a key tool to provide sustained competitive advantage in such business environments (Abratt & Bendixen, 2018). This research aims to look at the strategic marketing capabilities of effective renewable energy companies in order to better understand the applicability of existing marketing literature on this business sector. If applicable, such capabilities could serve as foundational knowledge in solidifying the market presence of renewable energy companies and SMEs, in order to grow economies and provide wider energy access.

1.1 Contextual Background to the study

We live in a world that is rapidly changing – environmentally, politically and socially. Businesses are not separate from this world, but deeply embedded in it. In order to remain competitive and generate shareholder value, businesses need to be able to perform in complex environments. This is particularly true in emerging markets, where external political and social factors are often the drivers of market success (Dadzie et al., 2017).

Such is the context of the renewable energy industry. Despite sluggish global economic growth in 2019, and a continued downward economic spiral in 2020, renewable energy remains a growing sector (International Energy Agency, 2020). This is particularly pertinent to emerging markets, where rural development and electrification have been highlighted as opportunities for renewable energy businesses to provide sustainable development solutions (Martinot, Chaurey, Lew, Moreira, & Wamukonya, 2002).

In South Africa, the energy landscape has been defined by the presence of "cheap" coal and a single centralised utility, Eskom (Baker, Newell, & Phillips, 2014). However, South Africa receives roughly double the irradiation, or solar resource, of many European countries. Even in the lowest solar-resourced South African cities such as Durban, it is possible to generate 1400 kWh/kWp[1], compared to 1050kWh/kWp in Southern Germany, where solar PV is widespread (Uhunamure & Shale, 2021).

Because of innovation in renewable energy components and the uptake of the technology on a global scale, renewable energy has become a very affordable electricity generation source (Bloomberg New Energy Finance, 2020). With South Africa's ideal solar irradiation levels, solar PV and other renewable resources could be an ideal way of providing cheaper electricity for energy-intensive sectors such as manufacturing that can bolster the economy. This presents a great economic opportunity for South Africa, both for energy businesses as well as the users of energy alike.

In emerging markets, the competitive environment is often different to established markets, and marketers need to take this into consideration (Dadzie et al., 2017). This is even more pronounced in the renewable energy industry, where renewable energy entrepreneurs are faced with many challenges, including the political and legal environment, local demands and pricing, financing obstacles, infrastructure and the power of existing market players (Gabriel, Kirkwood, Walton, & Rose, 2016). Understanding the techniques and capabilities that carve out sustained competitive advantage (SCA) could be a way for marketers to effectively grow renewable energy businesses in the context of increased competition and unstable market environments.

1.2 Purpose of the research

For the purposes of this study, the focus will be on business to business (B2B) renewable energy companies who seek to provide alternative or supplementary power sources for the private sector and government. Within the energy sector, businesses tend to offer complex technical products that form product-service-systems, adapting their value proposition to market drivers (Annarelli, Battistella, & Nonino, 2020). Marketers in such companies need to build brand resonance for these service-systems in a context of evolving customer needs (Palmatier & Sridhar, 2017). Marketers in B2B renewable energy firms are further

[1] kWh/kWp stands for kilowatt hours per kilowatt peak, and is a standard measure of solar irradiance levels.

disadvantaged by the tendency of marketing research and advice to be focused mainly on business-to-consumer (B2C) activities (Sheth & Sinha, 2015).

Despite their challenges, renewable energy firms can develop robust business models that generate significant shareholder value. For marketers situated within renewable energy firms in emerging economies, maximising market share through developing SCA is an important focus (Falahat, Ramayah, Soto-acosta, & Lee, 2020). If certain marketing capabilities could be more likely to create SCA, these could be bolstered as a way for renewable energy firms to grow in emerging markets.

This research uses two known theories in the marketing literature to explain the development of SCA in this regard. The theory of dynamic marketing capabilities (DMCs), an evolution of Resource-Based Theory advocated by Teece (2007), looks at the unique business tactics that build competitive advantage. Two aspects of dynamic capabilities are the focus of this study. The first is market orientation (MO), which demonstrates a firm's capability to be market-focused and adaptable to market changes (Kachouie, Mavondo, & Sands, 2018; Mousavi, Bossink, & van Vliet, 2019; Teece, 2007). The second is relationship marketing (RM), as suggested by Palmatier, Dant, Grewal, and Evans, which posits that building relationships with customers is an important aspect to customer loyalty and thus business success (2006).

The purpose of the research is to explore whether these two theories, that have been widely explored in complex B2B environments for their relationship to SCA, also apply to the renewable energy industry in South Africa. If they do, how do they drive firm performance? By understanding these capabilities, the study will offer valuable insight for strategic marketers working in these sectors.

1.3 Research Problem

The renewable energy industry in South Africa is a growing, but challenging sector from a business perspective: the newness of the market, combined with its attractiveness, mean that the business landscape is very competitive (Mkhwebane & Ntuli, 2019). Creating competitive advantage is important for these renewable energy firms, but there is little existing knowledge on the strategic marketing factors that add the most value to businesses operating in this space. This is particularly true for B2B firms, whose products and services are complex product-service systems that have often been left out of marketing discussions (Vezzoli, Ceschin, Osanjo, M'Rithaa, Moalosi, Nakazibwe, & Diehl, 2018).

Whilst it is understood that there is benefit in growing the renewable energy industry in South Africa, little has been published on whether dynamic marketing capabilities can help such firms create and maintain competitive advantage. This study aims to add to the literature on B2B marketing in emerging economies and the literature on dynamic marketing capabilities by investigating whether DMCs are associated with financial, market and customer relationship performance in the B2B renewable energy industry.

Through this investigation, the research aims to initiate better understanding of the commercial dynamics that affect the renewable energy industry in an emerging economic context. Guided by the literature on DMCs which assert that market orientation and relationship marketing lead so SCA, it hopes to uncover some of the key strategies that marketers working in the complex, rapidly changing sector of renewable energy can use to bolster their firm performance and resultantly, the sector as a whole.

1.4 Research Objectives

With the central role that renewable energy firms can play in emerging economies both from an economic and an environmental perspective, energy markets are an important aspect of growing emerging economies. In order to bolster firms in this complex B2B environment, strategic marketers need to effectively boost firm performance amongst numerous competitors, whilst taking into account a dynamic market environment. As such, the objectives of the study are as follows:

- To examine the relationship between market orientation and relationship marketing in renewable energy firms;
- To assess the relationship between market orientation and financial, market and customer performance in renewable energy firms;
- To assess the relationship between relationship marketing and financial, market and customer performance in renewable energy firms.

1.5 Significance of this study

1.5.1 Sector Contribution

Renewable energy is now one of the cheapest sources of power available globally (Uhunamure & Shale, 2021). Although the industry is just in its infancy in South Africa, its ability to bolster companies and sectors will have a positive knock-on effect for South African businesses and individuals, allowing the economy to grow. The unique perspective that this study could bring

to a young sector is relevant both within academia and for practical application. If renewable energy companies can become more competitive and develop capabilities to withstand tough market dynamics, the South African economy – and society – will benefit greatly.

1.5.2 Theoretical contribution

This research aims to contribute to the resource-based view (RBV) of the firm, which asserts that business success stems from the internal resources that are used by firms (Kozlenkova, Samaha, & Palmatier, 2014). The dynamic capabilities theory posits that internal capabilities can assist with firm performance over time and help businesses in turbulent business environments (Barreto, 2010). Looking specifically at a complex B2B sector in an emerging economy, the research's theoretical contribution will aim to understand whether the ability of firms to remain orientated toward customer and markets is associated with indicators of competitive advantage, including financial, market and customer relationship performance – bolstering the relevance of RBV theory.

1.5.3 Empirical contribution

Whilst there have been several studies on different aspects of DMCs effects on firm performance in emerging economies (for example Anning-Dorson, Hinson, Amidu, and Nyamekye, 2018; Kachouie et al., 2018; Sánchez-Gutiérrez, Cabanelas, Lampón, and González-Alvarado, 2019), there have not been any similar studies focusing on the renewable energy industry. This sector is essential to economic growth within emerging economies, and is uniquely complex, particularly in developing countries (Gabriel et al., 2016). By understanding the relationships between dynamic capabilities and firm performance in this environment, the study hopes to contribute to the overall perspective on whether DMCs are relevant to the complex B2B renewable energy industries in emerging markets.

1.6 Delimitations of the study

Whilst the focus of the study is potentially of interest to several different sectors, the following delimitations ensure that the study only includes:

- Business to Business (B2B) firms
- The renewable energy industries, specifically in the realm of solar, wind and hydro power;
- Corporate firms legally registered as trading entities in the Republic of South Africa.

1.7 Definition of terms

Based on the available literature, as well as scope of the study, the following conceptual definitions are adopted. Operational definitions are discussed in Chapter 3.

Table 1 Conceptual definitions used in the study

	Conceptual Definition
B2B Renewable energy firms	Firms that develop, design, procure, build and monitor renewable energy plants and/or components for commercial, industrial and governmental use either via direct sales, consulting, Engineering, Procurements and Construction (EPC) projects or Power Purchase Agreements (PPAs). The definition for the purposes of the study excludes B2C providers such as solar geyser companies and residential installers, who sell directly to consumers.
Dynamic marketing capabilities	Dynamic marketing capabilities are defined as "Organizational and (strategic) managerial competences that can enable an enterprise to achieve competitive advantage" (Teece, 2007, p. 1346) In this study, Market orientation and relationship marketing capabilities are used in order to encompass dynamic marketing capabilities, as purported by (Kachouie et al., 2018).
Market orientation	*The abilities of firms to "sense" the market, adapt their strategies according to market changes, and absorb market changes through innovation (Day, 2011; Kachouie et al., 2018; Mousavi et al., 2019; Teece, 2007).*
Relationship marketing Capabilities	*"The process of identifying, developing, maintaining, and terminating relational exchanges to enhance performance" (Palmatier & Sridhar, 2017, p. 213)*
Competitive Advantage	A firm achieves competitive advantage when it is able to generate "more economic value than the marginal (breakeven) competitor in its product market" (Peteraf and Barney, (2003), p. 314 as quoted in Kozlenkova et al., 2014 p. 15). In this study, the sub-concepts of financial and market performance, and customer performance are used in order to encompass the competitive advantage construct, as demonstrated by (Wilden, Gudergan, Akaka, Averdung, & Teichert, 2019).
Financial and market performance	*Financial and market performance, in this study encompass profitability, sales growth, growth in market share, profit margin, return on capital and market position. (Wilden et al., 2019).*
Customer performance	*Customer performance in this study encompasses meeting customer expectations, positive client experiences, positive reputation amongst customers, customer satisfaction, as well as upselling and referrals from customers (Wilden et al., 2019).*

1.8 Assumptions

The following assumptions have been made in the development of the research and data collection:

- Renewable energy is a beneficial sector for the South African economy
- Competitive advantage is a desirable outcome for B2B firms

The merits and drawbacks of the assumptions are discussed further in the literature review.

2 Chapter 2 – Conceptualisation and Literature Review

"Photovoltaic cells are a space age electronic marvel, at once the most sophisticated solar technology and the simplest, most environmentally benign source of electricity yet conceived."

- *(Hammond, 1977, pg. 445)*

2.1 Introduction and contextual literature review

2.1.1 Renewable energy businesses in emerging markets

There is much research that has been conducted about renewable energy technology deployment in emerging markets, particularly with regards to the policy challenges in such environments (Aliyu, Modu, & Tan, 2018; Baker, 2017; Lawrence, 2020; Mbungu, Naidoo, Bansal, Siti, & Tungadio, 2020; Rennkamp, Haunss, Wongsa, Ortega, & Casamadrid, 2017; Wright, Bischof-Niemz, Calitz, Mushwana, & van Heerden, 2019). However, there is little research that focuses on the marketing and business practices of renewable energy businesses in these contexts.

Much of the research in renewable energy in emerging economies is focused extrinsically, on policy and economics that enable renewable energy developments: for example, Pillot, Muselli, Poggi and Dias (2019) explore the history of energy policy in sub-Saharan Africa and how its legacy has affected the deployment of solar PV throughout the continent, and Ince, Vredenburg and Liu, (2016) explore how the renewable energy market in the Caribbean was enabled. The case of South Africa has also been studied, particularly with reference to sustainable energy transitions in the face of cheap coal (Baker et al., 2014; Ojo, Awogbemi, & Ojo, 2020; Uhunamure & Shale, 2021). In addition to the importance of policy landscapes, the presence of financing for successful renewable energy markets has also been highlighted (Baker, 2021; Ojo et al., 2020).

Similarly, there is much written about the role of renewable energy in economic development. For example, solar PV is particularly advocated as a solution for rural development contexts (Nieuwenhout, Van Dijk, Lasschuit, Van Roekel, Van Dijk, Hirsch, Arriaza, Hankins, Sharma, & Wade, 2001). However, it has also been acknowledged that growing the remote and distributed energy systems that could provide much of Africa with energy access also contain numerous challenges (Schäfer, Kebir, & Neumann, 2011). In a panel data analysis, a study conducted by Tsaurai & Ngcobo found that education has an important impact on enhancing the economic benefits of renewable energy consumption in BRICS countries (2020). The

authors suggest that investing in education is an important consideration for those countries looking to use renewable energy for economic development (Tsaurai & Ngcobo, 2020).

The impact of broad-based black economic empowerment in South African renewable energy projects, and its contribution to women's empowerment, has also been studied (Adendorff, Keown, & Amansure, 2020). In another study, Smirnova, Kot, Kolpak and Shestak (2021) look at public sector support of renewable energy business in Russia, India and China, asserting that renewable energy markets have favourable links with development. They found that three elements are particularly important for driving the renewable energy market in emerging economies – widening the availability of financing, minimising traditional electricity spend, and public-private partnerships to support Renewable Energy (Smirnova et al., 2021).

2.1.2 Renewable energy adoption and market environment

The consumption of renewable energy and other sustainable energy practices by business have also been studied. For example, Askarany, Yazdifar and Dow (2021) look at the adoption of renewable and sustainable energy practices amongst firms in Australia, and particularly at how B2B networking relationships affect that adoption. After conducting 34 interviews, the authors found that parent organisations formed a key relationship to enforcing the diffusion of sustainable energy practices in firms (Askarany et al., 2021). The authors argued that this aligns to the "forced perspective theory" and that parent companies, alongside government regulations, are an important force in sustainable energy adoption amongst businesses (Askarany et al., 2021).

In another study, Massihi, Abdolvand and Rajaee Harandi (2021) put forward a business environment analysis, using interpretive structural modelling to map out environmental factors that affect the uptake of solar amongst businesses in Iran. They found that a collection of extrinsic factors, including government policy and financing, affect the technology's uptake by businesses (Massihi et al., 2021).

2.1.3 Renewable energy business and entrepreneurship

A small but growing branch of scholarship explores commercial aspects of renewable energy development, with many of these studies focusing on entrepreneurship. For example, Tantau, Chinie and Carlea (2015) focused on renewable energy businesses as a specific type of entrepreneurship. With the underlying premise that the development of renewable energy businesses rely on innovation in both technology and business models, they found a correlation

between organisational support and innovation in renewable energy entrepreneurs (Tantau et al., 2015).

In another example, a study by Singh, Jiao, Klobasa and Frietsch (2021) looks at the abundance of energy start-ups and their types in Germany. The study found that of the 240 energy-related start-ups in Germany, 24% are renewable energy companies, whilst many others are related to serving the energy transition through innovative software, system components or efficiency projects (Singh et al., 2021). Unfortunately, this type of study has not been carried out in South Africa or other emerging economies, and the number and types of renewable energy firms need to be estimated[2].

In another study, Gabriel and Kirkwood (2016) looked at the business models used by renewable energy entrepreneurs in developing economies. After interviewing 43 entrepreneurs in 28 developing countries, they found four main types of renewable-energy business models – consultants, distributors, integrators and technology inventors (Gabriel & Kirkwood, 2016). Their findings revealed that different renewable energy business types were closely aligned with region, suggesting that the business environment is largely influenced by the policy and governmental approach toward it. The authors suggest that a dialogue between renewable energy companies and policymakers could make the overall environment friendlier to renewable energy businesses (Gabriel & Kirkwood, 2016).

Martinot et al. (2002) also explore the rise of renewable energy markets in developing economies as businesses look to provide alternative energy solutions for unmet needs. Similarly, Balachandra, Kristle Nathan, and Reddy (2010) call for more market-based approaches to renewable energy deployment, that has historically been government-driven. Hall, Daneke and Lenox (2010) link the literature on sustainable development and entrepreneurship together, and call for more focused research questions on the topic; whilst Gabriel et al. (2016) explore the challenges that renewable energy businesses in emerging economies face.

Renewable energy businesses have also been studied from an international business (IB) perspective. Kaartemo and Gonzalez-Perez (2020) assert that renewable energy is, by its nature, a globalised product and service, and call for more IB research to focus on the challenges and advantages of renewable energy businesses across borders (2020). Similarly, in

[2] Estimation method is outlined in Chapter 3.

an analysis of Finnish renewable SMEs, Asemokha et al. (2020) found that some of the foundational factors to their internationalisation was the ability of the management to have an entrepreneurial mindset and be focused on innovation. They argue that managerial, firm-level and environmental factors influence the pursuit of internationalisation of these RE SMEs (Asemokha et al., 2020).

2.2 Theoretical Literature Review

> *"Ongoing changes among consumers, markets, and marketing departments feature prominently in the need for business transformations" (Kumar, 2018, p. 1)*

2.2.1 The Resource-based View, Dynamic Capabilities and Sustained Competitive Advantage

Originally, an extrinsic view on firm performance purported that businesses were subject to external forces which shaped their strategy and thus their competitiveness (Porter, 1979). This extrinsic perspective on business competition explored four additional forces (threat of new entrants, the power of suppliers and buyers, and the threat of substitute products), in addition to the already well-understood competition between players in the industry (Porter, 1979).

However, simply understanding the competitive advantage of businesses from an external perspective became insufficient for marketers, and as such intrinsic perspectives on SCA such as the resource-based theory (RBT) were developed to explore the internal sources of a firm's competitiveness (Kozlenkova et al., 2014).

RBT assumes that, firstly, firms have access to different resources, and that, secondly, these resources are difficult to replace (Kozlenkova et al., 2014). RBT goes further to say that these resources need to simultaneously fit into the "VRIO" framework – that the resources are "valuable, rare, imperfectly imitable and exploitable by the organisation" (Kozlenkova et al., 2014, p. 3). However, in this view competitive advantage was understood at a point in time, and thus not fully able to explain the maintenance of competitive advantage over time as environments change (Kay, Leih, & Teece, 2018).

As such, the concept of dynamic capabilities (DCs) is a related framework that can help to understand how firms solidify SCA in changing, volatile market environments (Barreto, 2010). According to Teece (2007), DCs are particularly relevant in market environments that have four commonalities: they are open to international business environments and thus share in the opportunities and threats of such environments; they are privy to changing technical solutions

to meet customer needs; they are part of well-developed global markets; and the business environment is relatively new and underdeveloped – such as high-tech sectors.

B2B renewable energy companies fit comfortably into each of these market commonalities: they are part of an international supply chain, for although the solutions are designed and implemented locally, many of the components and knowledge comes from international markets and trends (Kaartemo & Gonzalez-Perez, 2020). They are also subject to rapid technological change: for example, over the last 10 years, the efficiency and popularity of solar PV modules has increased rapidly, bringing down the costs for installation exponentially (Enkhardt, 2020). Finally, despite being part of a global market that is well established, the novel nature of renewable energy solutions means that local energy markets are typically poorly developed and are subject to turbulence (International Energy Agency, 2019). As such, the dynamic capabilities framework is particularly relevant to explore SCA in the renewable energy industry.

Table 2 Comparison of different theoretical frameworks to understand Competitive Advantage amongst firms

	Porter's 5 Forces	**Resource Based Theory**	**Dynamic Capabilities**
Main proponents	Porter (1979)	Rumelt (1984) Wernerfelt (1984) Amit & Schoemaker (1993)	Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, & Winter (2007) Teece (2007)
Factors affecting competitive advantage	Extrinsic Environmental Factors	Intrinsic Resources	Intrinsic resources that can shape the extrinsic environment (Teece, 2007)
Main competitive factors	Competition between firms; threat of new entrants; the power of suppliers and buyers; the threat of substitute products	Internal "assets" (resources) that are difficult to replicate by competitors	The ability to adapt internal assets to reflect the external environment

The nature of dynamic capabilities is related to, but not wholly composed of, innovation: both technical competency, as well as the ability of organisations to evolve, are important aspects of dynamic capabilities (Helfat et al., 2007). Because the capabilities are evolving and difficult to replicate, they are challenging to define – indeed if they were simply definable they would not be as important to developing and maintaining competitive advantage (Teece, 2007).

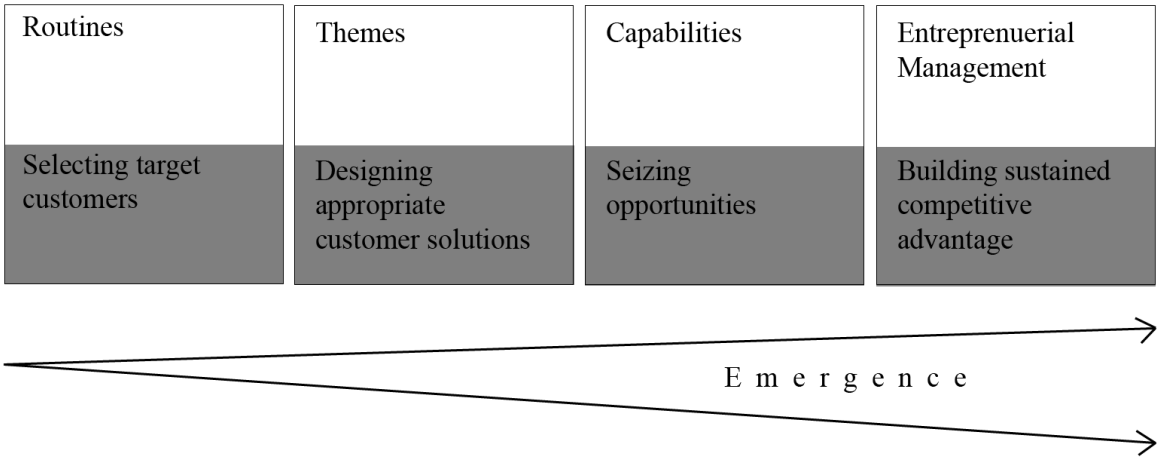
In addition to normal organisational efficiency and best practice, Teece (2007) argues that three key capabilities are the basis for sustained competitive performance over time: to be able to sense opportunities, seize opportunities, and transform around opportunities. He asserts that

dynamic capabilities are a framework that can help organisations think in an entrepreneurial way, allowing them to be more strategic and flexible in their decision making (Teece, 2007).

However, the nebulous nature of DCs has resulted in some confusion in the literature, with two different conceptualisations of DCs emerging – the TPS approach and the EM approach (Peteraf, Di Stephano, & Verona, 2013). These two approaches have contrasting conceptualisations of competitive advantage: whilst the EM approach questions the ability of dynamic capabilities to provide and sustain competitive advantage, the TPS approach asserts that dynamic capabilities can be a source of competitive advantage, particularly in environments where technology is rapidly changing (Peteraf et al., 2013). Thus, the TPS approach is preferred for this study due to its applicability to the renewable energy market context.

The TPS approach focuses on the idea of emergence as a key concept to understand DCs, which links the theory of DCs to economic approaches (Kay et al., 2018). The concept of emergence, according to Kay et al., helps to understand the levels through which competitive advantage is created, as demonstrated in Figure 1. Given such an approach, DCs are more than best practices: they link to the ability of firms to sense and seize opportunities and transform their business accordingly (Kay et al., 2018).

Figure 1 Emergent Levels that build SCA (conceptualised from Kay et al. 2018).



A related theory to DCs is the concept of dynamic marketing capabilities, which aim to identify the practices that allow marketers to solidify value beyond the simple marketing mix concept (Day, 2011). Similar to the turbulent environment that is well suited to dynamic capabilities, dynamic marketing capabilities can assist marketers working in realms of increased complexity and change (Day, 2011). In this conceptualisation, dynamic marketing capabilities are enabled

through thorough market orientation and linking customers and channels (Day, 2011). However, Day distinguishes between dynamic marketing capabilities and what they call "adaptive marketing capabilities", an approach that uses an outside-in view with a focus on exploration to create and maintain SCA (2011, p. 187).

In order to determine whether the literature on marketing capabilities and their effect on SCA differ in an international context, Morgan, Feng, and Whitler (2018) conducted an extensive review of the literature on marketing capabilities. Synthesising the literature, they identified differences between "high level", "mid-level" and "low level" marketing capabilities, subsequently identifying seven marketing capabilities that are particularly relevant to an international context and could thus be identified as "international marketing capabilities" (Morgan et al., 2018).

Whilst there have been many empirical studies that focus on one specific dynamic marketing capability, it has been noted that there is often an overlap between these factors (Bingham, Heimeriks, Schijven, & Gates, 2015). In their research, Bingham et al. (2015) proposed a conceptual framework of "concurrent learning" that explains how these multiple capabilities are learned in tandem. Their theory identifies four main steps that organisations typically take when a culture of concurrent learning is present. Firstly, the firms practicing concurrent learning create documentation, assign responsibility and implement internal communication and training. This is followed by the continual updating of this knowledge, and modifying the existing structures put in place. Finally, the organisations implement a system of understanding and codifying knowledge learnt through the process (Bingham et al., 2015).

As most dynamic capabilities do not occur in isolation, for the purposes of this study two main DMCs from the literature are considered: market orientation (MO) and relationship marketing capabilities (RC). Both of these capabilities are important in renewable energy Firms, as they form part of a rapidly changing external environment and are faced with economic change (Gabriel, 2016).

2.2.2 Market Orientation as a dynamic capability

Market orientation reflects a firm's ability to implement "market research as a precursor to the development of market sensitive strategies; an allocation of resources to generate customer value in target markets, […] and the design of communication programmes that reflect the needs of customers" (Farrelly & Quester, 2003, p. 537). Market orientation is fundamental to both the marketing discipline and business strategy as it encompasses the ability for firms to

recognise and implement decisions based on the market – which includes customers and competitors (Hunt & Lambe, 2000). MO is relevant to the study of SCA in B2B firms because it is considered a determinant of market (Ellis, 2006).

MO reflects the ability of business to firstly react to the influences of the market; and secondly to create shifts in the business model that change the market itself (Cohen & Levinthal, 1990; Jaworski, Kohli, & Sahay, 2000; Mariadoss, Tansuhaj, & Mouri, 2011). In this sense, MO can be likened to Day's assertion of adaptive marketing capabilities, which are defined by three key characteristics: "vigilant market learning", "adaptive market experimentation" and "open marketing" (2011, p. 186 & 189).

The ability of firms to be open to receiving new information was coined an "absorptive capacity" by Cohen and Levinthal (1990, p. 128). The authors suggest that it is not only the ability to recognise new information, but the ability of a firm to actually assimilate and apply that knowledge, that matters (Cohen & Levinthal, 1990). They assert that a firm's prior knowledge of a subject and internal gatekeepers of information, are also key components that affect a firms' absorptive capacity (Cohen & Levinthal, 1990).

Dynamic marketing capabilities, according to Teece, Pisano and Shuen, are "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (1997, p. 516). Further to this, the microfoundations of dynamic capabilities for organisations are defined by Teece as the ability to sense and shape opportunities, seize opportunities, and the adaptability of the business model (Teece, 2007).

Further to this, Day's summary of the three important components to adaptive marketing capabilities are relevant – the ability to learn from the market, the willingness to experiment, and a firm's complementarity in the business ecosystem (2011). In Day's conceptualisation, market learning is not only about being market-focused, but also about being able to ask the right questions and fend off internal bias that might prevent market learnings (Day, 2011). In this way, it is similar to Teece's dynamic capability of "sensing" new opportunities, or using an entrepreneurial mindset to enable the firm to sense and shape new opportunities (2007, p. 1322).

The concept of Adaptive Market Experimentation links to Teece's proposal that a key to building dynamic capabilities is the ability to understand the market environment, adapt to it, and remain flexible until an effective strategy emerges (2007). In this way, adaptive market experimentation links to the concept of value innovation, which is the ability of firms to

generate additional value and shift the business environment (Kachouie et al., 2018). In this sense, it can be likened to Jaworski et al's assertion that a firms ability to be a market driver is associated with the impact that the firm is able to have on the market, and thus drive market change (2000). Value innovation, through creating new service offerings, creates competitive advantage through changing the competitive landscape (Kachouie et al., 2018).

In a similar vein, Mousavi et al. (2019) note that internal entrepreneurial ability, as well as innovativeness through sustainability, enabled the firms to apply the 'sense' dynamic capability; whilst the development of internal capabilities and responsiveness to the business ecosystem enabled firms to access the 'seize' capability. The ability of firms to pursue innovative business interventions and strategies that are aligned to the market allowed the firms to implement the dynamic capability of 'reconfiguring' (Mousavi et al., 2019).

Open marketing, the ability of firms to create and maintain advantageous external relationships that affect the business's output and market, is also part of MO (Day, 2011). In this way, it is very similar to Kay et al.'s idea of the importance of the business "ecosystem", which asserts that the complementarity with players beyond a firm's boundaries are important for success (2018, p. 633).

Similar to Day's proposition that DMCs enable firms to be closely linked to the market, Kachouie et al. (2018) argue that market orientation is a DMC that allows businesses to pick up on and address customer needs ahead of time. Market orientation assists businesses in generating customer value by being customer-focused (Kachouie et al., 2018). Similarly, Anning-Dorson et al. suggest that customer involvement capability, an indicator of market orientation, is a key driver of strategy in firms that perform financially (2018). These understandings of MO lead naturally into the second dynamic capability – relationship capabilities.

2.2.3 Relationship Marketing as a dynamic capability

It has been widely acknowledged that relationship-building qualities in firms enable their ability to create customer loyalty and satisfaction (Anning-Dorson et al., 2018; Lam, Shankar, & Erramilli Bvsan Murthy, 2004; Wilden et al., 2019). Relational capabilities can also apply beyond the realm of customers and encompass the ability of firms to build other external strategic relationships that can help in assisting with operations and innovation (Pucci, Nosi, & Zanni, 2017).

Looking at customer relationships as a unique capability to creating SCA, there is a wide amount of research into relationship marketing (RM), first raised in the seminal article by Dwyer, Schurr and Oh (1987), which suggested that both B2B and B2C companies could benefit from establishing buyer-seller relationships. The literature on relationship marketing has subsequently been synthesised, with a conceptual framework suggested by Palmatier, Dant, et al. (2006).

Relationship marketing first asserted that if relational behaviour was prioritised, customers would serve businesses more loyally over time, which encouraged a shift in marketing practice from the acquisition of customers to the retention of them (Berry, 1995). However, it was acknowledged that customers themselves were an equal part of the relational framework, and were more likely to display loyalty if they perceived the business to be investing in them (Wulf, Odekerken, & Lacobucci, 2001). Relationship marketing was developed as a way to understand the difference between seemingly "anonymous" business transactions and those based on relational behaviour (Dwyer et al., 1987).

Kumar & Pansari (2016) purport that customer engagement can build competitive advantage and that successful firms should direct more resources to the area of customer engagement. Similarly, the ability for firms to build strong relationships with customers mirrors Ramaseshan, Rabbanee, and Hui's (2013) finding that in a B2B context, relationship equity is linked to increased customer loyalty.

Customer involvement capability, on the other hand, looks at the ability of firms to engage with their customers successfully (Anning-Dorson et al., 2018). Lam et al. (2004) suggest a conceptual framework for relationship building in a B2B context, using the cognition-affect-behaviour model to suggest that customer loyalty and satisfaction are interrelated, rather than one-dimensional. As a DMC principally linked to the customer, therefore, close relationships with customers can improve firms' ability to garner customer loyalty and reduce switching behaviours (Lam et al., 2004).

Palmatier, Gopalakrishna and Houston (2006) suggest a conceptual framework that links relationship marketing investment to financial outcomes, suggesting particularly that social RM – such as interpersonal events and entertainment – is the most lucrative investment for businesses (2006). In addition, they suggest that structural RM – such as activities that make the customer's experience of the product more pleasurable – is only economically significant if consistently applied over time (Palmatier et al., 2006).

In their analysis of economic and relational direct marketing, Kim and Kumar (2018) suggest that it is important for firms to understand *how* customers interpret their messages; customers have evolved over time and their preferences are evolving. Focusing on communications, they use content analysis to understand how customers change their behaviour over time (Kim & Kumar, 2018).

Because relationship marketing is primarily linked to understanding of the customer, it can also be linked to a firm's ability to be oriented to the market, and to innovate around it. It is thus suggested that both relationship capabilities and marketing orientation are linked to top-performing firms (Tse, Sin, Yau, Lee, & Chow, 2004).

2.3 Empirical Literature Review

2.3.1 Dynamic Marketing Capabilities' effects on SCA

The matter of dynamic capabilities allowing increased performance in emerging market firms has been studied previously, although not as thoroughly as in established markets. For example, Cortez and Johnston (2018) use a convergence-divergence framework to explore marketing capabilities of firms in Latin America in comparison with the USA, finding that Latin American firms converged with the USA only on four capabilities – customer relationships, marketing channels, new offering development and traditional marketing communications.

In a later study, Cortez and Johnston (2019) map out the key marketing capabilities of firms in an advanced economy, two emerging economies, and one developing economy, finding that for emerging economies, orientation toward interactions, customers and sales growth are very important. The findings from both of these studies suggest that marketing capabilities differ between advanced and emerging economies.

Annarelli, Battistella and Nonino (2020) explore the concept of dynamic capabilities in securing SCA in product-service-systems. According to the authors, product service systems are firms that are focused on providing a combination of products and services in order to fulfil customer requirements (Annarelli et al., 2016 in Annarelli et al., 2020). Conducting a case-study analysis of 10 product-system-service firms from various locations, the authors assert that resources, competences and processes that are hard to replicate are important in carving out SCA for Produce Service Systems (Annarelli et al., 2020). The findings from this study are relevant because they look at elements of competitive advantage in product-service-systems in emerging economies, and renewable energy companies fit the product-service-system definition.

Using a case-based methodology, Mariadoss et al. (2011) looked specifically at the marketing capabilities that drive sustainable development and SCA in B2B firms. Using data from 47 B2B firms, the authors found that firms with enhanced marketing capabilities are able to drive innovation and customer relationships relating to sustainable development, which in turn lead to market success over time (Mariadoss et al., 2011). The authors propose a conceptual framework which addresses the marketing capabilities that can be harnessed in order to promote ongoing innovation and market success for those firms with "green" stakeholders (Mariadoss et al., 2011).

Marketing capabilities' effects on B2B firms have also been studied quantitatively. Guo, Xu, Tang, Liu-Thompkins, Guo and Dong (2018) explore static, dynamic and adaptive marketing capabilities and their impact on firm performance. Studying 225 B2B companies in China, the authors found that adaptive marketing capabilities, which include market orientation and learning, the ability to experiment in the market, and a firm's proclivity for open marketing, have the most impact on market performance – suggesting that adaptive marketing capability is important for B2B firms to consider (Guo et al., 2018).

Marketing capabilities have also been explored in relation to Small, Medium and Micro enterprises (SMEs). Santos-Vijande, Sanzo-Pérez, Trespalacios Gutiérrez and García Rodríguez (2012) explored which antecedents result in marketing capabilities for SMEs, and concluded that internal marketing is an important tool to help SMEs improve on customer experience. Similarly, Falahat et al. (2020) explored the importance of marketing capabilities for SMEs in improving their international performance. Studying 119 SMEs in Malaysia, the authors found that market intelligence capability, innovation and pricing capability had a positive effect on firms' SCA (Falahat et al., 2020). Furthermore, Pucci et al. (2017) studied 411 SMEs in Italy, finding that firm capabilities – particularly market orientation that leads to increased absorptive capacity – affects the development of effective business models.

Dynamic capabilities have also been explored in other B2B contexts, for example in the way in which branding is carried out in industrial companies with German and Nechita (2015) concluding that in a highly competitive environment, capabilities relating to branding can ensure better performance in B2B companies. Similarly, in a study focusing on market orientation and brand management in 320 B2B service companies in the USA, Iyer, Davari, Srivastava and Paswan (2021) found that market orientation has significant impact on brand

performance when strategic brand management is present, arguing that MO assists in better brand management practices.

2.3.2 Market Orientation and Relationship Capabilities

As a dynamic marketing capability that enables firms to watch the market closely, apply the learnings internally and react timeously, market orientation's relationship to building better customer relationships has also been studied. For example, Landroguez, Castro and Cepeda-Carrión (2011) looked at market orientation, knowledge management and customer relationship management as essential DMCs for increasing and building superior customer value. Market orientation, they argued, is a key component of creating strong relationships with customers, because firms with strong market orientation are likely to listen to customers' needs – both expressed and unexpressed (Landroguez et al., 2011). They proposed a conceptual model suggesting that market orientation is closely related to customer value (Landroguez et al., 2011).

In another example, Farrelly & Quester (2003) explored the effect of market orientation on building trust and commitment. Looking specifically at sponsors of football teams in Australia, the authors found that trust and directed, relevant communication with partners lead to better market orientation amongst sponsor firms (Farrelly & Quester, 2003). In another study, Cao & Tian (2020) studied the relationship between customer-linking abilities of firms and the effect of marketing analytics for enhancing customer relationship performance amongst firms in China. They found that, although the use of marketing analytics is a way of 'market sensing' that could improve performance, it is not the only driver of such performance – the absorptive capacity of the firm has a role to play in this area (Cao & Tian, 2020).

In study across 485 firms in the UK, Hooley, Greenley, Cadogan and Fahy (2005) suggested a conceptual model that explores the link between marketing-support resources, market-based resources, and financial, market and customer performance. The study found a link between market orientation and the capability of firms to link to customers, which subsequently resulted in increased customer performance (Hooley et al., 2005). In another study of 270 senior managers, Kachouie et al. (2018) found that proactive market orientation is associated with superior customer value because it enables firms to understand customers and predict their future needs, helping them to be more resilient in turbulent market environments.

2.3.3 Market Orientation and Firm Performance

Market orientation as a specific DMC has also been studied in relation to firm performance, perhaps most seminally by Narver and Slater (1990) , who developed a conceptual model of MO's effect on performance that suggested MO has a positive effect on firm profitability. Studying 130 service and product business units within one large business, the authors asserted that MO, which included the ability of firms to address their customer's existing and future needs, a good understanding of the competitive environment, and interdepartmental coordination, affected organisational ability to have long-term focus on profitability, resulting in actual profitability (Narver & Slater, 1990).

In a subsequent meta-analysis of 29 empirical studies on market orientation and firm performance, Shoham, Rose and Kropp (2005) found that market orientation had a significant effect on customer performance, both directly, indirectly and overall. Similar findings are found in other empirical studies that relate to SMEs, B2B companies, and emerging markets, which are highlighted below.

In a study of 367 SME B2B firms, Merrilees, Rundle-Thiele and Lye (2011) found that market orientation is an important antecedent to innovation, because firms practicing active market orientation are constantly innovating based on their learnings from the ever-changing market environment. The findings of the study indicated that firms focused on innovation have strong market performance outcomes, suggesting that increased market orientation, when accompanied by innovation, leads to increased financial and marketing performance in firms (Merrilees et al., 2011).

This is also apparent in B2B SMEs in other emerging market contexts. Studying 346 SMEs that are focused on exporting in Turkey, Acikdilli, Mintu-Wimsatt, Kara and Spillan (2020) found that both market orientation and marketing capabilities in firms resulted in increased impacts on firm export performance (2020). In a comparative analysis of 200 new businesses in China, Du and Kim (2021) found that new ventures operating in highly complex market environments needed either entrepreneurial ability, market orientation, or both to achieve high performance. Their research suggested that market orientation remains a key component of firm performance in complex business environments (Du & Kim, 2021).

The ability of MO to affect the innovativeness of SME business models is also a well-studied phenomenon. Randhawa, Wilden and Gudergan (2021) explored how SMEs can evolve their business model by focusing first on market-driving MO, and then progressing to market-driven

MO, finally establishing an ambidextrous business model that can focus on both responding to and predicting market changes. The authors used a longitudinal, in-depth case-study analysis to assert that as SMEs become more established, a focus on MO resulted in a more adaptable, innovative business models (Randhawa et al., 2021).

Kachouie et al. (2018) assert that dynamic marketing capabilities, specifically market orientation and value innovation, are associated with increased ability within firms to carry out stronger operational marketing, which is in turn associated with better financial outcomes. However, Jancenelle, Storrud-Barnes and Buccieri (2021) have importantly argued that too much focus on MO could also be detrimental to firms. Using a computer-assisted-text-analysis method, the authors conducted a longitudinal study over 5 years on 449 S&P 500 companies, concluding that too much MO may not always result in better performance, and arguing for the application of moderate MO for best chances of success.

Similarly, the importance of defining what measures of performance are used was highlighted by Powers, Kennedy and Choi (2020). After studying 111 business units in a large industrial business, the authors found that managers and salespeople perceived MO to have a strong influence on performance, but the link between perceived and actual firm performance was weak (Powers et al., 2020). This could mean that there may be large differences between perceived and objective performance.

Effects of market orientation has also been applied in emerging market economies. Dynamic capabilities such as intellectual capital, corporate social responsibility, and financial capability were found to be associated with increased firm performance in Pakistan (Khan, Yang, & Waheed, 2019). In a supporting example, Kurniawan, Manurung, Hamsal and Kosasih (2021) looked at 150 B2B telecom providers in Indonesia, and found that MO plays an important role in business model agility, and performance. Their findings indicated that MO is a large influencer of business model agility, becoming a frame for other dynamic capabilities and increasing business model innovation (Kurniawan et al., 2021).

2.3.4 Relationship Capabilities and Firm Performance

Although there is much theoretical agreement that improved relationship marketing leads to improved customer loyalty and thus financial performance, increased spending on RM has not necessarily lead to financial outcomes (Cram, 1994 and Payne and Ballantyne, 1991 in Palmatier et al., 2008). In B2B exchanges it is argued that not only RM activities, but factors promoting ‘relationship orientation’ – the proclivity of the buyer to perceive a firm’s RM

strategies positively – that affects outcomes (Palmatier et al., 2008, p. 178). From their empirical research, Palmatier et al. (2008) propose a theoretical model to evaluate the efficacy of RM programs that includes the mediating effects of buyer perceptions on exchange inefficiency and buyer trust on seller outcomes.

In a meta-analysis around the empirical findings into RM, Palmatier, Dant, et al. (2006) suggest that relationship quality is important to firm performance. Through a synthesis of available literature, the authors suggested that the antecedents to customer loyalty include the benefits of a particular relationship, as well as their dependence on a seller. Through a meta-analysis of studies on RM, they highlighted that there is much variation on the antecedents that effect relationships – except for expertise and communication, which are consistently effective at building relationships (Palmatier, Dant, et al., 2006). They also note that strong relationships have more effect on customer loyalty and improving sales in B2B, service-oriented exchanges (Palmatier, Dant, et al., 2006).

Looking at relationship capabilities such as the ability to form long-lasting relationships and share information with their customers, Lages, Styles and Silva (2009) studied 112 export firms in Portugal, finding that there were strong links between relationship capabilities and both relationship and economic performance. They suggested that the ability of firms to establish and maintain strong customer relationships resulted in competitive advantage and economic performance (Lages et al., 2009)

In a recent study, Fernandes Sampaio, Hernández Mogollón and de Ascensão Gouveia Rodrigues (2020) used a sample of 447 senior executives from the Western European Hotel Industry to illustrate that that relationship marketing, represented through customer loyalty, mediates the effect of marketing orientation on positive business performance. However, Wilden et al., (2019) found that in a professional service firm context, the ability of firms to build strong relationships with clients enable better customer performance but not financial performance. Studying 285 firms in Germany, the authors found that firms with consistent application of relational capabilities resulted in strong customer outcomes (Wilden et al., 2019).

RM's effect on the innovativeness of firms has also been studied. In a study of 344 managers of service firms in Ghana, Anning-Dorson et al. (2018) found that firms with a strong affinity for customer involvement were also more likely to create strong customer participation, which affected their ability to innovate their service offering. In this way, relationship capabilities can become a form of market orientation, which is associated with the firm's ability to react to

customer needs and perceptions ahead of time (Anning-Dorson et al., 2018). Similarly, Sánchez-Gutiérrez et al's (2019) analysis of 450 SMEs in Mexico suggest that the ability to form strong customer relationships positively influenced the firm's ability to create enhanced value for customers, amongst other outcomes.

In another B2B service context, Lam et al. (2004) found that there was a relationship between perceived customer value and customer satisfaction and loyalty. Looking at 268 B2B courier companies, they purported that customer loyalty is a two-dimensional construct, consisting of patronage and recommendation, that both are positively associated with customer satisfaction (Lam et al., 2004).

2.4 Study Conceptual model

Because of their relevance to the B2B and services context, the dynamic marketing capabilities of market orientation and relationship capabilities and their effect on firm performance are explored in this study, which is summarised in the conceptual model demonstrated in Figure 2.

As discussed, market orientation enhances the firm's ability to be innovative; that is, to be continually tuned in to their market and adapt to customer needs. Because of the close link between MO and relationship marketing capabilities in the literature, the first hypothesis of the study is:

> ***H1: Market orientation (MO) leads to increased relationship capabilities (RC) in B2B renewable energy firms in South Africa.***

In addition, because market orientation is associated with increased innovation capacity and adaptability, as well as performance of companies, it follows that this should apply to South African renewable energy companies. As such, the second hypotheses of the study are as follows:

> ***H2a: Market orientation (MO) leads to financial and market performance (FP) in B2B renewable energy firms in South Africa***
>
> ***H2b: Market orientation (MO) leads to increased Customer Relationship Performance (CP) in B2B renewable energy firms in South Africa***

Finally, because of its link to both relational performance and the associated customer loyalty that leads to increased financial outputs in B2B firms, it is assumed that there is a strong link

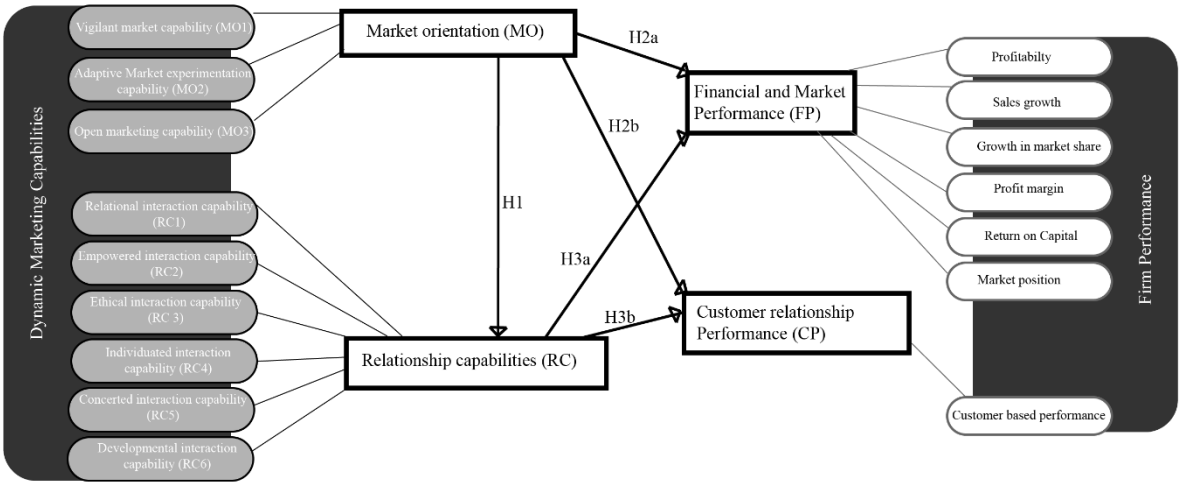
between increased relationship capabilities and firm performance. As such, the third hypotheses of the study are as follows:

H3a: Relationship capabilities (RC) lead to financial and market performance (FP) in B2B renewable energy firms in South Africa

H3b: Relationship capabilities (RC) lead to Customer Relationship Performance (CP) in B2B renewable energy firms in South Africa

Based on the reviewed literature, as well as the applicable empirical evidence, the conceptual model of the study consists of both dynamic marketing capabilities and relationship marketing's effect on firm performance, as demonstrated in Figure 2.

Figure 2 Study Conceptual Model



As the conceptual framework demonstrates, the study explores two dynamic marketing capabilities – market orientation and relationship capabilities. Both of these DMCs have specific characteristics and underpinnings which impact their link to SCA, because they indicate the ability to of firms to learn and 'sense' from the market, being able to adapt experiences and understand that the complementarity of the business ecosystem is important (Day, 2011; Teece, 2007; Kay, Leih & Teece, 2018).

3 Chapter 3 – Research Methodology

3.1 Research Method Choice and time horizon

Research into dynamic marketing capabilities has been conducted through both quantitative and qualitative methodologies, with each method offering its own benefits and drawbacks (Cooper & Schindler, 2014). As there has been little research on the business practices of renewable energy firms in South Africa, the research objectives of this study focus on a quantitative perspective to understand the relationship between dynamic marketing capabilities and performance in a B2B setting.

In order to ensure efficiency, a survey-based approach is used (Cooper & Schindler, 2014). The quantitative research is aimed at exploring the relationship between dynamic marketing capabilities and firm performance as laid out in H1, H2a/b and H3a/b. This research methodology uses a partial least squares structural equation model (PLS-SEM), which is a useful way of measuring constructs for marketing (Hair, Sarstedt, Ringle, & Mena, 2012).

Although SCA is measured over time, this initial look into the business practices of B2B renewable energy firms is cross-sectional, focusing on financial, market and customer relationship performance at the time of taking the survey.

3.2 Research Techniques and Procedure

3.2.1 Data population estimate

Based on the objective of the study, the study target population are renewable energy companies that sell to businesses in South Africa. Whilst there is much literature on the development of the renewable industry landscape in South Africa, there is little information about the size of this industry and the number of market players. For example, the South African Energy Sector report of 2019 states that there has been a "rapid increase in SMEs focusing on renewable energy in the country," but does not state the exact number (Ratshomo & Nembahe, 2019 p.19). According to a report on the job creation potential of the solar PV sector, over 1000 companies are mentioned as being involved in the solar PV "value chain', including on-site construction companies, manufacturers, engineering companies and consultants (Fourie, 2021).

However, without access to such databases and confirmation, an estimated population suitable for the study needed to be developed. A few key factors were included in this population

estimation. The factors taken into account in estimating the population are highlighted in Table 3.

SAPVIA is an industry association that was originated in order to bolster the uptake of utility-scale solar PV, but has subsequently come to represent commercial solar businesses too (South African Photovoltaic Industry Association, 2020). SAPVIA has 131 members. A subsidiary of SAPVIA, the PV Greencard, is an industry standard qualification for installing solar PV, which has 270 registered installers (PV Greencard, 2020). SAWEA is the industry association for commercial wind energy providers in South Africa, and has 105 members (South African Wind Energy Association, 2020). SANEA is the South African arm of the World Energy Council, and aims to advocate for matters that relate to energy in South Africa. It has 30 members, although not all of them are renewable energy companies (*What Is SANEA*, 2017). The International Hydropower Association is the only representative body for hydropower in South Africa, with members in 120 countries, but only one South African member (International Hydropower Association, 2019).

Table 3 Factors for RE company inclusion in total population count

Inclusion in Population Estimate	**Rationale**
B2B companies that are part of a South African renewable energy institution.	As a young sector in South Africa, most reputable renewable energy companies were likely to be part of an institution or industry association. Similarly, businesses looking procure renewable energy would likely require a supplier to be registered with a relevant industry body. Bodies in the population estimate included SAPVIA, SAWEA, SANEA, STASA and IHA.
Non "recommended" suppliers for the PV Greencard	The PV Greencard is a certification that allows smaller, residential suppliers to be registered. However, there are some B2B companies listed. As such, the population sample was drawn from non "recommended" companies, which were presumed to be B2C companies.

3.2.1.1 Population estimate for the purposes of study

The South African Photovoltaic Industry Association has 131 members total, of which 3 are Business-to-Consumer (B2C), 10 are research institutions and 13 are large-scale developers, not relevant to the research as they conduct business with government only (South African Photovoltaic Industry Association, 2020). As such, the estimated population size of B2B solar PV companies from this institution is 105 in total. In addition, there are 270 solar PV companies listed on the PV Greencard Website, however, this number includes both B2B and B2C companies (PV Greencard, 2020). Of this, 112 companies were considered "recommended" for small-scale and first time buyers of solar, which could be excluded from the study. As such,

158 companies from the PV Greencard database could be included in the population, making the total solar PV population size 263.

The South African Wind Energy Association, on the other hand, has 87 members, of which 8 were individual members and therefore could not be included in the population (South African Wind Energy Association, 2020). As such, the total companies that could be included in this population was estimated to be 79.

Whilst there was no South-African specific Hydropower association, after contacting the International Hydropower Association, it was confirmed that they had just one South African member, who was also included in the study (G. McDonnell, personal communication, 23 April 2021).

CSP (Concentrated Solar Power), whilst it does not have its own industry association in South Africa, is represented through the Solar Thermal Association of Southern Africa, which includes 10 members, of which one is a research institution, making the estimated population count for this technology nine (Govender, 2017).

Overall, taking all of these factors into account, the estimated number of B2B renewable energy companies included in the study 352.

Table 4 The estimated population of the study: B2B Renewable Energy Companies in South Africa

Renewable Technology	**Database**	**Population**
Solar PV	SAPVIA and PV Greencard	263
Wind	SAWEA	79
Hydropower	International Hydropower Association	1
CSP	Solar Thermal Association of Southern Africa	9
Total Estimated B2B Renewable Energy companies in South Africa		**352**

3.2.2 Sampling Method and Sample

In order to collect data on the marketing capabilities of B2B renewable energy companies, an information letter along with the link to the digital survey, were sent to SAPVIA, the PV Greencard, SAWEA, the IHA, STASA and SANEA, inviting them to send the survey to their members. As a result, digital surveys, as well as a follow up reminder, were distributed through both SAPVIA and PV Greencard databases, as well as through the Hydropower Association. Unfortunately, SAWEA, SANEA and STASA declined to send the survey to their members.

In order to encourage more responses, individual renewable energy companies whose contact information was available freely online were also approached, and a link to complete the survey

was also posted in various South African renewable industry groups on LinkedIn in order to encourage more responses.

Before completing the survey, each participant was required to read through information on the research and give their consent to participate, which explained that the research was concerning B2B renewable energy companies only, and that only participants who were involved in the marketing and/or business strategy side of renewable energy business should participate. Of the total 116 respondents, two opted not to continue and 114 agreed to continue based on these terms.

Responses to the survey were gathered for just over two months, beginning in late April 2021 and closing on 30 June 2021.

3.2.3 Research Instrument Development

Surveys are highly structured interviews with the objective of uncovering information about standardised topics (Cooper & Schindler, 2014). As such, the research instrument preferred for this research was a survey covering the different aspects of the conceptual model.

Grounded in instruments used to explore dynamic marketing capabilities employed by B2B companies in emerging market contexts such as Kachouie et al., the research instrument employed a 7-point Likert-type scale for each measure of capability and outcome (2018). The Likert-type scale was preferred as it has been used as a practical gauge of interval data whilst producing a more "normal" data curve result (Cooper & Schindler, 2014).

Although this type of study has not been carried out in this specific context before, there exist similar instruments which have been used to measure dynamic marketing capabilities that were adapted for use, rather than re-creating new survey instruments. As such, the survey instrument included the adaptation of relevant questions and scales for each variable (market orientation and relationship capabilities) and outcome (financial, customer and market performance).

For market orientation, a research instrument was adapted from Guo et al. (2018) that understood marketing capabilities to be comprised of three particular areas – vigilant market capability, adaptive market experimentation, and open marketing. This scale was adapted and used because of its application to an emerging market context. From these, the instrument for "adaptive marketing capabilities" was used, because it was the most appropriate measure of market orientation, and the ability of firms to adapt to an emerging market (Guo et al., 2018). Adaptive marketing capabilities indicate the ability of firms to adapt to ongoing market

evolution and the changing needs of their customers (Guo et al., 2018). With the changing landscape of renewable energy technology as well as legislation in South Africa, this instrument was appropriate to measure South African B2B firms' market orientation. See Annexure 1 – Market orientation Research Instrument for the full scale used.

For relationship capabilities, a research instrument was adapted from Wilden et al. (2019) that clustered relational capability of firms into different types of interactions, including relational, empowered, ethical, individuated, concerted and developmental. This measurement instrument for relationship capabilities was adopted because of its relation to the service industry and the nature of co-creation with these clients (Wilden et al., 2019). B2B renewable energy companies fit into the authors' understanding of cocreation abilities as essentially being able to collaborate with clients in order to create value (Wilden et al., 2019). However, their scale for dynamic marketing capability did not fit the South African business context of renewable energy as well as Guo et al.'s (2018) adaptive marketing capacity measurement, so it was not adopted. See Annexure 2 – Relationship capabilities Research Instrument for the full scale used.

In order to measure performance, two clusters of performance measures were used from Wilden et al.'s study (2019). Used in combination, these measures give a more comprehensive view of competitive advantage than financial measures used alone (Hooley et al., 2005). Whilst financial performance is important to competitive advantage, customer satisfaction is more likely to indicate long term performance (Dwyer et al., 1987). In the B2B context, customer performance can also indicate how positively the firm affected the customer, and in turn, affect its competitive advantage (Wilden et al., 2019).

The scale used for financial and market performance covers profitability, sales growth, market share, profit margin, return on capital and market position in comparison to major competitors (Wilden et al., 2019). These indicators of financial and market performance are useful to measure competitive advantage because they cover short term profitability alongside other financial indicators of competitive advantage, such as market position. Customer performance, on the other hand, consists of various customer satisfaction indicators in relation to the two most important customers for firms (Wilden et al., 2019). As a result, positive performance from a customer perspective shows the ability of the firm to provide the best experience for the most important accounts, translating into increased value (Wilden et al., 2019). See Annexure 3 – Performance Research Instrument – For the full scale used.

3.2.4 Measures and Operationalisation

3.2.4.1 B2B Renewable Energy Companies

Operational definitions are important to define the study's scope and parameters (Cooper & Schindler, 2014). In this case, the operational definition of "B2B renewable energy companies" is legally registered firms in South Africa that serve commercial, industrial and sometimes governmental clients either through the development, design, procurement, construction and operations of renewable energy plants, or through the supply of components or consulting services for those plants. Firms that supply renewable energy directly to consumers (for example, solar geyser providers and residential installers) were excluded.

3.2.4.2 Market Orientation

For the purposes of this study, market orientation (MO) is defined through two essential pillars: market learning, or the ability to be tapped into the market, and market experimentation, or the ability to innovate and test the market. In measuring MO, the question, "how does the firm learn and grow in the market?" was asked.

The operationalisation of MO comprising of firm learning and experimentation is grounded in the literature on dynamic capabilities: the ability to "sense" what is in the market was first purported as a DC by Teece, (2007). Similarly, Cohen & Levinthal's (1990) idea about firm absorptive capacity applies – firms need to be able to absorb the information that they learn.

Some authors, such as Narver, Slater and MacLachlan (2004), have noted a difference between two distinct types of market orientation – Responsive market orientation (RMO) and Proactive market orientation (PMO). The theoretical basis for this distinction, the authors argue, is the fact that Proactive MO is about the firm's ability to meet *latent* customer needs – in other words, predict what customers might want in the future, whilst Responsive MO focuses on the ability to respond to *expressed* customer needs (Narver et al., 2004). In this study, distinctive types of MO are not separated, and the MO construct includes a firm's ability to respond to both expressed and latent needs.

3.2.4.3 Relationship Capabilities

For the purposes of this study, relationship marketing capabilities are defined as the ability of firms to participate in relationship marketing (RM) and the ability to build relationship equity. In measuring relationship capabilities, the question "to what extent are firms able to communicate, learn and adapt from customers?" was asked.

In terms of relationship marketing, the operational definition employed included all tactics and strategies that relate to building relationships with customers and clients. Using Palmatier & Sridhar's (2017) definition of relationship marketing, RM activities are those that relate to identifying, building and maintaining, and (if necessary), terminating relationships. In the literature, relationship marketing can also refer to marketing that aims to build relationships with employees and suppliers (for example, Kumar & Pansari, 2016). However, in this study, the operational definition of relationship marketing activities is limited to marketing with the objective of building relationships with customers and clients.

Both the ability to engage with customers and build long term relationships with them link to what Wilden et al., (2019) term "cocreation ability". In a B2B study looking at the service sector, the authors use Relational interaction capability, Empowered interaction capability, Ethical interaction capability, Individuated interaction capability, Concerted interaction capability and Developmental interaction capability to measure the success of firm-client relationships (Wilden et al., 2019). As such, this scale is used to measure relationship capabilities in this study.

3.2.4.4 Firm Performance

In terms of performance, there are various ways of measuring firm performance and its relation to SCA, such as pure profit measures, revenue change, or market share growth (Guo et al., 2018; Kumar & Pansari, 2016; Palmatier, Gopalakrishna, et al., 2006). When measuring performance, the question "how well does a firm compare to its competitors?", was asked.

Financial performance can be measured in several different ways, but because of the study's focus on SCA, the scale used by Wilden et al. (2019) that draws on the financial performance measures first proposed by Hooley et al. (2005) is used. This includes measures of financial and market performance in relation to competitors. Because the renewable energy industry is young and consists mostly of private business, the adapted scale was believed to be the most appropriate measure for performance in this instance. The operational definition of financial and market performance includes a firm's ability to outperform its competitors for key financial and market indicators.

Customer-based performance in the study is also drawn from a scale developed by Wilden et al. (2019), which is grounded in the proposal by Lam et al (2004), that B2B firms creating customer value will have a positive effect on customer satisfaction and loyalty. As such, the

operational definition of customer-based performance incorporates the overall satisfaction of customers in relation to competitors.

3.2.4.5 Measures used in the study

Figure 3 below highlights the measures used in the study. Table 5 below highlights the operational definitions that defined the measures.

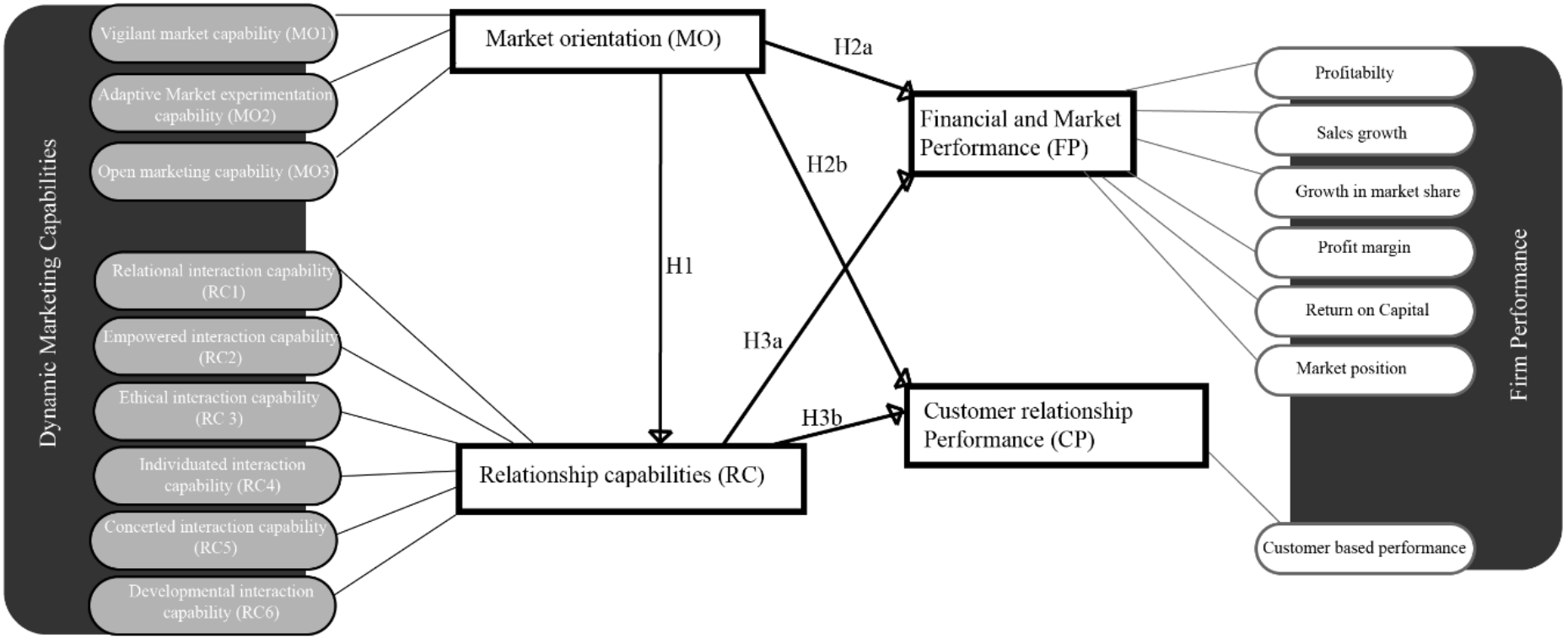


Figure 3 Measures and sub-measures used in the study

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Table 5 Summary of Operational Definitions

Concept	**Operational Definition**	**Grounding in literature**	**Scale Used**
Market orientation	How firms learn and grow in the market	Market sensing abilities (Teece, 2007) Firm Absorptive capacity (Cohen & Levinthal, 1990) MO as a means to anticipate change (Kachouie et al., 2018) MO as a market change agent (Jaworski et al., 2000)	Adaptive marketing capabilities (Guo et al., 2018)
Relationship capabilities	How firms communicate and learn from customers to garner customer loyalty	Customer engagement (Kumar & Pansari, 2016) Cocreation ability (Wilden et al., 2019) Relationship equity (Ramaseshan et al., 2013)	Customer Cocreation (Wilden et al., 2019)
Firm Performance - Financial and Market Performance	How firms perform financially and in the market, in relation to their competitors	Financial performance (Hooley et al., 2005)	Financial and market performance (Wilden et al., 2019).
Firm Performance - Customer Performance	How firms' customers perceive the value provided by the firm	Customer value creation (Lam et al., 2004)	Customer-based performance (Wilden et al., 2019)

3.2.5 Data analysis

In order to understand the relationships between the capabilities and firm performance, a multivariate regression analysis is used. Such a technique is useful in understanding the relationship between several independent variables on an dependent variable (Palmatier & Sridhar, 2017). In an analysis of strategic marketing research, Kumar, Sharma and Gupta (2017) suggest that multivariate regression techniques are very popular in the marketing literature, and that to create impact there should be "alignment between the strategic marketing areas and models being used" (p. 181).

Because this study focused on MO and RC and their relationship to firm outcomes, multivariate regression analysis in the form of a partial least squares was used, as it is aligned to the strategic area of SCA in the marketing discipline. Partial least squares (PLS) is a form of regression analysis that works well for this project because it allows for a formative measurement of latent variables and is useful for smaller sample sizes (Hair et al., 2012).

Structural Equation Modelling (SEM) is an analytical tool that assists in creating a relevant model to apply the PLS method to, and has been used by others studying dynamic marketing capabilities (Kachouie et al., 2018). According to Hair et al. (2012), despite many improvements to the PLS-SEM methodology, it is still important that the marketing discipline follows a set of guidelines to ensure that the methodology is applied systematically and correctly. PLS SEM requires a few steps to ensure accuracy of data: population and sample structure, a description of the distribution, outlining of the inner and outer models, outlining which software is used, the application of bootstrapping or other re-sampling techniques, and the inclusion of a correlation matrix (Hair et al., 2012).

As such, the measurement model was first assessed, followed by the structural model, followed by a multi-mediation analysis. These steps ensured that the model was correctly structured to measure the relationship(s) at hand.

3.2.5.1 Second-order variables

Because both market orientation and relationship capabilities are made up of sub-capabilities, they are considered second-order variables which are made up of various different constructs (Becker, Klein, & Wetzels, 2012). Although there are a few different ways to treat such multidimensional constructs in PLS SEM modelling, in this study, the repeated-indicator approach has been used as each construct is made of the same number of factors (Amaro &

Duarte, 2016). Such an approach is appropriate for multidimensional constructs that are represented by groups of inter-related factors (Becker et al., 2012).

3.2.6 Validity and Reliability of data

As already mentioned, the questionnaire adopted for the study used ordinal scale data via a 7-point Likert-type scale. This type of scale is helpful when indicating data that can be categorised on a plane starting from less than and progressing to greater than something (Cooper & Schindler, 2014). The validity and reliability of the data was tested in seven ways, as demonstrated in

Table 6 and

Table 7.

Table 6 Reliability Considerations

Type of Reliability	**Reliability concern**	**Assurance**
Internal consistency	Ensuring that the indicators are associated strongly with the factors being studied (Cooper & Schindler, 2014)	Confirmatory Factor Analysis
	Consistency of responses across multiple item measures (Chiang, Jhangiani, & Price, 2015).	Cronbach's Alpha
	Internal consistency of variables	Composite reliability
	Collinearity of the variables (Curto & Pinto, 2011)	Variable Inflation Factors (VIF)

Table 7 Data Validation Considerations

Type of Validity	**Validity concern**	**Assurance**
Face Validity	How suitable the content of a test is to the construct considered (Middleton, 2019).	Using pre-existing scales for all variables at hand assures that at face value the data collected will be reliable.
Content Validity	Whether all content relevant to the outcome have been considered (Chiang et al., 2015).	Based on the literature available on the role of dynamic marketing capabilities and their effect on SCA, each relevant variable has been selected based on the fundamental role that it plays in the success of firms.
Construct validity	Whether the method of measurement is appropriate for the intended construct and that variances are explained	Average Variance Extracted (AVE) Discriminant Validity (HTMT)

The results of the reliability and validity tests are presented in Chapter 4.

4 Chapter 4 – Presentation of Results

4.1 Introduction

In this chapter, the researched data is described and applied to a Partial Least Squares Structural Equation Model (PLS-SEM) in order to test the hypotheses. Firstly, the data is described, using population size and demographic indicators. Secondly, the data validity and reliability are tested, in which the PLS-SEM model is validated through a confirmatory factor analysis, followed by construct reliability and validity tests. Finally, the data findings are presented and hypotheses tested, using the PLS-SEM model.

4.2 Data description

4.2.1 Sample size and description

The Research Techniques and Procedure were discussed in the previous chapter. Despite the total response number of 114 survey respondents who elected to participate, just under half (49%, *n*=56) fully completed the survey. As such, from an initial 114 responses, only 56 could be used in the complete analysis.

The low response rate is a characteristic of firm-level studies, especially in emerging economies (Hoskisson, Eden, Lau, & Wright, 2000). Baruch and Holtom (2008), for example, found that a response rate of 36% is typical of firm-level responses, whilst individual responses receive response rates of above 52%. Other studies have also effectively used smaller data sets, such as Al Badi (2018), whose study of SMEs was limited to 75 data sets because of missing information. As such, the small sample size is a common characteristic of organisational studies in general and not specific to this study.

Of the sample that completed the survey, most (62.5%, *n=35*) were representing solar PV companies, followed by renewable energy components (10.7%, *n=6*) and wind companies (5.4%, *n=3*). This is unsurprising, as the bulk of business-to-business renewable energy sales are in the solar PV value chain, as it is an easily-deployable technology.

Most of the survey respondents held a role as a director or shareholder (39.3%, *n=22*), senior management (26.8%, *n=15*) and middle management (21.4%, *n=12*). This reflects that the sample had exposure and understanding of the dynamic marketing capabilities in question, and that their answers are reflective of the firms that they represent.

4.2.2 Skewness and normal distribution

Using the program IBM SPSS Statistics, data were evaluated for skewness and normal distribution. Across all variables, the mean, median and mode were 4.84, 5.01 and 4.93 respectively. This showed a slight skewness of -0.52, suggesting that the data is slightly skewed to the right. However, the measurement of kurtosis is 0.00, which is within the desired range. When conducting the SEM Model calculations, the Central Limit Theorem was applied to account for errors.

4.3 Data Reliability and Validity – SEM Model Measurement

Because the study looked at "second-order" variables, the data analysis followed a two-phase approach, often called the repeated indicator approach (Becker et al., 2012). Both market orientation and relationship capabilities are second-order variables made of multidimensional constructs, and thus their own structure and validity was measured before inputting the latent variable scores in to the SEM Model for analysis (Becker et al., 2012). The reliability and validity tests conducted were confirmatory factor analysis, construct reliability and validity, discriminant reliability, and collinearity.

4.3.1 Confirmatory Factor Analysis

In order to assure the reliability of the constructs, a confirmatory factor analysis was applied using the software SmartPLS. The measurement model reliability was tested by looking at construct factor loadings, Cronbach's Alpha and collinearity statistics. In terms of the factor loadings, the market orientation construct was adequate, with most questions scoring above 0.6 in the factor loading.

Table 8 Confirmatory Factor Analysis - market orientation

Market orientation Measure	Indicator	Factor Loading
Vigilant market capability	Our firm is highly sensitive to the market environment and is able to detect market signals (even the weak ones) timely and accurately.	0.747
	Our firm actively collects extensive marketing information through all social networks and media.	0.722
	Our firm is able to forecast market trends based on past histories of consumer demand.	0.812
	New market information is shared within the company and distributed to different divisions in a timely manner.	0.736
Adaptive market experimentation capability	Our firm is willing to actively conduct market experiments or tests based on our own market forecast.	0.764
	Through trial-and-error and experimenting, our firm explores future market trends and develops potentially successful business models.	0.819
	Our firm takes advantage of emerging technologies, such as the Internet, quick-response technologies and database technologies to track market changes and learn from market experiments.	0.716
	Our firm actively learns from a wider range of peer companies, market leaders, and channel partners.	0.655
Open marketing capability	Our firm actively seeks a strategic partnership with companies that are complementary with our firm in terms of resources and capabilities.	0.696
	Through coordination and collaboration with our partners, we are able to achieve synergy in effectively and quickly responding to market signals (even the weak ones).	0.833
	Through resource integration with our partners, our firm gains the capabilities for continuous product and technology innovation.	0.845
	Through collaboration and coordination with our partners, our firm improves the capability in developing innovative strategies and tactics.	0.766

Similarly, Factor loadings for market and financial performance, as well as customer relationship performance, were studied. Most of these factors were satisfactorily above 0.5, with only the last two indicators in customer relationship performance having a loading of 0.369 and 0.437 respectively, which were thus subsequently removed from the model.

Table 9 Factor loadings - Financial and customer performance (market orientation Model)

Measure	Indicator	Factor loading
Financial and Market Performance	Profitability	0.813
	Sales Growth	0.878
	Growth in Market Share	0.909
	Profit Margin	0.915
	Return on Capital	0.885
	Market Position	0.884
Customer Relationship Performance	Our performance always meets our clients' expectations	0.805
	Our clients continuously talk positively about our service to other clients	0.782
	Compared to our strongest competitors we have a significantly better reputation with our clients	0.827
	Our clients continuously confirm that they are completely satisfied with our offerings	0.828

Relationship capabilities Factor Loadings were slightly lower than market orientation, but they were still mostly acceptable, with most factors scoring above 0.5. The exceptions were items four in "empowered interaction capability", "ethical interaction capability" and "individuated interaction capability"; item three in "concerted interaction capability" and items one and four in "developmental interaction". These factors were removed and the factor analysis was recalculated, yielding higher overall factor loadings for the relationship capabilities construct.

Table 10 Confirmatory Factor Analysis - Relationship Capability

Relationship Capability Measure	Indicator	Factor Loading
Relational interaction capability	We evaluate novel communication measures early together with our clients, even when the concepts are not yet fully developed.	0.633
	We involve our clients in the development process of our communication measures more intensively than is common in the industry.	0.637
	We let clients evaluate novel communication measures especially in early development stages.	0.656
	We continually develop ongoing communication measures in a very collaborative way with clients.	0.744
Empowered interaction capability	We encourage our clients to critically evaluate our performance in all areas	0.665
	We actively search for client feedback on all levels to improve our services.	0.629
	For us the decisive measure of improving our performance is a continuous critical dialogue with our clients.	0.704
Ethical interaction capability	Our clients' objectives always come first, even if they have negative implications for us	0.522
	We do not mind vehemently and persistently disagreeing with our clients in order to help them make better business decisions	0.542
	We encourage our clients to have a critical exchange of ideas with other clients.	0.658
Individuated interaction capability	We try to continuously identify new business opportunities for our clients, which they are not yet aware of.	0.554
	We continuously and intensively analyze how clients use our service to achieve their marketing objectives.	0.601
	We continuously enhance our services even if our existing service offering becomes redundant.	0.678
Concerted interaction capability	We coordinate our business processes in a way that they are optimally aligned with client processes.	0.650
	Our internal structures and processes are entirely aligned with client requirements	0.651
	The (interim) results of our work are always synchronized with our clients' work. 2	0.661
Developmental interaction capability	...developing ideas for improved products or new services.	0.598
	…continually improving their marketing management and processes	0.503

With regard to the financial and customer performance measures, all factors taken into consideration in the relationship capability model were satisfactorily above 0.5.

Table 11 Factor loadings - Financial and customer performance (relationship capabilities Model)

Measure	Indicator	Factor loading
Financial and Market Performance	Profitability	0.769
	Sales Growth	0.900
	Growth in Market Share	0.915
	Profit Margin	0.903
	Return on Capital	0.877
	Market Position	0.895
Customer Relationship Performance	Our performance always meets our clients' expectations	0.804
	Our clients continuously talk positively about our service to other clients	0.857
	Compared to our strongest competitors we have a significantly better reputation with our clients	0.771
	Our clients continuously confirm that they are completely satisfied with our offerings	0.827

4.3.2 Construct reliability

4.3.2.1 Market Orientation

Construct reliability was calculated. The resulting constructs were all above 0.7 for Cronbach's Alpha and Composite Reliability calculations respectively. The main constructs for market orientation are illustrated in Table 12.

Table 12 Construct Reliability Measures for market orientation

	Cronbach's Alpha	Composite Reliability
Vigilant Market Capability	0.831	0.888
Adaptive Market Experimentation Capability	0.776	0.858
Open Marketing Capability	0.878	0.916
Financial and Market Performance	0.942	0.954
Customer Performance	0.805	0.841

4.3.2.2 Construct Reliability – Relationship capabilities

Construct reliability was also calculated for the relationship capabilities, with all Cronbach's Alpha and Composite reliability calculations sitting above 0.7. The results are highlighted in Table 13.

Table 13 Construct Reliability Measures for relationship capabilities

	Cronbach's Alpha	Composite Reliability
Relational interaction capability	0.866	0.909
Empowered Interaction Capability	0.856	0.913
Ethical Interaction Capability	0.733	0.848
Individuated Interaction Capability	0.675	0.823
Concerted Interaction capability	0.749	0.858
Developmental interaction capability	0.764	0.894
Financial and Market Performance	0.942	0.953
Customer Performance	0.832	0.888

4.3.2.3 Multicollinearity of Variables

Multicollinearity of the variables were calculated through Variable Inflation Factors (VIF). The VIF for all constructs was below 5, with most items sitting below 3. This suggests that there is good independence amongst the independent variables (Curto & Pinto, 2011).

4.3.3 Validity measures

4.3.3.1 Discriminant and Convergent Validity – Market Orientation

Once the reliability of the data was confirmed, the validity of the data was also calculated. Firstly, the discriminant validity values for the major constructs were calculated, using the Heterotrait-Monotrait Ratio (HTMT) model, which is advocated by Hair et al. (2012) for PLS SEM methods. All of the independent constructs sat well below 1, except for Adaptive Marketing Experimentation Capability and Vigilant Market Capability, which sat just over 1. Because these factors do form part of the same construct of market orientation, it is still acceptable, and discriminant validity is confirmed. The results are shown in Table 14.

Table 14 Discriminant Validity Analysis (HTMT) – Market orientation and Performance

	Adaptive Market Experimentation Capability	Customer Performance	Financial and Market Performance	Open Marketing Capability
Adaptive Market Experimentation Capability				
Customer Performance	0.304			
Financial and Market Performance	0.591	0.369		
Open Marketing Capability	1.003	0.337	0.547	
Vigilant Market Capability	1.064	0.334	0.659	0.862

Finally, the Average Variance Extracted (AVE) was studied to confirm convergent validity of all of the factors. All factors sat well above 0.6, which is an acceptable result. AVE is considered a strict measure of convergent validity and this result was deemed acceptable for inclusion (Bayraktar, Hancerliogullari, Cetinguc, & Calisir, 2017). Convergent validity is shown in Table 15.

Table 15 Convergent Validity Analysis (AVE) – Market orientation and Performance

	Average Variance Extracted (AVE)
Adaptive Market Experimentation Capability	0.604
Customer Performance	0.657
Financial and Market Performance	0.776
Open Marketing Capability	0.733
Vigilant Market Capability	0.665

4.3.3.2 Discriminant and Convergent Validity – Relationship capabilities

Discriminant validity of the data relating to relationship capabilities was also conducted by looking at the HTMT ratio. With all values sitting under 1, discriminant validity was confirmed.

Table 16 Discriminant Validity Analysis (HTMT) – Relationship capabilities and Performance

	Concerted Interaction capability	**Customer Performance**	**Developmental interaction capability**	**Empowered Interaction Capability**	**Ethical Interaction Capability**	**Financial and Market Performance**	**Individuated Interaction Capability**
Concerted Interaction capability							
Customer Performance	0.604						
Developmental interaction capability	0.539	0.215					
Empowered Interaction Capability	0.583	0.441	0.381				
Ethical Interaction Capability	0.723	0.663	0.273	0.558			
Financial and Market Performance	0.238	0.369	0.194	0.217	0.145		
Individuated Interaction Capability	0.857	0.334	0.662	0.652	0.739	0.184	
Relational interaction capability	0.607	0.420	0.670	0.726	0.483	0.244	0.653

Similarly the AVE was calculated in order to confirm convergent validity. In all variables, the AVE was satisfactorily above 0.6. The results are shown in Table 17.

Table 17 Convergent Validity Analysis (AVE) – Relationship capabilities and Performance

	Average Variance Extracted (AVE)
Concerted Interaction capability	0.670
Customer Performance	0.665
Developmental interaction capability	0.808
Empowered Interaction Capability	0.777
Ethical Interaction Capability	0.650
Financial and Market Performance	0.771
Individuated Interaction Capability	0.610
Relational interaction capability	0.715
relationship capabilities	0.670

4.4 Data findings – SEM Structural Measurements

Once the measurement model was validated, the structural component of the SEM was carried out in SmartPLS, using a path analysis and bootstrapping methodology of 5000 samples. Using bootstrapping methodology for Structural Equation Modelling allows for resampling and increases the accuracy of the results, as well as decreasing the likelihood for errors (Hair et al., 2012). The path coefficients, including P and T statistic values, are highlighted below, followed by the significance of the results.

Although the sample was very small, with only 56 complete data sets, the R^2 statistic allows the significance of the test to be explored, and in particular, the direction of the relationships explained by the model (Cooper & Schindler, 2014). The R^2 and adjusted R^2 are also included for each hypothesised relationship below.

4.4.1 Statistical findings – Hypotheses

The Table 18 below demonstrates the outcomes of the hypotheses testing.

Table 18 Hypotheses Findings

Hypothesis		Path coefficient	T Statistics	P Value	R^2	Adjusted R^2	Finding
H1	Market orientation -> Relationship Capability	0.520	5.584	0.000	0.271	0.257	Supported
H2a	Market orientation -> Financial and Market Performance	0.574	5.198	0.000	0.330	0.317	Supported
H2b	Market orientation -> Customer Performance	0.311	2.705	0.007	0.097	0.081	Supported
H3a	Relationship Capability -> Financial and Market Performance	0.263	1.992	0.046	0.069	0.052	Supported
H3b	Relationship Capability -> Customer performance	0.503	5.198	0.000	0.253	0.239	Supported

4.4.1.1 H1 – Market orientation and Relationship Capability

The relationship between market orientation and relationship capability is positive, with a path coefficient of 0.520, a T statistic of 5.584 and a P value of 0.000. As such, the hypothesis H1 is supported. The R^2 and adjusted R^2 Values 0.271 and 0.257 respectively, which suggest a significant relationship that could explain between 25 – 27% of the results.

4.4.1.2 H2a – Market orientation and Financial Performance

The relationship between market orientation and financial performance is positive, with a path coefficient of 0.574, a T statistic of 5.198 and a P Value of 0.000. As such, the hypothesis H2a is supported. The R Statistic values were 0.330 and 0.317 respectively, suggesting a significant relationship that could explain between 31 – 33% of results.

4.4.1.3 H2b – Market orientation and Customer Relationship Performance

The relationship between market orientation and customer performance is positive, with a path coefficient of 0.311, a T statistic of 2.705 and a P Value of 0.007. As such, the hypothesis H2b is supported. The R Statistic for MO and customer relationship performance is insignificant, with 0.097 and 0.081 values for the R^2 and Adjusted R^2 respectively. This demonstrates that market orientation, whilst associated positively with customer performance, has an insignificant relationship, only accounting for between 8 – 9% of the results.

4.4.1.4 H3a – Relationship Capability and Financial Performance

The relationship between relationship capability and financial performance is positive, with a path coefficient of 0.263, a T Statistic of 1.992, and a P value of 0.046. As such, the hypothesis H3a is supported. The R Statistic was not significant for financial and market performance, with values of 0.069 and 0.052 for R^2 and Adjusted R^2 respectively. This demonstrates that relationship capability does have a positive effect on financial performance, but not a significant one, accounting for only 5 – 7 % of results.

4.4.1.5 H3b – Relationship Capability and Customer Relationship Performance

The relationship between relationship capability and customer performance is positive, with a path coefficient of 0.503, a T statistic of 5.198, and a P Value of 0.000. As such, the hypothesis H3b is supported. Significant R^2 and Adjusted R^2 values are also present at 0.253 and 0.239 respectively, suggesting that relationship capability could account for between 23 and 25% of the overall customer relationship performance.

5 Chapter 5 – Discussion of Results

"When companies are faced with truly discrete and credible forces, the chosen path forward within such an environment can [..] be viewed as transformative" - Kumar, 2018

5.1 Introduction

Since renewable energy is one of the cheapest and most efficient energy sources globally and South Africa has abundance of renewable energy resources, growing the renewable energy market would benefit the economy and allowing a positive knock-on effect for the country. The purpose of this research, therefore, was to understand whether the theory of dynamic marketing capabilities applies to South African B2B renewable energy firms, in order to give insight to the most effective practices and strategies that might enable the sector to grow.

Given that renewable energy as a product and service is complex and faced with many challenges, the hope of this research was to unpack the valuable capabilities that enable these businesses to thrive, thus enabling marketers in South African B2B renewable energy companies to be more strategic in their focus. Using the dynamic capabilities of market orientation and relationship capabilities, 56 South African B2B firms responded to indicative questions and then indicated their performance. The hypotheses 1 – 3b were all supported, at different levels of significance. These results are discussed further in this chapter, a summary of which can be seen in Figure 4 Results of the Study, showing β values.

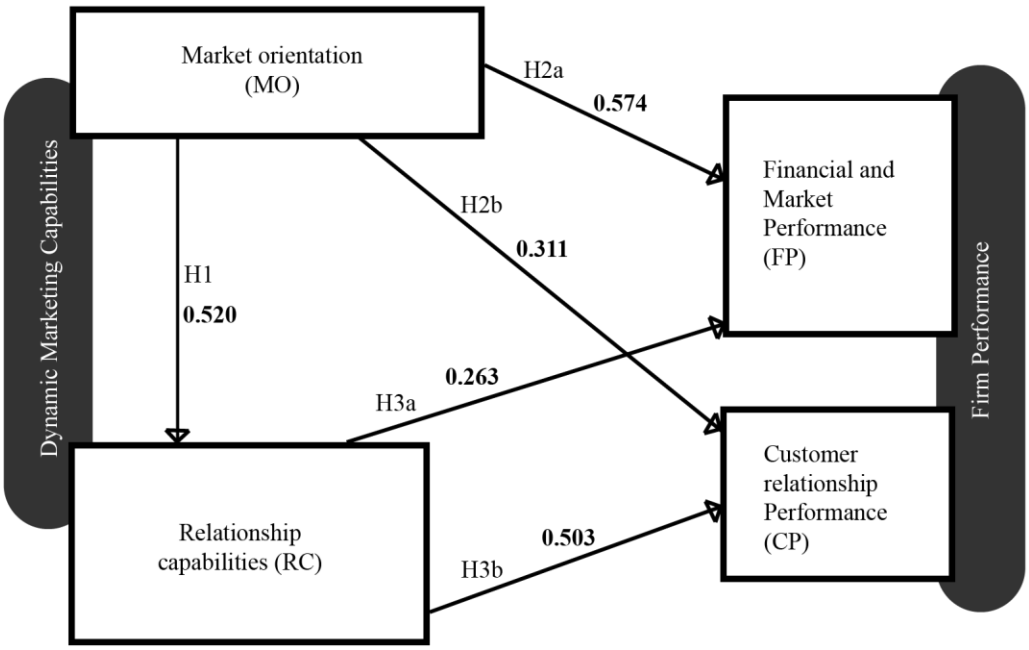


Figure 4 Results of the Study, showing β values

5.2 Hypothesis 1 – market orientation's effect on relationship capabilities

Market orientation as a dynamic capability has been associated with firms' abilities to build significant relationships through increased trust and commitment, the ability to listen and apply to customer needs, or through well-resourced marketing strategy (Farrelly & Quester, 2003; Hooley et al., 2005; Landroguez et al., 2011). This was paralleled in the findings of this study, which reflected the positive, and significant, effect of market orientation on relationship capabilities in B2B renewable energy companies in South Africa (*β=0.520*; *t=5.584; p=0.000)*. This result shows that firms' propensity to keep closely aligned with the market results in better customer-related relationship building capabilities, too.

In the renewable energy context, the ability to be market orientated could affect relationship capabilities because the market is one that is so often changing, and the ability to adapt business strategy as such is likely to have positive outcomes with clients (Du & Kim, 2021). In South Africa, the renewable energy industry is very young, and is part of a rapidly changing market environment (Mkhwebane & Ntuli, 2019). The results indicate that the ability to be market-focused is important to the ability to build customer relationships in the Renewable Energy industry. This could be due to the fact that the rapidly changing nature of the technology and its improvements warrant a transformative marketing approach, which encourages a closer understanding of customer needs and increased personalisation (Kumar, 2018).

The translation of market orientation into customer relationship capabilities is important because it could lead to the acquisition and retention of customers, and therefore increased financial performance (Lages et al., 2009). This could mean that renewable energy companies, like others in a B2B environment, need to be focused on organisational learning in order to become more customer-focused, and that the absorptive nature of market orientation makes companies more inclined to learn from and cocreate with their customers. The fact that RE firms who focused on being market-oriented were also better equipped to deal with customer relationship building demonstrates the applicability of market orientation for RE firms.

It should be noted that the adopted scale to reflect relationship capabilities in this study represents "cocreation capability" from Wilden et al. (2019). This scale was used because it adequately encompassed not only the ability of firms to learn from customers, but also their ability to change strategy based on customer feedback – an element of the transformative marketing that shows better firm performance (Kumar, 2018). Theoretically, therefore, the findings align with the concept of absorptive capacity central to dynamic marketing capabilities

(Cohen & Levinthal, 1990). The more that firms are orientated toward the market and market learning, the more they are able to absorb and apply those learnings to their customers' needs and wants over time.

5.3 Hypothesis 2 a and b – Market orientation's effect on company performance

Market orientation as a dynamic capability encompasses not only a firm's ability to sense the market and make adaptations accordingly, but also the ability of firms to absorb, apply their learnings and change the market themselves (Day, 2011; Helfat et al., 2007; Kachouie et al., 2018; Mousavi et al., 2019). Renewable energy is a sector that requires businesses to be innovative, so market orientation should be particularly helpful for those that want to perform better over time (Tantau et al., 2015). In the study, this is reflected in the positive relationship between market orientation and both financial (2a) and customer (2b) performance, suggesting that market orientation gives renewable energy companies the tools and resources they need to translate market changes into business outcomes.

5.3.1 H2a: Market orientation's effect on Financial and Market Performance

The study found that the relationship between MO and financial and market performance is positive and significant in B2B renewable energy firms in South Africa ($\beta=0.574$; $t=5.198$; $p=0.000$). This finding suggests that the Renewable Energy firms with strong MO are more likely to succeed financially and in the market. The finding aligns to numerous findings of other studies in similar industries, such as Powers et al. (2020), who found a significant link between the perception of market orientation and performance in industrial B2B companies.

The positive effect of market orientation on competitive advantage is particularly relevant in the renewable energy industry. Renewable energy is a rapidly changing technology and those companies that are market-orientated will be able to respond more deftly to the evolving market environment and exploit its market opportunities. It may not always follow that market orientation leads immediately to financial and market performance, as some such as Wilden et al. (2019) have found. However, numerous studies suggest that correctly deployed market orientation should have a positive effect on firm profitability and financial performance (Acikdilli et al., 2020; Du & Kim, 2021; Merrilees et al., 2011; Narver & Slater, 1990).

This finding relates closely to the theoretical underpinnings of market orientation as a dynamic marketing capability. Firstly, the finding aligns to the literature on market orientation, and the theory that it is closely aligned to business strategy and innovation (Helfat et al., 2007). Market

orientation, in this theory, allows businesses to innovate their models, creating more effective business strategies that are not only driven by the market, but that also have the ability to drive the market and switch in between each focus as necessary (Randhawa et al., 2021). The findings suggest that, when sufficiently tuned in to the market, renewable energy companies are able to adapt their business models and strategies in a way that positively impacts their financial performance and market positioning.

Secondly, the finding links to the theory of 'emergence' of dynamic capabilities and their ability to build SCA over time (Kay et al., 2018). The results of the study suggest that as South African RE firms learn more from the market, those that are able to integrate and adapt their services accordingly are those that become more financially successful over time. This finding also aligns to the findings of Kurniawan et al. (2021), who found that market orientation was an essential component of business agility and agile project management.

This study also confirms the ability of market orientation capability to help firms mature over time (Randhawa et al., 2021). As such, the study could also shed light on why Gabriel and Kirkwood (2016) found that renewable energy business models may 'mature' from consultancy-based companies to distributors of Renewable Energy products and Renewable Energy integrators over time: as they use in-depth technological knowledge alongside market knowledge, they mature their offering to provide turnkey solutions to their customers.

5.3.2 H2b: Market orientation's effect on Customer Relationship Performance

It has been suggested that customer preferences and needs change over time, and that those firms that are closely aware of those changes will be most successful (Kim & Kumar, 2018). As such, it was hypothesised that B2B Renewable Energy firms that had strong market orientation would, subsequently, have better means of satisfying their customers and thus have better customer performance. However, when looking at the renewable energy companies in South Africa, the relationship between market orientation and customer relationship performance, whilst positive, was not significant ($\beta=0.311$; $t= 2.705$; $p=0.007$). This suggests that whilst an overall capability to be close and adapt to a changing market leads to increased customer relationship performance, it is not a significant factor.

The first explanation of this result has to do with the theory on which the hypothesis was founded. Theoretically, the research finding agrees with Landroguez et al.'s (2011) conceptual model that asserts that market orientation, when combined with knowledge management and customer relationship management, results in greater customer value. However, because the

relationship hypothesised and tested in this study contains only two of these three variables – market orientation and customer performance – there is a slightly less significant connection than the authors might have predicted (Landroguez et al., 2011).

Secondly, the outcome might be linked to the specific parameters of the renewable energy market. Market orientation has been closely linked to increased innovation and agile business strategy (Anning-Dorson, 2018; Kurniawan et al., 2021; Randhawa et al., 2021). It should follow that this increased focus on the market and related business adaptation should enable businesses to provide more satisfactory customer services and products, and thus have better customer relationship performance (Lam et al., 2004). The reason that there is not a significant relationship between MO and CP could be specific to renewable energy, because whilst customers might want a specific outcome (for example, to be powered entirely with renewable energy), the ability to provide this service is largely determined by external factors (such as the policies around embedded energy generation, the availability of batteries, or roof space), rather than the firm's attentiveness to the market.

This finding evokes an interesting question relating to the market-orientation capability for renewable energy firms and customer performance. Are those firms that are most market-orientated likely to understand the current limitations of the available products and services, as well as legal landscape of the market, therefore better at setting customer expectations upfront, resulting in better customer performance? Whilst this question was outside of the scope of this study, it is an interesting thought for further study.

5.4 Hypothesis 3 a and b – Relationship capabilities' effect on company performance

Relationship capabilities, and particularly those focused on customer relationships, reflect the ability of firms to learn from and communicate with their customers in a way that generates mutual value (Kumar & Pansari, 2016; Ramaseshan et al., 2013; Wilden et al., 2019). In the study, there was a positive relationship between relationship capabilities and both financial and customer performance, suggesting that the theory of relationship capabilities applies to South African B2B renewable energy firms.

5.4.1 H3a: Relationship capabilities' effect on financial and market performance

In the 56 companies that participated in the study, there was a positive relationship between the firms' relationship capabilities and financial and market performance, however, the relationship was not significant ($\beta=0.263;\ t=1.992;\ p=0.046$). This appears to align to the

finding of H2b, which is that MO does have a positive effect on CP, although it is insignificant. Similarly, although a firm's ability to generate increased customer value does have a positive relationship to financial performance, it is probably not the most significant cause of financial performance.

In some ways, however, the insignificance of the result is counter intuitive, and contradict other studies, such as Lages et al. (2009), who found a significant relationship between relationship capability and economic performance. There are possible reasons for this disparity. Firstly, they relate to the nature of the study. The study was cross-sectional, and financial and market performance was measured at a point in time, however, customer loyalty (and subsequent financial returns) typically take longer to build up (Lages et al., 2009; Palmatier, Houston, Dant, & Grewal, 2013). As such, although there is a positive relationship between relationship capabilities and financial performance, the financial outcomes of such capabilities might only start to become significant over time.

Secondly, the nature of renewable energy business is similar to Wilden et al.'s (2019) conceptualisation of a professional service firm, and the results are aligned with their findings – that although relationship capability is significant for customer-based performance, the same cannot be said for financial performance. Despite the ability of firms to build strong customer relationships, it is the product-service-system competitiveness that will ultimately determine the ability of the firm to perform financially (Annarelli et al., 2020).

5.4.2 H3b: relationship capabilities' effect on customer performance

In the study, there was a significant positive relationship in the South African B2B renewable energy companies studied between relationship capability and customer performance (*β=0.503; t=5.198; p=0.000).* Relationship capabilities signify the ability of companies to build relationships of extra value with customers (Lam et al., 2004; Wilden et al., 2019). The positive and significant finding demonstrates that South African B2B renewable energy companies who are better at relationship cocreation with their customers are also more likely to have increased customer satisfaction and performance.

These findings are aligned to other similar studies in the B2B environment, for example Lages et al. (2009), who found that relationship capabilities were significantly associated with customer performance. Although their study focused on export B2B, rather than product-service systems, relationships were still important and indicated that better ongoing communication resulted in better customer performance overall. Sánchez-Gutiérrez et al.

(2019) had similar findings in their study of dynamic marketing capabilities SME businesses in an emerging market context. In their study, they took into account both managerial relationship and marketing innovation into customer value creation, finding that they had a significant effect on the latter (Sánchez-Gutiérrez et al., 2019). The finding of this study aligns to their perspective, showing that increased relationship capabilities are significantly related to customer performance. This finding is also consistent with Lam et al.'s (2004) proposal that customer satisfaction is very closely linked to customer loyalty.

5.5 Conclusion

Overall, the findings of the study fitted the conceptual model that was initially proposed, showing that indeed, both marketing orientation and relationship capabilities have a significant effect on financial and market, as well as customer, performance. These relationships demonstrate that whilst each capability has the most significant impact on its direct measure of value (market orientation on financial and market performance, relationship capabilities on customer performance), the measures also have significant impact on each other. Overall, this bolsters the theory that dynamic marketing capabilities are more than simply a checklist of simple tactics, but are complex embedded practices that enable some firms to have a proclivity to learning and agile business practice (Cohen & Levinthal, 1990; Teece, 2007).

If both market orientation and relationship capabilities are important to performance, where should South African renewable energy businesses, who are typically SMEs operating in a tough market environment, focus their energies? For struggling SMEs, it has been suggested that focusing on bolstering relationships could be the most important aspect of building their market share and access (Lages et al., 2009). It's also suggested that it is a better focus area for those businesses concentrated in niche environments (Tse et al., 2004). However, market orientation has been closely linked to performance in many different studies, too (Shoham et al., 2005). It's also the suggested focus for those firms who would like to challenge the market (Tse et al., 2004).

Thankfully, the theory of concurrent learning can explain why firms with strong focus on market orientation are also able to increase their relationship capabilities (Bingham et al., 2015). The applicability of the study's findings to Bingham et al.'s concurrent learning framework (starting with learning and advancing to practicing and codifying of knowledge) should encourage renewable energy companies to prioritise a culture of learning in their organisations, continually updating, understanding and codifying knowledge for greater

success (Bingham et al., 2015). Similarly, the theory of emergence in companies practicing dynamic marketing capabilities predicts that as firms become more established, they are able to apply this knowledge to seizing the right opportunities and establishing an entrepreneurial mindset (Kay et al., 2018).

6 Chapter 6 – Conclusions and Recommendations

"Renewable energy is central to the solution, both to continue to fight climate change at scale and to overcome the post-pandemic economic recession" - REN21, 2021

6.1 Introduction

While increasing renewable energy penetration will be of benefit to South Africa's economy and society in general, there is little research on the business dynamics in this market. Much of the literature on renewable energy focuses on the extrinsic factors of renewable energy uptake and success, such as policy and financing structures, rather than the intrinsic business capabilities that make renewable energy companies successful. Yet for a market to grow, we need to employ successful business strategies and techniques.

The aim of this research was to explore these capabilities in the context of B2B renewable energy companies in South Africa. As one of the first studies of its kind in the B2B renewable energy space in South Africa, the study provides an overall insight into the business practices employed by these companies relating to dynamic marketing capabilities. This chapter summarises the findings, discusses the contributions that the study makes to the literature, and discusses managerial recommendations and further research ideas. It also looks at the limitations present within the study.

6.2 Summary of findings

Whilst the resource-based-view of the firm focuses on firms intrinsic resources, and the competitive forces view focuses on firms extrinsic environment, the dynamic capabilities theory looks at the ability of firms to learn and relate extrinsically whilst creating knowledge that enables changes internally (Teece et al., 1997). This study focused on two dynamic capabilities – themselves complex constructs – in order to see their effect on firm performance, both financially and with customers, in the South African B2B renewable energy industry.

6.2.1 Relationship between Market Orientation and Relationship Marketing in South African B2B renewable energy firms

The first objective of the study was to explore the relationship between market orientation and relationship marketing in B2B South African renewable energy firms. Market orientation is a capability that encompasses the ability of firms to learn from the market, apply their learnings and adapt accordingly (Teece, 2007). Market orientation is also often explored as a capability in the broader literature on business strategy, innovation and entrepreneurship (Anning-Dorson, 2018; Kurniawan et al., 2021; Randhawa et al., 2021; Tantau et al., 2015).

Relationship marketing capabilities highlight the ability of firms to form two-way relationships with clients, and applies particularly to service businesses (Palmatier, Dant, et al., 2006; Wilden et al., 2019). The study posited that there should be a relationship between firms' MO and relationship marketing capabilities, as firms that are closely aligned and adaptable to the market will likely have stronger ways of relating to their customers.

This objective was met, with market orientation having a strong positive relationship with relationship marketing capabilities in South African B2B renewable energy firms.

6.2.2 Relationship between Market Orientation and Financial, Market and Customer Performance in renewable energy firms

A second objective of the study was to explore the relationship between market orientation and financial, market and customer performance, which could indicate competitive advantage over time. The study found that market orientation has a strong influence on financial and market performance, as well as a strong influence on relational capabilities. In other words, firms that are oriented toward learning from the market and adjusting accordingly are both more likely to perform financially, and develop better customer relationship strategies. Market orientation was also positively associated with customer performance, although not significantly, suggesting that firms who focus on MO are likely to also experience some customer satisfaction.

6.2.3 Relationship Capabilities and Financial, Market and Customer performance in renewable energy firms

A final objective of the study was to understand the association between relationship capabilities and financial, market and customer performance. The study found that relationship capabilities had a strong influence on customer performance. In other words, those firms that were skilled in customer cocreation were also more likely to have satisfied customers, as they are involved in customer value creation delivery. Considering that customers are judges of the value created, firms that possess relational skills provide better customer satisfaction than those without it. There is also a positive link between relationship capabilities and financial performance, although it wasn't very significant, indicating that relationship capabilities might influence financial and market performance positively.

6.3 Research contributions

The study aimed to make three important contributions to the literature. Firstly, it sought to contribute to the renewable energy industry in South Africa by adding research about B2B

renewable energy companies in this country. Secondly, the study sought to add to the resource-based view of the firm and the associated applicability of dynamic marketing capabilities in the context of these companies. Finally, the study aimed to add empirically to DMC's effects on performance in B2B firms in emerging markets.

6.3.1 Renewable energy business

The first contribution that the study makes is to the literature on renewable energy business. Whilst the political, legal and technical aspects of renewable energy are often discussed in the literature, the exploration of the business dynamics of the sector are still rare. This study, therefore, makes an important contribution to this literature as an initial study of the business dynamics of B2B renewable energy firms in South Africa. The study heeds Balachandra et al.'s (2010) call for more market-based approaches to renewable energy industry studies. This study contribute to the overall understanding of the sector and shows that in order for renewable energy businesses to be successful, they need to foster capability building that encourages adaptable business models, innovation, and building strong customer relationships.

6.3.2 RBV and dynamic marketing capabilities

This study contributes to the literature on dynamic marketing capabilities; in particular, it reinforces the relevance of the theory of dynamic marketing capabilities for the study of complex business environments that are rapidly changing. The South African renewable energy industry is one that is changing rapidly because of technological improvements, policy updates and evolving needs of customers. The theory of dynamic marketing capabilities suggest that firms need both an extrinsic perspective and an intrinsic flexibility in order to maintain competitive advantage. This study contributes to this understanding by showing that market orientation and relationship marketing capabilities are both needed in order to foster better financial, market and customer performance.

The study also contributes to the understanding of relationships between different dynamic capabilities, finding that market orientation and relationship marketing are positively associated. This finding is congruent with other studies, such as Landroguez et al. (2011), who suggested that market orientation and customer relationship capabilities are closely linked and Kachouie et al. (2018), whose study of 270 senior managers found that market orientation and customer marketing capabilities were positively associated.

The study's finding that market orientation affects financial performance positively is congruent with other studies in emerging markets, such as Guo et al. (2018), Falahat et al.

(2020) Acikdilli et al. (2021) who all found a strong link between market orientation and firm performance.

The study's finding that relationship marketing capabilities are important to better customer relationships is also congruent with other studies, for example Wilden et al.'s (2019) finding that businesses that form better relationships enjoy stronger customer performance, and Sánchez-Gutiérrez et al.'s (2019) assertion of the same.

6.3.3 Empirical contribution aligning to SMEs in emerging market environments

Finally, the study adds to the literature on entrepreneurship and SMEs in emerging market environments. The links between market orientation, innovation and entrepreneurship are often explored in the literature. This study adds to this body of work by showing a strong link between market orientation, business innovation and performance in an emerging market context. Because many B2B South African renewable energy firms can be classed as SMEs and young businesses, their study applies in the general study of entrepreneurship in emerging markets.

In this way, the study aligns to Tantau et al.'s (2015) assertion that renewable energy business is a type of entrepreneurship. It is also in agreement with other studies on SMEs in emerging market environments, such as Randhawa et al.'s (2021) finding that MO leads to ambidextrous business models and Du & Kim's (2021) finding that MO and entrepreneurial ability are needed for businesses in such environments to succeed.

6.4 Recommendations and further research suggestions

6.4.1 Recommendations for management and renewable energy professionals

This study aligns with previous studies on dynamic marketing capabilities, which suggest that DMC deployment is aligned to better performance in B2B companies operating in fast changing environment. Specifically, it shows that those B2B renewable energy firms in South Africa that are focused on market orientation and relationship capabilities will be more likely to enjoy financial success and customer satisfaction.

Market orientation capabilities encompass business practices that allow sensitivity to changes in the market environment and ability to forecast changes, conduct experiments and innovate business models. It also includes the ability to foster connection with external and internal stakeholders. When companies do this, the research suggests that they will be able to perform better financially, and also have a greater proclivity for building successful client relationships.

Relationship capabilities, in the definition of this study, encompass business practices that foster collaborative communication, feedback, personalisation and business structure alignment with ideal customers and clients. When companies incorporate these practices into their business, they are likely to have much better customer performance and satisfaction. Whilst the study doesn't show that these practices translate to significant financial outcomes, current research suggests that over time, better customer performance and satisfaction leads to customer loyalty, which is more likely to lead to financial success over time.

The tenuous nature of dynamic capabilities, however, means that they can be hard to implement as a rule, and there is no static list of "to dos" that managers can carry out to ensure this success. However, there are a couple of practices that organisations should focus on in order to create greater competitive advantage over time. These include:

- Fostering a culture of learning and knowledge-keeping within their organisations ("absorptive capability" - Cohen & Levinthal, 1990), that facilitates understanding and retains the most important knowledge about the rapidly changing market
- Encouraging experimentation, risk-taking, and changing of strategies based on the market knowledge that has been attained, and continually learning from these practices
- Fostering strategic partnerships outside of the organisation that can help their organisations to respond to changing market demands more quickly.
- Implementing "concurrent learning" strategies (Bingham et al., 2005), through:
    - Documenting internal learnings about the market
    - Allocating responsibility for market research and evaluation
    - Adapting and updating procedures or tactics to reflect the learnings
    - Communicating findings internally and training relevant personnel
    - Ensuring that the process is repeated to solidify the practice of continual learning in the organisation.
- Creating greater value for customers through developing communications that closely reflect their needs and wants.

6.4.2 Suggestions for further research

As an initial perspective into the business practices of B2B renewable energy companies in South Africa, this study gives a good starting point from which to explore further research questions. Some of the research questions that came up during the progress of the study included:

- A better understanding of the business environment of renewable energy companies in South Africa.

Whilst this study focused on the dynamic capabilities employed by B2B RE companies in South Africa, there remains little clarity on the demographics of this market – how many of these companies exist, how many clients they serve, etc. A general census of this sector could prove very helpful for future research and investigation.

- Development of bespoke scales to study capabilities particularly relevant in the renewable energy industry.

This study used existing scales that encompassed the research question most accurately, but these were often designed for more established B2B environments. The RE sector is a new, rapidly changing space, and thus the type of collaborative and co-creation activities that form its dynamic marketing capabilities could be unique. A qualitative study that uses long-form interviews or in-depth case studies, could provide more insight into the capabilities and business practices specific to this sector, and assist in developing more accurate quantitative scales for future use.

- Exploration of more dynamic marketing capabilities, over and above those explored in this research.

Linked to the previous point, this relates to the abundance of dynamic marketing capabilities and the fact that this study was limited to two of these only. There are many other dynamic marketing capabilities that have been studied in B2B settings which could be applicable to the sector and offer more insight into what encourages success.

- A closer look into the ability of renewable energy companies and the market to influence the policy environment in which they operate.

Whilst the theory of dynamic marketing capabilities typically takes an extrinsic-intrinsic-extrinsic view on business actions (firms learn about the market externally, apply the findings internally, and subsequently change the market externally). The renewable energy industry is unique in that it is largely dependent on external technological developments and legal decisions. Given this, do firms who apply dynamic marketing capabilities actually have an influence on the policy environment and are they able to put forward innovative solutions in the face of policy restrictions? More research into the factors driving policy shifts and business responses to them is needed in order to understand this question.

6.4.3 Study limitations

Despite care being taken to conduct this study as accurately as possible, there are limitations to the study. The first comes from the sample size. Despite efforts to increase the sample size with several reminders and extending the length of the study over several weeks, the study did not receive a response from every player in the sector. Despite this, the application of bootstrapping to yield statistically significant results was employed. Future studies could explore the possibility of offering incentives, such as training in exchange for participation, in order to encourage more responses.

The second limitation is the adopted scales for measurement. In the study, the adopted scale for market orientation from Guo et al. (2018) included adaptive market capabilities, and the adopted scale for relationship capability was Wilden et al.'s (2019) cocreation ability, which focuses on the abilities of firms to learn from and adapt to their clients' needs. Performance scales were used from Wilden et al. (2019). However, these scales were used because of their applicability to the context of the study and research problem at hand. Other scales exist and may be applied for a more comprehensive view of the capabilities and/or performance.

The third limitation relates to the nature of using cross-sectional data in the study. Despite the study being cross-sectional, sustainable competitive advantage should most accurately measured over time. The use of dynamic capabilities tries to account for this, but the study could perhaps be repeated periodically, or conducted longitudinally, in order to have more accurate perspective on which firms had real SCA. Further study should consider longitudinal data for further insight.

6.5 Conclusion

Business solutions to growing the economy and creating positive impact on society without adding to climate distress has become imperative, and renewable energy companies in South Africa are part of the solution to providing South Africa with more affordable power whilst decarbonising the economy. This study sought to understand the practices that enable sustained competitive advantage in such companies, in order to garner applicable insights to the sector that might bolster competition and ensure success of these companies. Because of their application to turbulent market environment and product-service business models, the theory of dynamic marketing capabilities was used in order to understand whether the application of these would affect firm competitive advantage. After carrying out the study, it was found that these capabilities do have a positive effect on financial and customer performance, which

indicate a better chance for competitive advantage in firms that foster these capabilities. In applying the findings of the research, managers in the renewable energy industry in South Africa can foster the culture of learning and feedback that is imperative to enabling dynamic marketing capabilities and better performance over time. This research was an initial insight into the business practices of the sector, and thus provides a starting point for further research into marketing practices of renewable energy companies in South Africa.

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8 Annexure 1 – Market orientation Research Instrument

The Research instrument is demonstrated below. The items in *italics* indicate the factors that were removed due to low factor loading.

Market orientation (adapted from Guo et. al (2018))

Compared with your major competitors, how do you rate your firm's capabilities in the following areas?

		Far below competitors 1	2	3	4	5	6	Far above competitors 7
Vigilant market capability	1. Our firm is highly sensitive to the market environment and is able to detect market signals (even the weak ones) timely and accurately.							
	2. Our firm actively collects extensive marketing information through all social networks and media.							
	3. Our firm is able to forecast market trends based on past histories of consumer demand.							
	4. New market information is shared within the company and distributed to different divisions in a timely manner.							
Adaptive market experimentation capability	1. Our firm is willing to actively conduct market experiments or tests based on our own market forecast.							
	2. Through trial-and-error and experimenting, our firm explores future market trends and develops potentially successful business models.							
	3. Our firm takes advantage of emerging technologies, such as the Internet, quick-response technologies and database technologies to track market changes and learn from market experiments.							
	4. Our firm actively learns from a wider range of peer companies, market leaders, and channel partners.							
Open marketing capability	1. Our firm actively seeks a strategic partnership with companies that are complementary with our firm in terms of resources and capabilities.							
	2. Through coordination and collaboration with our partners, we are able to achieve synergy in effectively and quickly responding to market signals (even the weak ones).							
	3. Through resource integration with our partners, our firm gains the capabilities for continuous product and technology innovation.							
	4. Through collaboration and coordination with our partners, our firm improves the capability in developing innovative strategies and tactics.							

9 Annexure 2 – Relationship capabilities Research Instrument

The items in *italics* indicate the factors that were removed due to low factor loading.

Relationship capabilities (adapted from Wilden et. al (2019))		Completely disagree						Completely agree
Please respond to the following		1	2	3	4	5	6	7
Relational interaction capability	We evaluate novel communication measures early together with our clients, even when the concepts are not yet fully developed.							
	We involve our clients in the development process of our communication measures more intensively than is common in the industry.							
	We let clients evaluate novel communication measures especially in early development stages.							
	We continually develop ongoing communication measures in a very collaborative way with clients.							
Empowered interaction capability	We encourage our clients to critically evaluate our performance in all areas							
	We actively search for client feedback on all levels to improve our services.							
	For us the decisive measure of improving our performance is a continuous critical dialogue with our clients.							
	We cannot achieve our customer-based objectives without regular and critical client feedback							
Ethical interaction capability	Our clients' objectives always come first, even if they have negative implications for us							
	We do not mind to vehemently and persistently disagree with our clients in order to help them make better business decisions.							
	We encourage our clients to have a critical exchange of ideas with other clients.							
	Even if there are negative consequences for us, our clients can rely on our unrestricted support with important problems.							
Individuated interaction capability	We try to continuously identify new business opportunities for our clients, which they are not yet aware of.							
	We continuously and intensively analyze how clients use our service to achieve their marketing objectives.							
	We continuously enhance our services even if our existing service offering becomes redundant.							

	We continuously identify important trends in our clients' markets to gain insight into future challenges in their markets.							
Concerted interaction capability	We coordinate our business processes in a way that they are optimally aligned with client processes.							
	Our internal structures and processes are entirely aligned with client requirements							
	We always ensure that our business tasks are aligned with our clients' business tasks.							
	The (interim) results of our work are always synchronized with our clients' work. 2							
			Very little					Very Often

When working with our clients, we help the clients with...		1	2	3	4	5	6	7
Developmental interaction capability	*...gaining a deeper understanding of their market segments and their requirements.*							
	...developing ideas for improved products or new services.							
	...continually improving their marketing management and processes.							
	...systematically measuring and monitoring their marketing performance (effectiveness and efficiency).							

11 Annexure 3 – Performance Research Instrument

Customer Performance (adapted from Wilden et. Al (2019)).

		Strongly disagree						Strongly Agree
Customer-based performance	Please answer the following questions in regards to your two most important customers.	1	2	3	4	5	6	7
	Our performance always meets our clients' expectations.							
	Our clients continuously talk positively about our services to other clients							
	Compared to our strongest competitors we have a significantly better reputation with our clients							
	Our clients continuously confirm that they completely satisfied with our offerings.							
	Client referrals have generated new clients.							
	Our clients commission us with bigger and more comprehensive assignments.							

Financial and Market Performance (adapted from Wilden et. al (2019)

		Much Weaker						Much Stronger
Financial and market performance	Please indicate your organization's performance relative to that of your strongest competitors over the last three years for each of the following	1	2	3	4	5	6	7
	Profitability							
	Sales growth							
	Growth in market share							
	Profit margin							
	Return on capital							
	Market position							