



## **The Impact of Customer Intensity in Firm Performance: Tech Capabilities as A Moderating Variable**

*Alfateh Fegada*

*Zoltan Veres*

Department of Marketing, Faculty of Business and Economics,  
University of Pannonia, Veszprem, Hungary

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### **Abstract**

Entrepreneurial marketing “EM” is considered to be suitable for small businesses. However, since the perspective has shifted from product and sales to a market orientation, interest in the creation of customer value has grown and has been the subject of intense discussion. Thus, in this study, we aim to investigate and describe the significant relationship between Customer intensity “CI” and firm performance “FP” in SMEs operating in Khartoum-Sudan, by utilizing technological capabilities “TCPs” as a moderating variable. The resource-based view “RBV” provides the theoretical foundation for this study regarding the effect of CI on FP among TCPs. Regarding the study objective, we assumed the following hypothesis: H1: Customer intensity has a significant relationship with firm performance dimensions: {profitability, sustainability, and customer satisfaction}. H2: We assume that TCPs can positively moderate the relationship between CI and FP. Accordingly, this study is quantitative. Reliable with the purpose of this study. Furthermore, our study relied on the “Positivism philosophy”, a deductive approach to theory development. Therefore, overall, 255 responses were received from the community of SMEs in Khartoum. To analyze the data firstly the following principal component analysis PCA, Correlation, and Rotation matrix were utilized to test the appropriateness of the study structure “the pre-model” and check the validity of the questionnaire items.

secondly, we used structural equation modeling (SEM) Path analysis to analyze and examine the significant relationships between all variables. The analysis revealed that customer intensity has a positive effect on profitability ( $p = 0.000$ ), Customer intensity has also a positive effect on customer satisfaction ( $p = 0.001$ ). Unlike, customer intensity has negative effects on sustainability ( $p = 0.216$ ). Finally, the results show that technological capabilities positively moderate the relationship between Customer intensity and profitability ( $p = 0.000$ ), sustainability ( $p = 0.007$ ), and customer satisfaction ( $p = 0.000$ ). Anyhow, these results confirmed the partial support for the first hypothesis and full support for the second hypothesis.

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**Keywords:** Entrepreneurial marketing, SMEs, Sustainability, Customer intensity, Customer satisfaction

## 1. Introduction

In the ever-changing environment of the global business sphere, small and medium-sized enterprises (SMEs) occupy a vital position in the advancement of economies and the fostering of innovation, particularly in developing economies like Sudan. It is imperative for policymakers, business owners, and scholars to grasp the determinants of SMEs' effectiveness. A factor that has garnered considerable interest is customer intensity, which signifies the degree of involvement, allegiance, and interest among a company's clientele.

Customer intensity comprises a multitude of facets, such as customer satisfaction, loyalty, and the extent of relationships upheld by the organization. Elevated customer intensity frequently demonstrates a positive association with heightened sales, market share, and the overall performance of the firm. Nevertheless, the connection between customer intensity and firm performance is intricate and subject to the influence of contextual variables. Technological capabilities represent a contextual variable that is increasingly significant. Within the contemporary digital age, advancements in technology are pervasive across all facets of organizational activities, providing small and medium enterprises (SMEs) with novel prospects for improving their competitive edge and client interactions. These capabilities involve a spectrum of assets, expertise, and procedures associated with information technology, digital resources, and innovative approaches.

This study aims to investigate the interaction between customer intensity and firm performance in the context of small and medium enterprises (SMEs) in Sudan, with a particular emphasis on the moderating role of technological capabilities. Through an analysis of these dynamics, the research strives to enhance both theoretical knowledge and practical implications for SMEs and policy makers in Sudan as well as other

developing economies. The selection of Sudanese small and medium enterprises (SMEs) as a focal point for a case study is notably pertinent given the distinctive economic and business landscape of the country. This landscape is distinguished by swift integration of technology, juxtaposed with impediments such as infrastructure constraints and market intricacies. Through an exploration of this particular setting, the study can reveal intricate perspectives that can be relevant to SMEs encountering analogous circumstances on a global scale.

Overall, this research is poised to illuminate the intricate relationships among customer intensity, technological capabilities, and organizational performance, providing practical suggestions to improve the competitiveness and long-term viability of small and medium enterprises (SMEs) in Sudan as well as other regions. These findings play a critical role in promoting economic expansion, employment opportunities, and creativity in developing market environments.

## **2. Customer intensity CI**

Since the perspective has shifted from product and sales to a market orientation, which implies that value originates from solutions that address and satisfy the customers' needs, interest in the creation of customer value has grown and has been the subject of intense discussion. To increase customer happiness and consequently raise revenues, businesses have to recognize and satisfy these consumers' needs (Kotler, 2012).

Customer orientation is the implementation of the marketing concept and a customer-centric business philosophy (2022) Customer Orientation. Moreover, customer orientation is a business approach that emphasizes customer value, satisfaction, and involvement in the company. It is seen as beneficial for business success and innovation. The concept of customer orientation has been studied extensively in the literature, with research focusing on various aspects such as the measurement of customer orientation, the impact of gender and experience on customer orientation, and its application in different contexts. Studies have also highlighted the importance of customer orientation in the context of industrial service innovation, where manufacturers have shifted their focus from goods to services and customer solutions. The evolving concept of customer orientation requires a wider view that includes value co-creation, open and closed innovation, and the involvement of multiple stakeholders (Xin, Zhao 2021, Magre, et al. 2011, Heidi, Korhonen. 2015, Sonny, Nwankwo 1995).

The marketing process makes a strong point about how important it is to align one's company with the needs of the customer and develop relevant values. Consequently, satisfying the needs of customers by living up to their

performance and quality expectations strengthens a successful long-term relationship with them (Hewing, 2013).

**Figure 2.** Profit chain of customer orientation



*Hewing, M. (2013)*

Customer-satisfaction-oriented firms strive to understand customers voiced and latent needs to develop products and services that the market desires. In this line, companies go to great lengths to collect and act on market intelligence that allows them to determine customer wishes. In addition, companies aiming for customer satisfaction try to engage in emotionally close relationships with their customers (Morris et al., 2002; Bachmann et al., 2021).

Therefore, participants have come together that a firm or any company should give superlative consideration to its customers/clients and work hard to satisfy their needs, wants, and expectations (Customer-oriented or Customer-intensity) so that firms can reach their advanced objectives and maximize profits. Additionally, a customer intensity strategy can assist the firm to retain and acquire new customers and that positively leads to growth, stability, and sustainability during the firm life cycle. Here are some quotations of the qualitative discussions that insured the importance of customer intensity as a dimension of EM that can be suitable for the small and medium-sized ventures: {“I believe that Customer Intensity can rapidly increase customer loyalty and retention and can assist in positive word-of-mouth referrals and PR.” (2nd Mini-FGDs, Male 1)}. {“For me as a customer representative this dimension improve customer satisfaction and NPS scores.” (2nd Mini-FGDs, Female)}. According to my experience in the firm focusing on customer could help to reach higher revenue and profits due to repeat business and cross-selling opportunities this can assist also to get more accurate customer personas and targeted marketing.” (2nd Mini-FGDs, Male 2)}. This research tries to examine the significant of CI in Sudanese SMEs by fostering the following hypothesis:

***H1: There is a positive relationship between customer intensity and firm performance (profitability, sustainability, and presumed customer satisfaction).***

### **3. Resource-based view's firm performance (FP).**

This section examines the subsequent notion within this research on firm performance, pertaining to the dependent variable. It encompasses the

elucidation of the concept, its definitions, as well as the various dimensions of firm performance. The internal environment of the firm is accentuated as a crucial source of competitive advantage according to the resource-based view of the firm (RBV), which also underscores the assets that enterprises have amassed to contend in the market (Wang, 2014).

The theoretical framework of the Resource-Based View (RBV) posits that in order to achieve competitive advantage, a firm's resources must possess the attributes of value, rarity, imperfect imitability, and sustainability (Madhani, 2010). It is contended that a critical aspect for firms is to assess the impact of specific resources or activities on competitive advantage when contemplating outsourcing, utilizing the RBV framework. In the pursuit of competitive advantage, whether through cost leadership or differentiation strategies, the organizational nature and product/service design play crucial roles. Cost leadership entails the development of highly efficient organizational and production processes, while differentiation can result from superior organizational structure or product/service design. Furthermore, RBV recommends that organizations leverage both internal and external assets to establish competitive advantage. Consequently, firms should internally handle activities where they excel compared to rivals, while outsourcing tasks best performed by specialized organizations to concentrate on core activities and optimize effectiveness.

The distinction between firm performance and the broader concept of organizational effectiveness is crucial. Firm performance is a significant construct within the realm of strategic management research globally, often serving as a dependent variable. However, there remains a lack of consensus regarding its definition, dimensions, and measurement, hindering research progress. The vitality of successful businesses is paramount for the advancement of developing nations, with many economists likening them to engines that drive economic, social, and political growth. Studies focusing on small and medium enterprises in emerging markets consistently reveal a positive association between customer orientation and firm performance (Isichei et al., 2020).

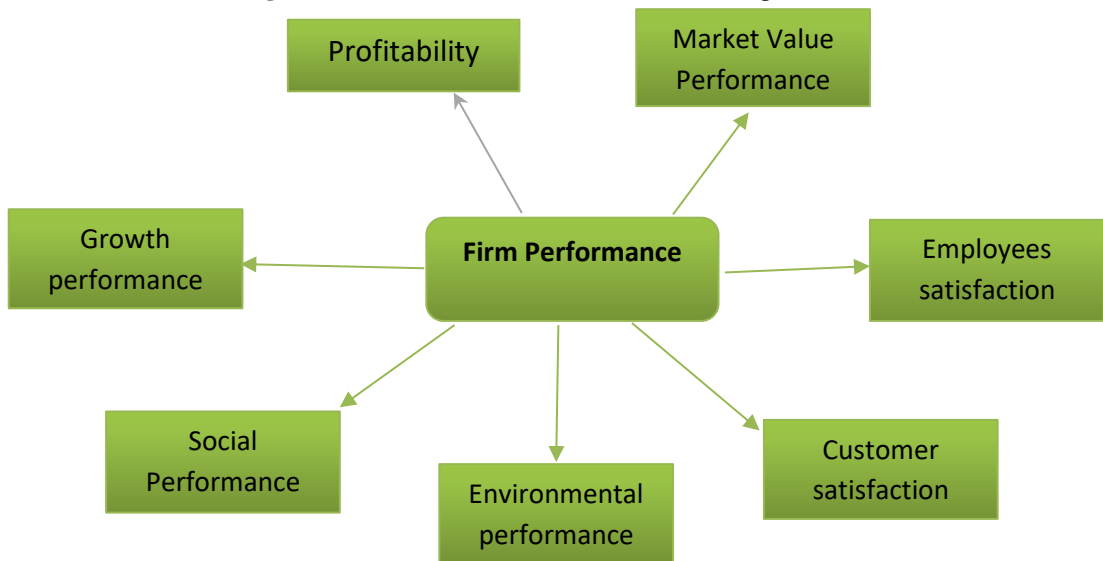
Olalekan Asikhia's study on "Customer Orientation and Firm Performance among Nigerian Small and Medium Scale Businesses" is likely to discuss how a customer-focused approach affects the overall performance of small and medium-sized businesses in Nigeria, emphasizing the importance of understanding and meeting customer needs for long-term market success Asikhia, (2010).

***H1: Customer intensity has a significant relationship with firm performance in terms of {profitability, sustainability, and customer satisfaction}.***

### 3.1. Firm performance dimensions

A multidimensional or unidimensional complete construct (model) of company performance is feasible. Figure 2 displays the list of identified determinants, which are plausible representations of firm performance. Firm performance is determined by several factors, including profitability, growth, market value, customer and employee satisfaction, environmental performance, environmental audit, corporate governance, and social performance. As previously stated, these determinants were identified based on earlier published reviews (Santos & Brito, 2012).

**Figure 1.** List of identified dimensional for firm performance



*Source: Selvam, et, al. (2016).*

Based on the above-mentioned dimensions, and according to the recommendations of the participants in the qualitative phase of this study, and for a (explicit reason), the profitability of the firm, sustainability, and customer satisfaction were selected as core measurements of an FP to be used in Sudanese SMEs. As a result, our research agrees with Mendonca and Zhou (2019) on the adoption of profitability and customer happiness, as well as Gupta and Gupta (2020) on sustainability and profits.

#### 3.1.1. Profitability

Profitability performance refers to a company's capacity to generate income. A profit is what remains after paying all expenses directly related to revenue generation, such as product production, and other expenses associated with the performance of business activities (Selvam et al., 2016). A company achieves profitability by providing products or services at a

cheaper cost than competitors, or by selling differentiated things at a higher price that covers the additional cost of differentiation. Firm profitability shows the financial performance of small and medium-sized enterprises. Profits will be reinvested in new product and service technologies, loyalty programs will be improved, and customer happiness will be increased (Kumar et al., 2009).

A company achieves profitability by providing products or services at a cheaper cost than competitors, or by selling differentiated things at a higher price that covers the additional cost of differentiation. Thus, the firm's goal is to enhance the wealth of its existing shareholders. Meanwhile, profits can be measured in a variety of methods, ranging from direct metrics reported on financial statements to financial ratios commonly employed in finance literature. These later sections are less generally employed, which is usually due to data availability, but they do emerge in the literature on occasion (Josh Siepel and Marcus Dejardin, 2020).

### ***3.1.2. Sustainability***

Sustainable development is defined as development that meets current demands without jeopardizing future generations' ability to meet their own (Marcuse, 1998). There are two mechanisms for corporations to take action toward greater sustainability. First, certain external pressures, such as necessary law, may put pressure on a company to launch sustainable measures in order to avoid disadvantages or penalties. Second, corporations find a competitive advantage in implementing sustainability measures, which leads to voluntary adoption of sustainability efforts. The creation of new markets for sustainable products, as well as cost savings realized through reduced resource consumption during the manufacturing process, are two examples of opportunities that arise in the context of the sustainability challenge and can be used to gain a competitive advantage (Schrettle et al., 2014).

### ***3.1.3. Customer satisfaction***

Customer satisfaction is a leading predictor of consumer purchase intent and loyalty. "Customer and staff happiness are two additional criteria to consider in all circumstances. Customers expect businesses to provide products and services that meet their requirements. The client is the primary objective of corporate improvement. In a competitive climate, firms must understand their consumers' needs in order to avoid errors and improve the perceived quality of their services. They must also provide value to their offerings. Customer happiness promotes desire to spend, which creates value for a company (Selvam et al., 2016).

The emotional response of a customer or client after consuming a product or service, together with expectations and perceived value (Biesok & Wyród-Wróbel, 2011). Thus, all human needs and desires are specific objects; this is one of the pillars of marketing. Customers anticipate being satisfied with their purchase after these demands are met. According to Kura (2019), satisfaction occurs when a customer examines if a product or service meets their requirements and expectations.

#### **4. Technological Capabilities as a Moderator**

Customers today are choice-seeking, demanding, and knowledgeable, and the power balance has shifted from companies to value-seeking customers in today's customer-centric hypercompetitive environments. As a result, all firms are more concerned with regulating technological innovation capability in order to improve company success by meeting consumer expectations. Only forward-thinking companies that maximize consumer value by leveraging their technical skills will survive and thrive. Likewise, TCPs are part of the research approach which explores the capability idea, this approach analyzes how the capacity of a specific firm will enhance the utilization of resources in the functional sector of a certain organization. However, the company's competitive advantage would be determined by its capabilities.

Technological capabilities have an important role in modulating the relationship between innovation orientation and business performance in the context of entrepreneurial marketing. Teece (2018) defines technological capabilities as a company's ability to successfully use and deploy technological resources, knowledge, and infrastructure in order to generate value and maintain a competitive advantage.

Recent research by Borodako et al. (2023) underlined the moderating function of technological capabilities in improving the impact of innovation-oriented entrepreneurial marketing tactics on firm performance measures such as product innovation success and market responsiveness. They suggest that companies with strong technological capabilities may more successfully convert innovative ideas into marketable products or services, resulting in better performance outcomes. A company's technological capability is high if it has created more technology improvements than other service providers in the past. A firm's technology capabilities are based on what it has done well in the past and will most likely keep it on the right track. Strong technical capabilities might lead to a focus on internal processes, making external information less significant (Ferna and Garcı, 2012).

***H2: We assume that TCPs can positively moderate the relationship between customer intensity CI and firm performance FP.***

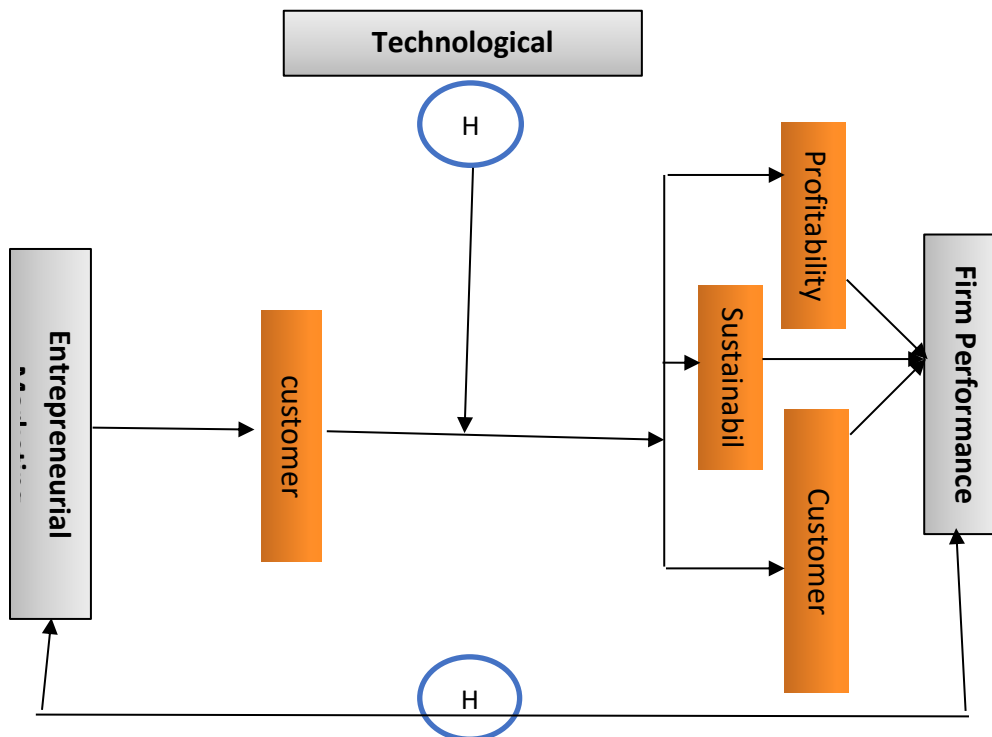


The commonly held belief about technology capability is that organizations with great technological capability can quickly identify technological opportunities and the value of technological resources, obtain them, and benefit from them, resulting in success in product creation. Wu (2014); Zhou & Wu (2010); Srivastava et al. (2015); Blomkvist et al. (2017). The capacity is classified based on its function. Technological capabilities are a basic component of information utilization, and technology is an innovation necessity in the organization. Srivastava et al. (2015) defines technological capability as the ability to effectively apply technological knowledge in production, engineering, and innovation. By these techniques, capabilities are described as "a firm's capacity to deploy resources, using organizational processes, to affect a desired end" Haeussler et al. (2012).

**5. The conceptual framework of the study**

Figure (2) presents the conceptual framework for this study which proposes the links of customer intensity as dimension of entrepreneurial marketing and firm performance, the theoretical approach of this study proposes that technological capabilities moderate the relationship between customer intensity and firm performance.

**Figure 2.** Conceptual framework



*Own editing by researcher (2024)*

## 6. Research Methodology

### 6.1. Population and sampling

The objective of the quantitative phase is to examine the relationship between customer intensity CI perceptions and firm performance FP in Sudanese SMEs. by testing technological capabilities as a moderating variable. In this manner, our study is quantitative. Reliable with the purpose of this study, the study relied on the “*Positivism philosophy*”, deductive approach to theory development.

The sample frame of this study defined SME firms in Sudan, which includes various sectors such as (Services, industrial...etc.) which were selected since they have great contributions to the Sudan economy in terms of their contributions to output employment. By saying "In an enabling environment, SMEs have a high potential for creating employment and innovation. They can also contribute to reduce poverty and to empower the poor so that they can realize their productive capacities and integration into society". The respondent approached should be the most informed and knowledgeable person about the issue of interest in that firm (Hamad, 2019, sekeran, 2003). Consequently, the appropriate persons who were being asked to fill out the questionnaire were ideally managers at the top management levels, employees, and entrepreneurs. Those participants have a good perception of their firm’s business strategy as well as they have their methodologies and techniques to be used in environmental scanning and information generating regarding their firms.

## 7. Data Analysis

### 7.1. SMEs and respondent’s frequencies

Based on the descriptive statistics using the frequency analysis this part clarifies the presence of respondents who participated in the survey in the light of six characteristics.

**Table 4.** Presents frequencies and percentages of SMEs and respondents

Firm characteristics		Frequencies	Percentage
Age	Less than 21	48	18.8%
	21 to 30	76	29.8%
	31 to 40	74	29.0%
	More than 40	57	22.4%
Gender	Male	139	54.5%
	Female	116	45.5%
Qualifications	Primary school	21	8.2%
	Secondary school	64	25.1%
	Undergraduate	100	39.2%
	Postgraduate	70	27.5%
Position	An entrepreneur /business owner	70	27.5%

	Manager	68	26.7%
	Employee	117	45.9%
Firm size	Small firm (1 to 5 employees)	108	42.4%
	Medium firm (6 to 49 employees)	147	57.6%
Sector	Services	149	58.4%
	Industrial	106	41.6%
Total		<b>255</b>	<b>100%</b>

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## 7.2. Reliability of Scales Using Cronbach's Alfa

The analysis of reliability using Cronbach's Alpha indicates satisfactory internal consistency for the scales utilized in the study, as recommended by Hair et al. (2019). An acceptable level of reliability is achieved when Cronbach's alpha exceeds 0.50. Specifically, the Entrepreneurial Marketing scale, comprising 14 items, demonstrates a Cronbach's Alpha of 0.731, indicating good reliability. The Technological Capabilities scale, which consists of 6 items, shows a slightly lower but still acceptable Cronbach's Alpha of 0.538. Similarly, the Firm Performance scale, comprising 9 items, exhibits a Cronbach's Alpha of 0.615, suggesting moderate internal consistency.

Overall, the combined scales, consisting of 28 items, yield a Cronbach's Alpha of 0.815, indicating strong reliability across the comprehensive set of measures used in the study.

**Table 5.** Reliability of scales using Cronbach's Alfa

Variable	Number of items	Cronbach's Alfa
Entrepreneurial marketing	14	0.731
Technological capabilities	6	0.538
Firm Performance	9	0.615
Overall	<b>28</b>	<b>0.815</b>

*Own editing by researcher (2024)*

## 7.3. Path analysis

The research utilized path analysis with AMOS v26 to examine the proposed model and validate the hypotheses. Structural Equation Modeling (SEM) path analysis is a powerful statistical technique used in various fields, due to its ability to model complex relationships among multiple variables. Unlike simpler methods like regression analysis, SEM allows for the simultaneous estimation of multiple relationships, including those involving latent variables, while also correcting for measurement error in observed variables (Hair et al., 2019). The study aimed to explore the intricate relationships between customer intensity, tech capabilities, and key organizational outcomes such as profitability, sustainability, and presumed customer satisfaction.

The results presented in table 6 indicate that customer intensity significantly influences profitability and customer satisfaction, as evidenced by ( $\beta = 0.254$ ,  $p = 0.000$ ) and ( $\beta = 0.209$ ,  $p = 0.001$ ) respectively, confirming H1:1 and H1:3. However, Customer intensity do not significantly influence Sustainability, as indicated by ( $\beta = 0.070$ ,  $p = 0.216$ ) as indicated by rejected hypotheses H1:2.

**Table 6.** Path analysis

No. of hypothesis	Path analysis	Estimate	P	Results
H1:1	Customer intensity → Profitability	0.254	0.000	Accepted
H1:2	Customer intensity → Sustainability	0.070	0.216	Rejected
H1:3	Customer intensity → Customer satisfaction	0.209	0.001	Accepted

*Own editing by researcher (2024)*

In testing the moderation effect of technological capabilities on the relationship between customer intensity and firm performance, **interaction effects** were employed. This approach allowed for a clearer examination of how technological capabilities influence the strength or direction of the relationship between Customer intensity strategy and firm performance outcomes.

The results presented in table 28 suggest that the technological capabilities positively moderate the relationship between Customer intensity and profitability ( $\beta = 0.274$ ,  $p = 0.000$ ), sustainability ( $\beta = 0.106$ ,  $p = 0.007$ ), and customer satisfaction ( $\beta = 0.253$ ,  $p = 0.000$ ) that full supporting H2:1, H2:2, and H2:3.

**Table 7.** Path analysis of moderation effect (TCPs)

No. of hypothesis	Path	Estimate	P	Results
H2:1	Int. (Customer intensity x Technological capabilities) → Profitability	0.274	0.000	Accepted
H2:2	Int. (Customer intensity x Technological capabilities) → Sustainability	0.106	0.007	Accepted
H2:3	Int. (Customer intensity x Technological capabilities) → Customer satisfaction	0.253	0.000	Accepted

*Own editing by researcher (2024)*

**Table 29.** Summary of the final results

Hypotheses One: The relationship between customer intensity and firm performance.	Partially supported
H1:1 There is a positive relationship between customer intensity and profitability.	Accepted
H1:2 There is a positive relationship between customer intensity and sustainability.	Rejected
H1:3 There is a positive relationship between customer intensity and	Accepted

customer satisfaction.	
<b>Fourth hypothesis: We assume that TCPs can positively moderates the relationship between CI and FP.</b>	<b>Full supported</b>
H2.1. There is positive moderating effect of technological capabilities on the relationship between customer intensity and profitability.	Accepted
H2.2. There is positive moderating effect of technological capabilities on the relationship between customer intensity and sustainability.	Accepted
H2.3. There is positive moderating effect of technological capabilities on the relationship between customer intensity and customer satisfaction.	Accepted

*Own editing by researcher (2024)*

## 8. Discussions and Conclusion

### 8.1.1. Customer intensity and firm performance

The outcomes in this study showed that customer intensity has a positive and significant effect on firm profitability and presumed customer satisfaction supporting the following hypothesis *H1:1, H1,3* nevertheless it has no effect on sustainability rejecting *H1:2* when ( $p>0.05$ ). Thus, customer intensity indicates partial support to firm performance. Moreover, Rust, et, al. (2004) and Reichheld and Sasser (1990) have demonstrated that loyal customers tend to generate higher revenues over their lifetime, contribute positively to word-of-mouth marketing, and require lower acquisition costs, all of which positively impact profitability. Similarly, one of the *qualitative* participants has supported the above result by saying: *Customer Focus: Entrepreneurial marketing is all about identifying and satisfying customer needs, and entrepreneurs are skilled at listening to their customers and responding to their feedback.*” (2nd Mini-FGDs, Male 1)}

On the other side, while less studied compared to other aspects of customer relationships, some research suggests that high customer intensity may have negative implications for sustainability, particularly if it leads to unsustainable consumption patterns or reliance on environmentally harmful products or practices. Studies by Peattie and Peattie (2003) and Elkington (1997) have highlighted the potential conflict between short-term customer demands and long-term sustainability goals, underscoring the need for businesses to balance customer intensity with sustainable practices. Furthermore, the positive association between customer intensity and customer satisfaction is well-documented in the literature. Higher levels of customer intensity often signify greater engagement, loyalty, and personalized service, which are key drivers of customer satisfaction. Research by Fornell (1992) and Anderson and Sullivan (1993) have emphasized the importance of building strong relationships with customers to enhance satisfaction and foster long-term loyalty, leading to positive business outcomes.

In our *qualitative discussions* and in order to examine the feasibility of customer intensity and leveraging resource we found that all the participants have come together and approved that customer intensity is more important and more feasibility for SMEs, one of the participants described in detail that the main focus for any firm is firm-based customers and to fulfill their needs, wants, and desires. And how to manage and leverage your resources to meet customer or client expectations. Likewise, another participant has also explained why customer intensity is needed for the firm? because a customer is the center of every successful firm that works innovatively to create or deliver products or services to satisfy their needs and wants.

Following some opinion's quotation respectively: {*“As a marketing specialist, the first step we start with and go forward is the customer. Without the customer, there is no product, there is no market, there's no anything. What your customer need and then think about how to leverage your resources to meet the needs of the customer and to make profit at the same time”*. (Mini-FGDs, Female 2)}, {*“I think customer intensity because I think when you become a customer center, I think you will be more effective than other way of marketing. Because sometimes when we talk about entrepreneurship that creative or innovative way in doing business, or creative way of creating products or services you offer, unless it satisfies the customer needs, I think it will not succeed.”* (Mutual Interview, Female 2)}. In summary, our findings regarding customer intensity align with previous research, highlighting its significant impact on profitability and customer satisfaction, while also raising concerns about its potential implications for sustainability.

## **Conclusion**

In conclusion, this study investigated the dynamics of innovation orientation and its impact on business performance in the setting of Sudanese SMEs. Several major discoveries have emerged from a thorough review and discussion of the material. Our findings demonstrated substantial correlations between the aspects of entrepreneurial marketing intelligence, technology skills, and business performance measures such as profitability, sustainability, and customer happiness. Notably, we discovered that technical skills play a critical moderating role in improving the effects of innovation orientation tactics on business performance, emphasizing the need of incorporating technology-driven techniques into marketing activities for Sudanese SMEs.

Furthermore, the study emphasised the importance of contextual elements, such as Sudanese SMEs' specific socioeconomic situation, in determining the success of innovation orientation activities. By addressing

these contextual variables and properly harnessing technical resources, entrepreneurs, owners, and managers can create bespoke strategies to improve organizational performance and obtain a market edge. Furthermore, our analysis clarified the complicated relationship between the study variables and the dimensions/components of entrepreneurial marketing, indicating how each component interacts with technological capabilities to affect company performance. Specifically, we discovered that certain dimensions of entrepreneurial marketing, such as networking and innovation orientation, depend to varying degrees on technological capabilities, emphasizing the importance of aligning technological investments with specific marketing strategies to maximize their impact on organizational outcomes.

Furthermore, our findings highlight the critical significance of technological capabilities as a moderator in improving the effectiveness of innovation-oriented practices, which serve as a foundation for innovation-driven growth and long-term competitive advantage in Sudanese SMEs. Overall, this study adds to the increasing body of literature on entrepreneurial marketing and offers useful insights for practitioners, policymakers, and academics interested in understanding and supporting the development of SMEs in Sudan and other developing market contexts.

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**Data Availability:** All data are included in the content of the paper.

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### **Authorship**

1. 1<sup>st</sup> author, Conceptualization, Data curation, Formal Analysis, Investigation, Visualization, Methodology, Writing – Original Draft, Writing – Review & Editing.
2. 2<sup>nd</sup> author, Methodology, Writing – Original Draft, Writing – Review & Conceptualization, Supervision.

### **References:**

1. (2022). Customer Orientation. doi: 10.1002/9781119902430.ch1
2. Asikhia, O. (2010). Customer orientation and firm performance among Nigerian small and medium scale businesses. *International Journal of Marketing Studies*, 2(1), 197.

3. Bachmann, J. T., Ohlies, I., & Flatten, T. (2021). Effects of entrepreneurial marketing on new ventures' exploitative and exploratory innovation: The moderating role of competitive intensity and firm size. *Industrial Marketing Management*, 92, 87-100.
4. Biesok, & Wyród-Wróbel, J. (2011). Customer satisfaction-Meaning and methods of measuring. *Marketing and Logistic Problems in the Management of Organization, Wydawnictwo Akademii Techniczno-Humanistycznej W Bielsku-Bialej, Bielsko-Biala*, 23-41.
5. Borodako, K., Berbeka, J., Rudnicki, M., & Łapczyński, M. (2023). The impact of innovation orientation and knowledge management on business services performance moderated by technological readiness. *European Journal of Innovation Management*, 26(7), 674-695.
6. De Mendonca, T. R., & Zhou, Y. (2019). Environmental performance, customer satisfaction, and profitability: A study among large US companies. *Sustainability*, 11(19), 5418.
7. Ferna, E., & Garcı, F. (2012). Learning from exporting: The moderating effect of technological capabilities.
8. Gupta, A. K., & Gupta, N. (2020). Effect of corporate environmental sustainability on dimensions of firm performance—Towards sustainable development: Evidence from India. *Journal of cleaner production*, 253, 119948.
9. Haeussler, C., Patzelt, H., & Zahra, S. A. (2012). Strategic alliances and product development in high technology new firms: The moderating effect of technological capabilities. *Journal of business venturing*, 27(2), 217-233.
10. Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2019) *Multivariate data analysis*. Eighth edition edn. Andover, Hampshire, UK: Cengage Learning, EMEA.
11. Hamad, A. Y. A. (2019), The moderating effect of technological capabilities in the relationship between strategic orientation and service innovation to enhance operational performance in Sudanese services firms p (39-44).
12. Heidi, Korhonen. (2015). *Customer Orientation in Industrial Service Innovation - Deepening the Understanding on Customers, Needs, Involvement, and Value*.
13. Hewing, M. (2013). *Business process blueprinting: A method for customer-oriented business process modeling*. Springer Science & Business Media.
14. Isichei, E. E., Emmanuel Agbaeze, K., & Odiba, M. O. (2020). Entrepreneurial orientation and performance in SMEs: The mediating



- role of structural infrastructure capability. *International Journal of Emerging Markets*, 15(6), 1219-1241.
15. Josh Siepel, Marcus DeJardin. (2020) How do we measure firm performance? A review of issues facing entrepreneurship researchers. 2020. ffhalshs-02571478
  16. Kotler, P. (2012). *Kotler on marketing*. Simon and Schuster.
  17. Kumar, V., Dalla Pozza, I., Petersen, J. A., & Shah, D. (2009). Reversing the logic: The path to profitability through relationship marketing. *Journal of Interactive Marketing*, 23(2), 147-156.
  18. Kura, A. B. (2019). Influence of Marketing Research Application on Customer Attraction, Customer Satisfaction and Retention in Small and Medium Scale Enterprises in Borno State, Nigeria (Doctoral dissertation, Kwara State University (Nigeria))
  19. Madhani, P. M. (2010). Resource based view (RBV) of competitive advantage: an overview. *Resource based view: concepts and practices*, Pankaj Madhani, ed, 3-22.
  20. Magre, Sunita, Vithalrao., Beena, Khemchandani. (2011). Customer Orientation - A Study.
  21. Marcuse, P. (1998). Sustainability is not enough. *Environment and urbanization*, 10(2), 103-112.
  22. Morris, M. H., Schindehutte, M., & LaForge, R. W. (2002). Entrepreneurial marketing: a construct for integrating emerging entrepreneurship and marketing perspectives. *Journal of marketing theory and practice*, 10(4), 1-19.
  23. Santos, J. B., & Brito, L. A. L. (2012). Toward a subjective measurement model for firm performance. *BAR-Brazilian Administration Review*, 9, 95-117.
  24. Schrettle, S., Hinz, A., Scherrer-Rathje, M., & Friedli, T. (2014). Turning sustainability into action: Explaining firms' sustainability efforts and their impact on firm performance. *International Journal of Production Economics*, 147, 73-84.
  25. Sekeran .2003, research method for business, A Skill-Building Approach Fourth Edition, ISBN 0-471-20366-1 -ISBN 0-471-38448-8 (WIE)
  26. Selvam, M., Gayathri, J., Vasanth, V., Lingaraja, K., & Marxiaoli, S. (2016). Determinants of firm performance: A subjective model. *Int'l J. Soc. Sci. Stud.*, 4, 90.
  27. Sonny, Nwankwo. (1995). Developing a customer orientation. *Journal of Consumer Marketing*, doi: 10.1108/07363769510103856.
  28. Srivastava, M. K., Gnyawali, D. R., & Hat, D. E. (2015). Technological Forecasting & Social Change Behavioral implications of absorptive capacity: The role of technological effort and

technological capability in leveraging alliance network technological resources.

29. Teece, D. J. (2018). Profiting from innovation in the digital economy: Enabling technologies, standards, and licensing models in the wireless world. *Research policy*, 47(8), 1367-1387.
30. Wang, H. L. (2014). Theories for competitive advantage.
31. Wu, J. (2014). Cooperation with competitors and product innovation: Moderating effects of technological capability and alliances with universities. *Industrial Marketing Management*, 43(2), 199-209.
32. Xin, Zhao. (2021). Customer Orientation: A Literature Review Based on Bibliometric Analysis. SAGE Open, doi: 10.1177/21582440221079804