

UNIVERSITY OF GHANA

COLLEGE OF HUMANITIES



**THE IMPACT OF STRATEGIC BEHAVIOUR OF SMES ON E-COMMERCE
ADOPTION AND CUSTOMER RESPONSIVENESS**

BY

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**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN
PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MPhil IN
OPERATIONS MANAGEMENT DEGREE.**

JULY, 2022

DECLARATION

I do hereby declare that this thesis is the result of my own work and has not been presented by anyone for any academic award in this or any University. All references used in the work have been duly and fully acknowledged.

I bear sole responsibility for any shortcomings.

The crest of the University of Ghana is a shield divided horizontally. The top half is blue with three yellow stylized trees. The bottom half is blue with a yellow stylized floral or scrollwork design. Below the shield is a yellow ribbon with the Latin motto "INTEGRI PROCEDAMUS" in blue capital letters.

A handwritten signature in black ink, appearing to read "Florence Newman".

.....

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CERTIFICATION

We certify that this thesis was supervised by us in accordance with the requirements established by the University of Ghana.



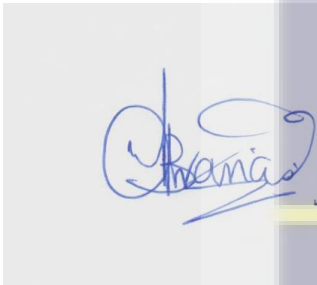
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DEDICATION

This thesis is dedicated to the late Mr. Abraham Tetteh Newman, who always believed in me and planted in me the quest for success in all my life endeavours.



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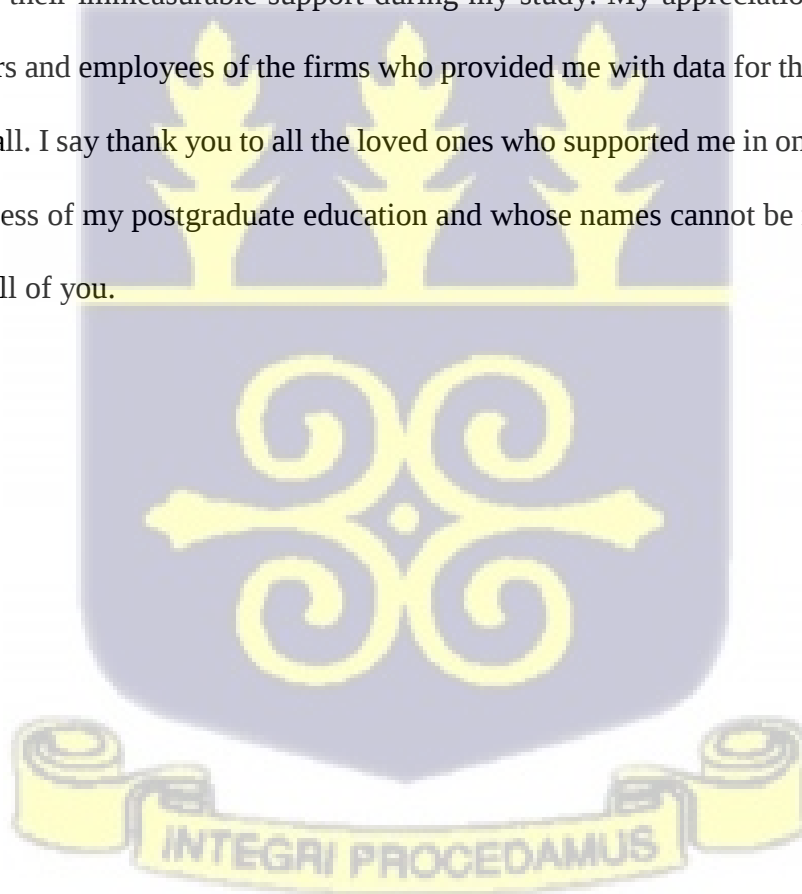


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LIST OF ACRONYMS AND ABBREVIATIONS

SME	Small and Medium Enterprise
E-commerce	Electronic Commerce
SPSS	Statistical Program for Social Science
PLS-SEM	Partial Least Square- Structural Equation Model
GSS	Ghana Statistical Service
GDP	Gross Domestic Product
B2B	Business-to- Business
B2C	Business-to-Consumer
C2C	Consumer-to-Consumer
C2B	Consumer-to-Business
ICT	Information and Communication Technology
ERP	Enterprise Resource Planning
TRA	Theory of Reasoned Action
TOE	Technology –Organization-Environment
R&D	Research & Development
TAM	Technology Acceptance Model
PU	Perceive Usefulness
PEOU	Perceive Ease of Use

CCB	Customer Citizenship Behaviour
CPI	Consumer Price Index
LCS	Logistics Customer Service
SCM-IS	Supply Chain Management- Information Systems
ANAL	Analysar
DEFE	Defender
PROS	Prospector
REAC	Reactor
ECOM	E-commerce adoption
CUSR	Customer Responsiveness



ABSTRACT

The purpose of the study was to deepen understanding of the operations strategy of SMEs by examining the extent to which the strategic behaviour of SMEs (using Miles and Snow's typology) influences their customer responsiveness and adoption of e-commerce. Little empirical findings exist on the relationship between strategic behaviour of firms, customer responsiveness and e-commerce adoption among SMEs, particularly in a developing economy context.

To achieve the research purpose, this study employed the quantitative research approach, using a cross sectional study design. Data was gathered from 320 service firms from Information and Communication, Administrative and Support Services and Fashion sub sectors. The collected data was analysed using SPSS and PLS-SEM. The PLS-SEM was used to analyse the relationships between the strategic behaviour of firms, customer responsiveness and e-commerce adoption.

Findings from the study indicated that the sampled service SMEs are indifferent about their strategic behaviour options relative to Miles and Snow's typology. Also, based on the Miles and Snow's typology, these firms' differ with regards to e-commerce adoption making them more of defenders than prospectors or analysers or reactors. Finally, the analyser, prospector and defender behaviours have been statistically proven to influence e-commerce adoption leaving out reactor behaviour which statistically, does not have a relationship with e-commerce adoption. With regards to customer responsiveness, only the prospector behaviour has been proven statistically to have a relationship with the construct. Statistically, there is no relationship between the analyser, defender and reactor behaviours and customer responsiveness. Conclusively, this study has advanced knowledge that strategic behaviour (using Miles and Snow typology) can affect e-commerce adoption and customer responsiveness to some extent.

CHAPTER ONE

INTRODUCTION

1.0 Research Background

Electronic commerce also known as e-commerce has become one of the key models for many businesses to promote their sales, improve cost efficiency and enhance productivity. E-commerce is a business model which involves transactions taking place on the internet. Saloman & Salman (2013) define e-commerce as a technology of conducting commercial transactions through electronic media. Hence for the purpose of this study, e-commerce denotes a novel medium used by sellers (businesses) to transact business (exchange of goods and services) with their buyers or consumers over the internet.

Businesses that sell their products online are involved in e-commerce. Business-to-Business (B2B) Business-to-Consumer (B2C), Consumer-to-Business (C2B) and Consumer-to-Consumer (C2C) are the main categories of e-commerce. The embracing and operation of e-commerce by Small and Medium Enterprises (SMEs) can improve business relationships and collaboration, quality and dispersion of knowledge (Kwadwo, Martinson, Evans, & Esther, 2016; Iddris, 2012; Vaithianathan, 2010). E-commerce has a remarkable prospect to change the outmoded ethics of operations and is capable to construct a firm underpinning for the effectiveness of the individual company adopting it as well as improve the national economy. E-commerce for a long time has inhabited the dominant space in the financial prudence of the developed countries, contributing

with noteworthy competitive advantage coupled with new thriving scopes (Khoma & Kostiuk-Pukaliak, 2017).

Khoma & Kostiuk-Pukaliak (2017) maintained that, e-commerce has proven to be a beneficial instrument to businesses, users and society as a whole. To the business, the principal advantage of e-commerce is the ease for the customer to be served any time, crafting a secure influx of customers that may not be accomplished with traditional marketing. Also, staff costs and maintenance costs associated with physical stores are reduced. An affordable means of advertising is also available other than the traditional means of advertisement. E-commerce proffers a variety of advantages to the users as well. Largely, with the aid of technical websites, users possibly will discover the precise products and services that are inaccessible from the physical stores. To society, the readiness of reasonably priced goods and services augments living standards in addition to national security. Online shopping reduces road traffic and its adverse effect on the environment.

Customer responsiveness touches on a firm's proficiency to react to customer's queries and carry them out in an apt custom. This involves the celerity it takes to instigate the correspondence in addition to the time it takes to finalize the customer's request (Fontanella, 2020). Firms that are responsive, benefit from lead time reduction, inventory management and agility (Kumar & Singh, 2017). Customer responsiveness upturns firm consciousness of the innovation opportunities that develop within technologically unsettled settings. Furthermore, customers become more uplifting and concerned of innovations adapted by businesses as probable techniques for permitting them to accomplish competitive advantage (Eggers, Kraus, & Covin, 2014).

Sahi, Gupta, Cheng, & Lonial (2019) posit that, it is widely held view that SMEs are largely not operationally responsive. Karampela, Lacka, & McLean, (2020) through their study encouraged

firms to prudently outline their social media schemes and perform energetically to respond to customers' queries and problems and also interact with their customers to be able to improve customers' brand commitment and professed partner quality. However, SMEs have progressively accepted the import of their capability to incessantly react to the protean business settings internally and externally.

SMEs are principally privately owned corporations, partnerships or sole proprietorship businesses, operated with a small number of personnel. There is no comprehensively recognized description of SMEs. Kwadwo et al., (2016) considered the level of assets, turnover and number of employees of a firm in defining SMEs. According to the Ghana Statistical services (2016), SMEs are defined at any point in time by the number of employees of the firm; a business or an enterprise entity that employ amongst 1 to 5 workers is considered a Micro enterprise. An organisation recruiting amongst 6 to 30 workers is considered a Small enterprise, whilst a firm employing between 31-100 workers is considered a Medium enterprise and a large enterprise is a firm recruiting more than 100 workers.

In Ghana, 92 percent of businesses are made up of SMEs. They contribute approximately 70% to the country's GDP as well as over 80% to the country's employment (Abor & Quartey, 2010). Notwithstanding their significant input to economic development, not much research has been done with respect to the operations performance of SMEs. In particular, very little is known about the strategic behaviour of SMEs. Notwithstanding the avalanche of studies on SMEs e-commerce adoption, literature appears silent on the strategic behaviour of SMEs relative to customer responsiveness and e-commerce adoption. As a result, there seems to be an apparent lack of

understanding of the extent to which the strategic behaviour of SMEs is relevant to their customer responsiveness and e-commerce adoption.

Strategic decisions do influence a firms' performance in its target market. The strategic behaviour of firms is essentially concerned with the long-term vision of the firm translated into operational actions to organize customer worth in the firm's target markets with the definitive aim of attaining higher achievement. Literature has proven that, a firm's strategic behaviour (customer-oriented, competitor-oriented and technology oriented) has an influence on the firms' performance (Slater, Hult, & Olson, 2007). Pehrsson (2014) identified through study that the firm's responsiveness benefit weakens as the firm ages. Recker, Holten, Hummel, & Rosenkranz (2017) adds that the type of response given to customers' changing needs has an effect on the efficiency of the firm. DeBerry-Spence et al., (2008) argue that, strategic value is a key point for SMEs considering e-commerce adoption. However, less research attention has been paid to SMEs' strategic behaviour and its relationship with e-commerce adoption. Consequently, this study is intended to find out how SMEs on the basis of their strategic behaviour (using Miles and Snow's typology of strategies) differ in their approach to e-commerce adoption and ability to effectively respond to customer needs. This study is important because it will help improve the knowledge and understanding of the operations management of SMEs. This knowledge could help improve SMEs operations performance which forms the basis for their contributions to the national economy.

1.1 Research Problem

Organizations employ strategies to handle changing environments which may result in innovative combinations of circumstances to drive organizational competitiveness (Anwar, Shah, & Hasnu, 2016). Innumerable environmental factors control a firm's strategic selections at any stage along

its industry's lifecycle (Manral, 2018). The strategic position of a firm is a factor of the attributes of the owner/manager of a firm. These attributes influence the organization's vision and processes as well as identification of entrepreneurial opportunities (Zanella, Solano, Hallam, & Guda, 2019). This implies that, the strategic behaviour of firms is circumstance dependent.

Yanes-Estévez, García-Pérez, & Oreja-Rodríguez (2018) argue that the strategies of organizations are complex. Strategic behaviour of firms affects their strategic decisions including the exploitation of opportunities. The operations strategy literature has mainly focused on the operations of large firms (Sahoo, 2020; Wong, Wong, & Boon-itt, 2020; Eckert & Gatzert, 2019; Garavan et al., 2019; Huang, Rice, & Martin, 2015; Basuony, 2014). SMEs' operations strategy has not been sufficiently explored in the literature. Considering the socio-economic importance of SMEs, an understanding of their strategic behaviour will enable us appreciate the extent to which these firms exploit innovative opportunities including the adoption of ecommerce. Thus, the current study seeks to improve understanding and literature knowledge on SMEs operations strategy.

E-commerce, a global trend for businesses to promote their operations and enhance sales is a trendy business model. E-commerce has been examined in the literature within the context of its contribution to competitive advantage (Lestari, Muhdaliha, & Putra, 2020; Xuhua, Elikem, Akaba, & Worwui-Brown, 2019; Hamad, Elbeltagi, & El-Gohary, 2018; Khoma & Kostiuk-Pukaliak, 2017; Kwadwo et al., 2016; Chen & Zhang, 2015); the benefits it offers businesses (Rahayu & Day, 2017; Khan, 2016; Shahriari & Mohammadreza, 2015; Iddris, 2012; Vaithianathan, 2010); the influence of firms' strategic values on its adoption (Svobodová & Rajchlová, 2020; Tu & Shangguan, 2018; Chen, Kerr, Chou, & Ang, 2017; DeBerry-Spence et al., 2008;) and the factors

affecting its adoption (Ocloo et al., 2018; Rahayu & Day, 2015; Taylor & Owusu, 2012; Ifinedo, 2011). Further, studies have examined e-commerce business model among SMEs' in Ghana. These studies have appear to centre on the influences of e-commerce adoption (Ocloo et al., 2018; Awiagah, Kang, & Lim, 2016; Iddris, 2012; Taylor & Owusu, 2012; Boateng, Heeks, Molla, & Hinson, 2008); the association between a firm's strategic value and e-commerce adoption (DeBerry-Spence et al., 2008); and the benefits of e-commerce to business (Xuhua, Elikem, Akaba, & Worwui-Brown, 2019; Boateng, 2016; Addo, 2012; Iddris, 2012; Boateng, Heeks, Molla, & Hinson, 2011). Nonetheless, studies on the influence that the strategic behaviour of firms have on the adoption of e-commerce has received less literature attention. This is a gap in the literature which demands research effort to understand; it is imperative to understand the strategic behaviour of SMEs and whether these behaviours do affect their decision to adopt ecommerce.

Strategic behaviour has been widely studied in literature (Akingbade, 2020; Alzahrani, 2019; Yanes-Estévez et al., 2018; Choshin & Ghaffari, 2017; Wronka-Pośpiech & Frączkiewicz-Wronka, 2016; Al-Fawaeer, 2014). Several studies have validated the Miles and Snow typology as an appropriate theory for studying strategy behaviour (Akingbade, 2020; Yanes-Estévez et al., 2018; Fenişer & Sadeh, 2017; Grimmer, Miles, Byrom, & Grimmer, 2017; Anwar et al., 2016). It is also interesting to note that Miles and Snow typology has been employed in many studies including e-commerce (Svobodová & Rajchlová, 2020; Kumar, Fuksa, & Kumar, 2018; Carmichael, 2017) because it is premeditated to apprehend and integrate organizational culture into a strategic framework. A merit of this theory is that, it hypothesizes that owner/manager personality and organizational culture have a strong influence on organizational strategy. However, studies relating to the influence that strategic behaviour has on e-commerce adoption focused on leadership variables (administrative) rather than technological and entrepreneurial

factors. Therefore this study fills the gap by focusing on the four strategic behaviours (Analyser, Defender, Prospector and Reactor) described by Miles & Snow (1978) relative to their e-commerce adoption (technology). Examining the relationship between Miles and Snow's typology and firms' ecommerce adoption will help improve the understanding of the relative patterns of strategic behaviour developed by SMEs and how such patterns align with firms' technological orientations.

Also, benefits of customer responsiveness to firms have been discussed in the literature (Kumar & Singh, 2017). A firm's ability to achieve its' vision, depends on its' strategic decisions geared towards achieving the vision as well as its' relationship with customers, suppliers, employees, shareholders, competitors among others. According to Oluchukwu, Donatus, & Franca (2019) a firm's strategies provide models and ideas which help to recognize or discern opportunities that add-value to customers. However, to remain competitive, firms need to analyse their customers' needs and be responsive to them. Also, to be successful at achieving responsiveness, firms need to understand and execute their add-on values to customers. Rant & Cerne (2017) postulate that an excellent customer intimacy is all-important for the complete effectiveness of a concealed champion approach. The strategic orientation of a firm (Defender, Analyser, Prospector and Reactor) will drive its actions and inactions hence this study intends to understand whether a firm's inclination towards customer responsiveness depends on its strategic orientation. Thus, this study is therefore intended to examine the impact of the four strategic options on the ecommerce adoption and customer responsiveness of SMEs.

The operations strategy literature has predominantly focused on the operations strategy of large firms (Sahoo, 2020; Wong, Wong, & Boon-itt, 2020; Eckert & Gatzert, 2019; Garavan et al., 2019; Huang, Rice, & Martin, 2015; Basuony, 2014), to the neglect of SMEs. SMEs operations

strategy has not been sufficiently explored in the literature. Little empirical findings exist on the relationship between strategic behaviour of firms, customer responsiveness and e-commerce adoption among SMEs, particularly in a developing economy context. Thus, the current study seeks to improve understanding of SMEs operations strategy and literature knowledge on it.

To summarize the research issue, the researcher was keen to establish the linkages between the strategic behaviour of firms representing by the Miles and Snow typology, e-commerce adoption and customer responsiveness within the context of SMEs. The interest was to explore the extent to which a particular strategic behaviour will influence their adoption of e-commerce as well as customer responsiveness.

1.2 Research Purpose

The purpose of the study was to explore the extent to which a particular strategic behaviour will influence the SMEs adoption of e-commerce as well as their customer responsiveness.

1.3 Research Objectives

The objectives of this study are to:

1. Examine the strategic behaviour of SMEs relative to Miles and Snow's taxonomy
2. Determine the extent to which SMEs differ in terms of their propensity to adopt e-commerce based on Miles and Snow's taxonomy.
3. Analyse the relationships between SMEs' strategic behaviour, e-commerce adoption and customer responsiveness.

1.4 Research Questions

The study is aimed at addressing the under-listed research questions:

1. What are the strategic behaviours of SMEs relative to Miles and Snow's taxonomy?
2. How different are SMEs in terms of their e-commerce adoption based on Miles and Snow's taxonomy?
3. What relationships exist between SMEs' strategic behaviour, e-commerce adoption and customer responsiveness?

1.5 Significance of the Research

This study contributes to theory, practice and policy. With regards to theory, the study seeks to add to literature by discovering the strategic orientations of SMEs and how these strategic orientations influence their technology adoption and responsiveness to customer needs.

To practice, this research will help managers to direct or redirect organizational strategies and how the understanding of the Miles and Snow (1978) can help improve their operations. The study will inform SMEs on the implications of ecommerce adoption relative to their strategic behaviour. This knowledge could enable SMEs to efficiently align their strategic behaviour with e-commerce adoption. By enabling SMEs to identify their strategic behaviour, they will be informed on the appropriateness of their strategy for their intended corporate goals.

To policy, this study will help policy makers to understand the operations strategy of SMEs and the influence of these strategies on technology adoption which will inform the development of the appropriate technology-related policies and initiatives that will improve their operations performance. Also, results from this study will help policy agencies or makers develop applicable strategies to help promote e-commerce acceptance and adoption.

1.6 Scope of the Study and Delimitations

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1.7 Chapter Outline

The study covers six (6) chapters as follows: the first chapter provides the introduction to the research, covering the background of the study, the statement of the problem, the research purpose, research objectives, research questions, significance of the study, research scope and delimitations and finally the chapter outline.

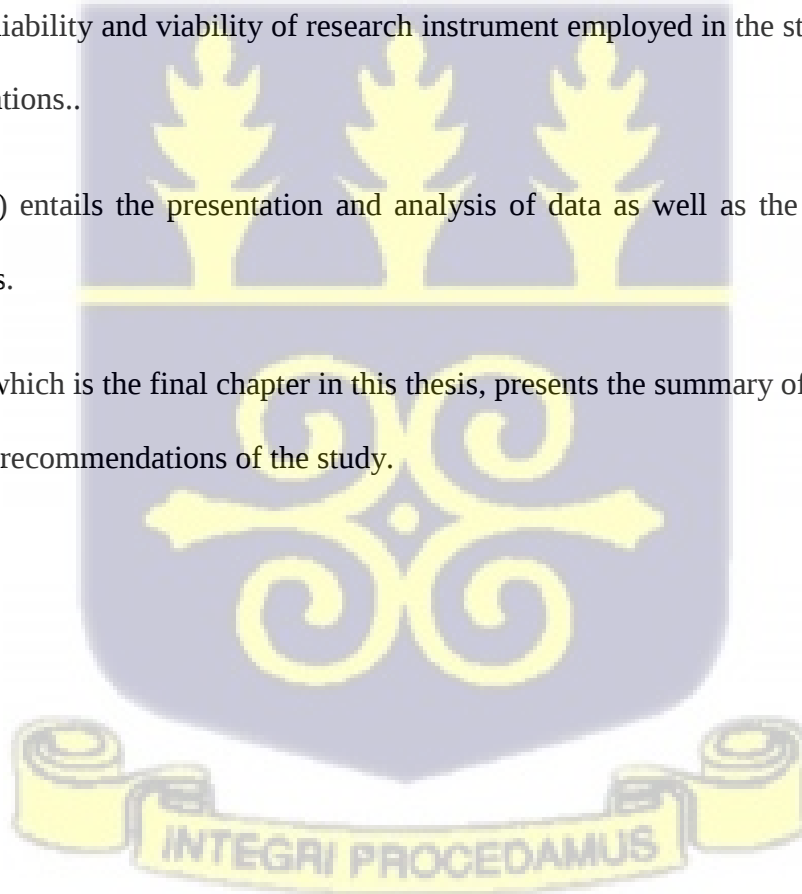
Chapter two (2) is the context of the study covering e-commerce business model in Ghana, the nature of e-commerce operations in Ghana and SMEs operations in Ghana.

Chapter three (3) represents the review of existing literature on strategic behaviour of SMEs, e-commerce adoption, customer responsiveness and Miles and Snow typology. Furthermore, Miles and Snow's model has been presented and discussed paving way for the development of the conceptual framework for the current study.

Chapter four (4) covers the research design, research approach, target population, sample size, sample technique, data collection instrument, data collection procedure, data collection instrument, data analysis, reliability and viability of research instrument employed in the study as well as the ethical considerations..

Chapter five (5) entails the presentation and analysis of data as well as the discussion of the research findings.

Chapter six (6) which is the final chapter in this thesis, presents the summary of the findings, conclusions and recommendations of the study.



CHAPTER TWO

THE CONTEXT OF THE STUDY

2.0 Introduction

The quest to stay in touch with technology as it advances, has changed the operational models of businesses across the globe. SMEs in Ghana appear to be working towards taking advantage of the opportunities offered by advancing technology to improve on their business operations. The growing change in focus in line with advancing technology is driving the agenda for ecommerce adoption in Ghana. This chapter gives an overview of the ecommerce business model and the nature of its operations in Ghana as well as SMEs operations in Ghana.

2.1 Electronic Commerce

The potential of ecommerce cannot be overestimated. Current businesses have applied the model to cooperate with their clientele, to publish product information, to manage orders and to dispense products and services (dos Santos, Sabino, Morais, & Gonçalves, 2017) unlike its initial stage where only large corporations used it for just two operational activities: electronic fund and document exchanges (Galinari, Cervieri Júnior, Teixeira Júnior, & Rawet, 2015).

E-commerce is driving the focus of businesses to become more profitable and maintaining rapid growth in revenues. Most businesses that engage in e-commerce, focus on on-demand services. E-commerce exists in different forms. dos Santos et al. (2017) advocate in their study that the most popular categories of electronic commerce are: B2B (Business-to-business), B2C (Business-to-consumer) and C2C (Consumer-to-consumer). However, B2C is the key focus of these three

categories. This is because it has the greater quantity of trades than that of the B2B e-commerce model which mostly comprises of commerce between industrial and commercial companies.

2.1.1 Electronic Commerce in Ghana

Diverse sectors of the Ghanaian economy are advancing their services with the incorporation of the internet. Experts observe that the current development in e-commerce is a revolt that other entrepreneurs have also incorporated into their operations (Tawiah, 2015). The service sector of the Ghanaian economy comprises of Information and Communication, Real Estate, Administrative and Support Services, Education, Social Work activities and other services activities. Information Communication Technology influences the sales and operations of some of these sub-sectors (Ghana Statistical services, 2016). This study will focus on Information and Communication, Administrative and Support Services and other services activities.

According to Sengretsi (2020), the fashion sector which falls under the other services category, tops the e-commerce website categories. The fashion industry includes all those firms which are into clothing, shoes and fashion accessories. Examples of such firms are Sima Brew Fashion, Florecent Boutique, Mango Ghana, Lynn Fashion Ghana, and Lycia Turquis Boutique among others.

The information and communication sector comprises of businesses engaged in the sale of laptops, phones and other electrical gadgets. Examples of such firms employing e-commerce in their operations are Compu Ghana, Telefonika, Franko Trading, and Hub Computers among others.

The administrative and support services are businesses engaged in the selling of home, office and School supplies. Melcom Ghana, EPP Books and Stationery, Orca Deco, Kingdom Books and Stationery, Furniture City are example of firms in this sector employing e-commerce.

According to Savrul, Incekara, & Sener (2014), small firms compared to large firms are more eager to adopt e-commerce for the many benefits it offers. E-commerce adoption in contemporary years has abetted numerous firms to commute information and to incorporate into their operations properly in order to better serve their customers (Ramanathan, Ramanathan, & Hsiao, 2012). Example of benefits SME's enjoy with e-commerce are savings on transaction, advertising and promotion and delivery cost. Also, e-commerce removes physical limitations of time and space and speeds communication between buyers and sellers.

E-commerce is an excellent tool that has facilitated the buying process for consumers. Essentially, with the support of specific websites, users may discover the precise products and services that are inaccessible from the physical stores. These platforms also provide adequate product description which guides the consumer in making a conversant choice. The cashless payment options available on these sites also comes in handy to the consumer (Khoma & Kostiuk-Pukaliak, 2017; Alqahtani, Al-Badi, & Mayhew, 2012).

2.1.2 E-commerce Adoption Challenges in Ghana

Most SMEs adopt e-commerce to improve customer responsiveness, expand and grow their business, attract new customers and to be competitive (Iddris, 2012). However, certain external and internal and factors exert influence on the adoption of e-commerce amongst firms in Ghana. These factors are grouped under technical, organizational, governmental, behavioural, environmental and financial and abridged in Table 2.1.

Table 2.1 Factors Inhibiting E-commerce Adoption among SMEs in Ghana

Group	Issues	Source
Technical	E-commerce security issues	(Ocloo et al., 2018; Awiagah et al., 2016; Kwadwo et al., 2016; Iddris, 2012)
	Poor quality and slow speed of the internet.	
	Lack of credit cards and payment systems	
	Lack of technical know-how to manage e-commerce websites.	
Governmental	Absence of legal and regulatory systems	(Kwadwo et al., 2016; Iddris, 2012; Boateng et al., 2011)
	Economic and political instability	
Behavioural	Resistance by people and culture	(Awiagah et al., 2016; Taylor & Owusu, 2012)
	Low literacy-levels amongst SME owners	
	Preference of traditional media to E-commerce	
Financial	Cost of set up and management of e-commerce website is high	(Modzi et al., 2016; Taylor & Owusu, 2012)

	Difficulty to explain the cost with desired benefits	
	Training of personnel	
Environmental	Most local suppliers do not have access to e-commerce.	(Ocloo et al., 2018; Awiagah et al., 2016; Taylor & Owusu, 2012; Boateng et al., 2011)
	Insufficient qualified vendors for developing applications	
Organizational	Difficulty in changing the current working procedures	(Ocloo et al., 2018; Awiagah et al., 2016; Taylor & Owusu, 2012; Boateng et al., 2011)
	Lack of awareness about the prospective applications of e-commerce	
	Lack of managerial support	

Aside the above listed factors, firms in order to successfully launch and manage an e-commerce website in Ghana, are challenged with Domain cost, Hosting cost, Design cost, Maintenance cost, Payment gateway cost and SEO cost. They are however needed to get their website to be visible to their consumers. Sometimes, these costs are too heavy for small firms to bear. Aside that, only few experts are available willing to work for SMEs as they rather prefer to work with large firms.

2.2 E-Commerce Operations in Ghana

A website where advertisements are posted by sellers is not e-commerce but rather known as classifieds or marketplace. A marketplace website is a platform for sellers to transact business with

buyers. The marketplace does not sell products/services itself however, it facilitates the transaction between sellers and buyers. An example is when a buyer buys a product through Tonaton, he(s) does not buy the product from Tonaton but from a seller on Tonaton. It is still the same concept as offline markets. However, classifieds websites are the modern version of the classifieds section in newspapers. Classifieds portals create value for the sellers by generating leads. These sites have an incredible amount of free and economical form of advertisements. Example of such websites are Jiji.com.gh (formerly olx.com.gh) and Tonaton.com. These are different from e-commerce platforms.

Jumia.com.gh, zoobashop.com, kikuu.com.gh, superprice.com, Compughana.com, melcomonline.com, Telefonika.com, Hubtel.com, Frankotrading.com and Marketexpress.com.gh are the top e-commerce platforms in Ghana. These platforms offer consumers the opportunity to navigate through the sites, providing detailed information: images and product description which sometimes are not even available in the physical stores. This helps consumers make informed decisions about the type of product to buy.

The means of payment for transactions performed on these e-commerce websites are either offline (cash, mobile money or bank transfer) or online (SlydePay, expressPay, Hubtel, Jumia Pay, e-Tranzact among others). Aside these, some of the websites also accept Visa and MasterCard which may be debit or credit card payments (Sengretsi, 2020; Tawiah, 2015).

In spite of the numerous e-commerce websites operating in Ghana, there are also some international e-commerce websites that Ghanaian consumers engage with. This is because these international sites have tailored services such as customization of prices and shipping cost in local

currencies (Ghana Cedis). Popular among such sites are Amazon.com, Aliexpress.com and Alibaba.com.

2.2.1 Consumers Security and Privacy Concerns of E-commerce Websites

Trust, users have in the internet is predominantly prone to the security professed by these same users concerning the usage of their private individual data. Most clients are troubled with respect to the usage of their private information by third parties. This is because, some firms do not inform their consumers about the existence of their relationship with third parties and the access they have.

E-commerce is significantly growing and transforming the nation with the rate of smartphone usage and internet growth. This growth and increasing interest in e-commerce must go together with reverence for the concealment of users, handling and protection of data. Electronic commerce websites keenly amass huge data from visits to their sites. E-commerce security is the defence of e-commerce resources from access, unlawful use, alteration, and or destruction (Gupta & Dubey, 2016). Consumers need this protection from the companies in order to maintain the trust they have with them as a result of physical operation.

According to Chatterjee (2015), fingerprints, password, voice, firewalls, digital signature, and encryption software are the security tools related to e-commerce. Security, functionality, privacy and user-friendliness issues are well-thought-out to be barriers to online shopping for consumers. These consumers want user friendly websites and a private and confidential protection of their personal data. The plausible risk is higher in e-commerce largely because of proximity, unawareness and negligible physical interactions. However, consumers are extra flexible and keen to take risks with the organizations or people that are trustworthy (Gupta & Dubey, 2016).

Baako, Umar, & Gidisu (2019) suggest that e-commerce policy must address vulnerability such as lack of advanced information security technology with regards to website management. Also, directors of the e-commerce business must effectually handle these susceptibilities to be able to generate trust and witness an upsurge in visits to their websites.

Chatterjee (2015) proposes that for safe and secure conduct of online transaction, consumers are not obliged to reveal any unique identification number or repeat passwords on every site and should change their password from time to time. Consumers ought to check the secureness of a web address and avoid divulging additional private data to e-commerce sites. Visitors to websites should check the secureness of the website address in the address bar and pay attention to the privacy and security policies of the website.

Also, before a start of an online shopping, consumer must be abreast with the exchange rate, delivery date and time while taking note of the dynamic pricing policy of the e-commerce site. As much as possible, consumers should avoid cash transaction that cannot be traced and keep printed copy of order to serve as proof. It is also noteworthy that consumers must pay attention to FAQs, cancellation policy of vendor and also put lot of questions that comes to mind to the sellers.

2.3 SMES Operations in Ghana

SMEs are principally privately owned firms, partnerships or sole proprietorship businesses, operated with a small number of personnel. SME are defined at any point in time by the number of employees a firm has. A micro enterprise is that entity with a maximum of 5 employees. An entity with a maximum of 30 employees is considered a Small enterprise. Likewise, a firm employing between 31-100 workers is considered a Medium enterprise and an entity employing more than 100 workers is a large enterprise (Ghana Statistical services, 2016). In Ghana, SMEs

make up 92 percent of commerce and subscribe around 70% to the country's GDP and above 80% to work (Abor & Quartey, 2010).

The major challenge faced by many SMEs is how to stay competitive and globalize their operations. However, SMEs in Ghana are adopting technology and innovative practices to overcome this challenge. Donkor, Donkor, Kankam-Kwarteng, & Aidoo (2018) argue that SMEs in the urban areas possess a moderate innovation skills. This, they believe is a reason why such firms are not competitive enough and have low financial performance. They also argued that, if SMEs are highly innovative, it will increase their financial performance. Fening (2012) also adds that the adoption of quality practices will enable these firms to gain competitive advantage.

Proprietors of SMEs in Ghana have observed an upgrade on their financial literateness ranks. Radio and television support undertakings, training programs and the propagation of financial establishments are enfranchising SME vendors with the necessary financial understanding for commerce. However, not all age brackets need equal devotion regarding financial edification. The youthful and elderly cohort in Ghana need extra devotion as far as financial tutoring and skills development is concerned (Agyei, 2018).

According to Yeboah (2015), SMEs in Ghana experience sales growth at most for 10 years of existence after which they experience a decline. He added that, sole proprietorship SMEs have most sales increase than SMEs registered as limited liability companies. It is interesting to note that the type of industry an SME operates in, influences its sales growth. Also, SMEs operating wholesale and retail businesses witness the highest sales growth than those in manufacturing, arts and entertainment, transport and accommodation and food services. Likewise, SMEs with more employees do better in business than their counterparts with fewer employees.

Agyei (2018) argues that based on marital status, there exist no important variances in financial literacy ranks amongst SMEs in Ghana. However, gender, age, level of education and religion indicates important alterations in financial literacy ranks amongst SMEs in Ghana. An SME is likely to increase its products' catalogue, if its' owner has a higher the financial literacy. This probability of adding a new invention to existing products, rises by 49.43 times through awareness of prevailing financing preferences for progress and consciousness of aids of risk taking by an SME owner. Furthermore, education positively influences the financial literacy level of SME owners.

2.3.1 Technology and SMEs

The launch of new technology has transformed business operations globally. Improvement of communication methods, eclectic advertisement platform and certifying efficient and timely delivery of goods and services are the roles technology seeks to play in bridging trade barriers.

In the case of Ghana, Dzisi & Ofosu, (2014) advocate that non - traditional marketing strategies are less related to the performance of the SMEs. According to the authors, only a few SMEs deploy technology-based marketing strategies in reaching their customers. However, the trend is the use of social media (Facebook, Twitter and Instagram) other than corporate websites and emails. This is because according to their respondents, social media is interactive in nature. It is also less difficult and relatively cheap to set up a social media page than create and manage a corporate website. Hence, most firms now prefer to use their social media pages to interact more with their customers other than to use a website or an email for communication. Also, some of these firms ride on e-commerce platforms such as Jumia and Kikuu to be able to reach out to numerous consumers because of the cost involved in owing their own website and its maintenance.

2.4 Conclusion

It is evident that technology has transformed business operations globally. Most SMEs are however challenged with competition and the globalization of their operations. SMEs with focus on profit and revenue growth, adopt e-commerce to engage in on-demand services and facilitate buying process for consumers. Among the known types of e-commerce, business-to-consumer (B2C) is the most popular. This is because many businesses engage in this type of e-commerce as compared to the others. Certain external and internal factors affect the adoption of e-commerce of SMEs in Ghana. These factors are technical, organizational, governmental, behavioural, environmental and financial.

E-commerce websites provides detailed information (images and product description) which sometimes are not available in the physical stores. This helps consumers make inform decisions about the type of product to buy. The means of payment for transactions performed on these e-commerce websites are either offline or online. Some of the websites also accept debit and credit card payments. Most SMEs who cannot afford the owning and maintenance of an e-commerce website, now use social media and partner popular e-commerce platforms to be able to reach out to their customers and new ones.



CHAPTER THREE

LITERATURE REVIEW

3.0 Introduction

Theoretical and empirical literature on strategic behaviour and its impact on customer responsiveness and e-commerce are reviewed. Also, the chapter presents a conceptual framework proving how the independent variables and the dependent variables are related as well as the statements of hypotheses.

3.1 Theoretical Review

Theory refers to a conceptual knowledge that purposes to enlighten a phenomenon. The definition which focuses on explanation is common in literature though there are variations in terms of detail and specificity (Sandberg & Alvesson, 2020). The Technology-Organizational-Environment (TOE) theory and Theory of Reasoned Action (TRA) are employed to provide the theoretical foundations for the study. The TOE theory is the first in the technology adoption literature that recommends a non-specific set of factors that enlighten and envisage the possibility of innovation adoption (Awa & Ojiabo, 2016). Also, adoption is an attitude issue; TRA on the other hand, is a strong theory to guide IS technological innovation adoption. Since the current research has the objective to analyse the relationship between firms' strategic behaviour and customer responsiveness and e-commerce, it is appropriate to adopt these theories to help identify the organizational factors that influence innovation (e-commerce) adoption and customer responsiveness as well as comprehend the influence of SMEs owners/managers behavioural intention on the strategic behaviour of firms.

3.1.1 Technology-Organizational-Environment (TOE)

The TOE framework designed by Tornatzky, Fleischer, & Chakrabarti (1990) has been comprehensively used to evaluate the firm-level adoption of technologies using three categories of perspectives that would conceivably impact the adoption of technology; namely, technological, organizational, and environmental. The technological perspective represents both the internal and external technologies related to a firm. According to Rahayu & Day (2015) compatibility, perceived benefit and cost, are technological factors that impact SMEs' adoption of e-commerce technology. The organizational perspective is associated with the resources and customs of a firm. Technological readiness and firm size are elements that impact e-commerce adoption by SMEs. The environmental perspective speaks of a business environs in which a firm regulates its business. Customers, pressure from competitors and society are well-thought-out to be environmental factors that impact the embracing of new technology by SMEs (Tripopsakul, 2018).

Abed (2020) theorizes that the three dimensions: Technology, Organization and Environment are noteworthy factors for SMEs adoption of social commerce. Technological factors (security concern and perceived usefulness), organizational factors (organizational readiness and top management support) and environmental factors (consumer and trading partner pressures) have a momentous impact on behavioural intent to adopt social commerce by SMEs. However, trading partner pressure (environmental), followed by top management support (organizational), and perceived usefulness (technological) have the greatest substantial impact on behavioural intent to employ social commerce by SMEs. This implies that environmental factors by Abed (2020) are the most significant influencers than technology and organizational factors of social commerce adoption.

Awa & Ojiabo (2016) posits that technical know-how, availability of ICT infrastructures, perceived compatibility, security, size and perceived values of the firm are important technological determining factors for the adoption of ERP by SMEs. Firm size, demographic composition, scope of business operations and subjective norms are organizational features that impact the adoption of ERP by SMEs. Firm size is a dire cause in e-commerce and ERP adoption. Management's knowledge about an innovation, experience and demographic differences will equally impact the adoption of technology. This implies that the scope of business operations is a dire adoption influence nonetheless it does not underwrite the adoption of ERP. Competitive pressure, trading partners' readiness and external support are environmental adoption factors. However, Awa & Ojiabo (2016) conclude technological factors to drive the adoption of ERP by SMEs more than by organizational and environmental factors. Therefore, this study seeks to find out if organizational factor: strategic behaviour drives innovation adoption more than technological and environmental.

3.1.2 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) proposed by Fishbein & Ajzen (1975) is a far and wide used theory to determine behavioural intention. TRA has been recognised to be constructive in forecasting and construing concrete actions in many arenas, including technology adoption. The building blocks of this theory are attitude, subjective norm and behavioural intention. Attitudes are sentimental and built on a series of beliefs with reference to the idea of behaviour. The succeeding is the person's subjective norms of what they recognize their close community's attitude to defined behaviour. Behavioural intention discusses the inclination and magnitude of action of a person who desires to participate in a certain behaviour, that is, the emotional strong

suit of the personality's act in the decision-making procedure; in extent, it can be converted into even if the person is keen to try or is enthusiastic to pay, by which variables can enlighten and envisage the real act of the person. TRA embraces the concept that attitude and subjective norm regulates a person's behaviour intention. Thus, if a person has a more positive attitude on a certain behaviour and subjective norms backs the behaviour, the person's intent to involve in the behaviour will also grow (Lin, Mao, Huang, Sia, & Yang, 2020; Lai, 2017).

Otieno, Liyala, Odongo, & Abeka (2016) also posits that the Theory of Reasoned Action (TRA) have been extensively used in technology adoption by studying and understanding consumers' technology adoption behaviours focusing on the intention to employ. This theory has been used by Information System (IS) literature to establish an underpinning to technological adoption or aid shape other theories and models. However, comparing TRA with other theories and models for technological innovation, TRA has been established to be a strong theory for innovation adoption with a few inclusions of other variables such as responsiveness of innovation, user readiness to adopt, facilitating conditions and social pressure.

TRA can be expanded to hypothesize the human behavioural pattern in the decision-making strategy on the exploitation of a new innovation or technology. It has the ability to enlighten the individual behaviour such as utilization of new innovation and whether it is influenced by behavioural intentions; individual's attitude concerning the behaviour, the idiosyncratic norms connecting the conduct of the behaviour, and the individual's opinion of the comfort with which the behaviour can be carried out. Therefore the merit of this theory in expounding behaviour depends on the extent to which people can have a large degree of authority over the behaviour and this has led to the conclusion that, TRA is a very strong theory over several models that have been

drawn on in technological innovation adoption studies in spite of the fact that TRA has not been comprehensively exploited in studies such as technology adoption and circulation in the field of Information Systems and ICT in general (Otieno et al., 2016; Fawzy & Salam, 2015). This theory is therefore appropriate for this study because literature (Ocloo et al., 2018; Rahayu & Day, 2015; Taylor & Owusu, 2012; Ifinedo, 2011) has proven that owner/manager characteristics touch on the adoption of e-commerce. Therefore there is the need to appreciate the influence of behavioural intention of these owners/managers on the strategic behaviour of firms.

3.2 Strategic Behaviour of firms

According to Klinger, Silveira-Martins, de Castro, & Rosetto (2019) seminal theories have classified strategies in many ways:

1. strategy as a behaviour: analysers, defenders, prospectors or reactors (Miles & Snow, 1978);
2. strategy as cost leadership, differentiation or focus (Porter, 1980);
3. differentiation strategies as price, image, support, quality, design or undifferentiated (Mintzberg, 1988);
4. organizational trajectories as focusing, venturing, inventing or decoupling (Miller, 1990).

However, the Miles and Snow typology of strategic behaviour is the oldest and most accepted typology in the study of organisational strategy. The typology offers an influential tool for categorising organizations by their strategic decisions.

The typology theorises that, organizational strategy is strongly influenced by founder personality and organizational culture and this characteristic makes the Miles and Snow typology distinct in

that, it is the only seminal theory that takes into consideration owner influence and organizational culture. This typology characteristics makes the Miles and Snow framework very fitting for analysing the Small and Medium Sized firms in Ghana because these firms have a strong founder influence, and are often controlled by the founder throughout the organization's existence (Mayfield, Mayfield, & Stephens, 2007). The operating environment of a firm is affected by technology. Increased awareness and changing customer preferences have been extra challenges stemming from the external environment. However, a firm in order to keep on being competitive in a dynamic environment is always expected to respond to these changes. Therefore, the adoption of a technology platform to improve the operations of a firm and exceed the needs of its customers is highly recommended. Strategic response to the needs of customers involve changes to the firm's strategic behaviour where such responses may take many forms depending on the environment in which it operates (Limungi & Marete, 2017).

Miles & Snow (1978) suggested that firms in broad-spectrum develop fairly stable forms of strategic behaviour in order to realise a good orientation with the apparent environmental settings. They centred their typology on three sets of problems challenging every firm: entrepreneurial (the choice of products and markets), engineering (the choice of technologies for production and distribution) and administrative (the choice of areas for future innovation and rationalization of existing structure and processes). Four different strategies are defined by the authors for firms. These are; prospectors, defenders, analysers and reactors. A firm is either a prospector, defender, analyser or a reactor depending on how it approaches the three problems that challenge the firm. Firms that pursue the analyser strategy jump unto a new innovation only after success has been demonstrated for that particular innovation. Organizations that exhibit the defender strategic behaviour pay attention to growth of new products in an orthodox means. They typically contend

on quality and price other than new markets or products and concentrates on revamping the competence of their present processes. Firms that pursue the prospector behaviour are innovative and technology inclined and are concerned with human resources more than any other resource. Firms that pursue the reactor strategic behaviour on the other hand are firms that do not have a clearly defined strategy for their organization.

3.3 Conceptual Framework

A conceptual framework is a structure associated with the conceptions and relevant theories employed in advancing and arraying the facts advocated by the researcher relating the connection amongst the main concepts or variables of a study. The framework could be pictorial or a narrative presenting the crucial variables or constructs to be researched and the supposed connections between them (Adom, Hussein, & Agyem, 2018). The four strategies described by Miles and Snow can be applied as a framework over which to perfect and apprehend SMEs decision as regards the adoption or non-adoption of e-commerce as well as their response to the changing needs of customers (Carmichael, 2017; Oltra & Flor, 2010). This study intends to analyse the strategic behaviour of firms and their impact on customer responsiveness and e-commerce adoption among Small and Medium-Sized Enterprises. Therefore, the independent variables for the study are strategic behaviours of firms, while customer responsiveness and e-commerce adoption are the dependent variables. Employing the Miles & Snow (1978) typology, a firm's strategic behaviour can be Prospector, Defender, Analyser or Reactor.



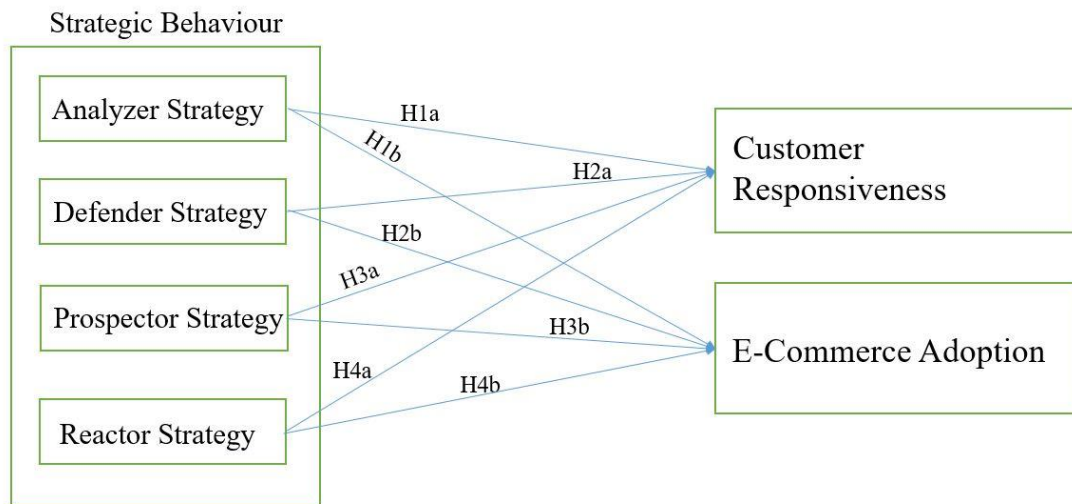


Figure 3.1 Conceptual Framework

It is conceptualized within the framework above that, the SMEs disposition towards any of the four (4) strategic orientations would have differential effects on their adoption of e-commerce as well as their ability to be customer responsive. Data analysis will confirm or reject this conceptualization.

3.4 Hypothesis Development

3.4.1 Analyser

Analysers according to Lin, Tsai, & Wu (2014), avoid the risk that occur in Defender and Prospector and take advantage of Defender and Prospector by connecting their essential competences. Similar to Prospectors, they devote a great deal of responsiveness to innovation and concurrently run several stable businesses, just as defenders pay attention to launching products. Production, Marketing and Research & Development (R&D) capabilities are prerequisites to adopting an analyser strategy. That is, its capability allocation principle is one in which the production, marketing, and R&D capabilities should be almost equal to each other.

Klinger et al. (2019) also opine that Analysers as purposefully exploratory in nature. The Analyser makes effort to discover new products and venture into market opportunities while concurrently preserving the firm's principal traditional products and customers. Analysers grow into new marketplaces and are risk takers only in a way that constructs on their prevailing capabilities. Analysers are evident in businesses that work in two types of product-market areas: relatively stable and permanent change. Analysers endeavour to control risk while exploiting opportunity (Miles & Snow, 1978).

It is interesting to understand that, analysers jump unto a new innovation only after success has been demonstrated for that particular innovation. They also embark on environmental skimming in an effort to study how to accomplish and defend stability amongst contradictory demands for liveness and solidity. Consequently, an analyser is expected to adopt e-commerce after skimming the environment of adopters of e-commerce to protect the firm from features of indecision in the market. Analysers are second driving force in the market and as so their efforts to exploit on market prospects are restricted (Carmichael, 2017). Hence, the following hypothesis will be tested.

H_{1a}: The pursuit of the analyser strategy influences SMEs' adoption of e-commerce.

Pehrsson (2011) makes known that customer responsiveness encompasses relationships with customers, solutions to customers' problems, and after-sales services. He adds that in an uncertain market characterized by changing competitive patterns and supplier/customer, customer responsiveness must be high. Analysers are slow to reacting to changes in dynamic or competitive markets (Carmichael, 2017). This means that Analysers will be slow in responding to the changing needs of customers. Hence, the following hypothesis will be tested.

H_{1b}: The pursuit of the analyser strategy inhibits SMEs' customer responsiveness.

3.4.2 Defender

Defenders are organizations that pay attention to growth of new products in a conventional means. They typically contend on quality and price other than new markets or products and concentrates on revamping the competence of their present processes. Defenders espouse a unified arrangement to preserve control over effectual facilities that pay attention to the core of the business or service goals (Miles & Snow, 1978). Hawrysz (2020) posits that Defenders take on a lot of proper scheduling, gather and scrutinise huge volumes of records on service necessities, appraise alternatives to meet those necessities, and custom progressive procedures to balance the costs and benefits of each choice. Defenders strategize strongly and in brief and cautiously assess any suggested modifications in technology and actions before taking action. Defenders generally aim their products or services for an openly defined market and accentuate a steady set of products and customers. They repetitively try to apprise their current technology to preserve efficiency. Innovative change, growth, and diversification are accomplished gradually through market infiltration (Hawrysz, 2020).

Haj Youssef & Christodoulou (2017) also describe defenders to be firms that strive in stable domains and unchanging environments and all their actions are in-line with the constancy of the external environment. Defender firms have forethought actions and function in a way that emphasis on proficiency of operations and secure internal orientation. Also, their managers are believed to carry on policies and strategies of the preceding days and are not allowed to move away from the status quo. However, Lumbantoruan & Pujangkoro (2020) in their review identified defenders to be firms that wrestle to secure a certain market share and afterwards toil to conserve it. They are therefore likely to adopt e-commerce because, it is an approach that helps reduce operating cost whiles maintaining existing customers. Also, efficiency is a key factor to their

operations therefore they curb product variation, segment offered and offer fair prices. Due to the exceptional services that they provide to their customers, they are also likely to be attentive to the needs of their customers. Hence, the following hypothesis will be tested.

H_{2a}: The pursuit of the defender strategy influences SMEs' adoption of e-commerce.

A firm with strong customer orientation culture endeavours to improve their capabilities in responding to customer changing needs and having positive reviews that will improve their rating distribution (Hendar, Nurhayati, & Sugiyarti, 2018). Defenders provide exceptional services to customers. Due to the exceptional services that they provide to their customers, they are also likely to pay attention to the needs of their customers (Lumbantoruan & Pujangkoro, 2020). Hence, the following hypothesis will be tested.

H_{2b}: The pursuit of the defender strategy influences SMEs customer responsiveness.

3.4.3 Prospector

Prospectors are firms with flexible non-formal organizational structure that always look out for new market opportunities: innovation processes and new product development. They are creators of change and risk takers. They are innovative, technology inclined and are more concerned with human resources (Yanes-Estévez, García-Pérez, & Oreja-Rodríguez, 2018).

(Cassol, Lorandi, Carvalho, Cintra, & Ribeiro, 2019, p. 109) adds to the description of prospectors as “organizations that continuously seek for new product and market opportunities; sources of changes and creation. Once they aim to innovate through extensive and non-intensive planning; the main focus being on innovation and not on efficiency; decentralized control, permitting the monitoring of the environment.”

Chaimankong & Prasertsakul (2012) profess prospectors to be organizations that are characterized by flexibility and step into wholly new markets and take momentous risks. Their organizational structure has control which is more decentralized. They work to feat innovative product and market prospects and maintain the reputation as innovators in product and market development. They also are not restricted to their modern product line and are habitually the inventors of transformation in their industry. One disadvantage to this stratagem is that the prospector strategy may have trouble in being operational as insecurity surges. Younger managers may comprehend the prerequisite for greater technological amalgamation, which will surge the possibility that they will be more courageous and innovative in the adoption of technological resolutions and strategies. However, the positive and antagonistic market stand taken by prospectors supports thriving with markets categorised by high level of vitality or race hence the likelihood to adopt e-commerce (Carmichael, 2017). Hence, the following hypothesis will be tested.

H_{3a}: The pursuit of the prospector strategy influences SMEs' adoption of e-commerce.

According to (Harraf, Wanasika, Tate, & Talbott, 2015) as cited in (Jermsittiparsert, Sutdewan, Sriyakul, & Khumboon, 2019), customer responsiveness is strongly related to information and it is essential to put customer information to appropriate use. Currently, customers' requirement changes and they expect greater responsiveness to these changes. Prospectors struggle in being operative as insecurity surges and with focus on product and technology innovation, there may be less likely to be efficient to the needs of customers' changing demands (Chaimankong & Prasertsakul, 2012). Hence, the following hypothesis will be texted.

H_{3b}: The pursuit of the prospector strategy influences SMEs customer responsiveness.

3.4.4 Reactor

Reactors, the last type of the Miles and Snow typology are organizations without a clear strategy or operational approach. Their strategies usually exist in stable markets and though there is no clearly defined strategy of the organization, their organizational structures are not in accordance with the selected strategy and such organizations often ignore changes in the environment (Aleksic & Jelavic, 2017).

Though they do not have a clearly defined strategy, their response to market development is through altering their strategies in limited ways. They are characterized by apathy and lethargy of actions, as they recognize opportunities in the environment in which they are in but they prove to be unable to put actions into practice, unless pressurized by the environment. Reactors exhibit a pattern of adjustment that is both inconsistent and unstable. The organization maintains a current strategy-structure relationship despite overwhelming changes in environmental conditions (Klinger et al., 2019).

Additionally, reactors incline to have an administration that does not form the firm's structure to suit a preferred scheme, or, wherever administration has not obviously expressed the firm's scheme. Reactors do not support well with indigenous market circumstances as an import. Reactors will not support market vitality or competitive force in a considerable style. Reactors are greatly exposed to adopting e-commerce, but their adoption is grounded on their acknowledgement of modifications in their industry toward grander execution of technology. They are likely to adopt e-commerce in as much as it would profit their operations. They are not likely to incorporate e-commerce into their operations because of technological innovation. Even those who have employed e-commerce apply technology either to develop their operations or because of the

varying requests of customers, which indicates a reaction to altering changing aspects relatively than a practical stance on technology (Carmichael, 2017). Hence, the following hypothesis will be tested.

H_{4a}: The pursuit of the reactor strategy inhibits SMEs' adoption of e-commerce.

Recker, Holten, Hummel, & Rosenkranz (2017) are of the view that, all-embracing retorts to varying customer necessities encourages lowered retort efficiency, signifying that widespread responses entail extra response determinations, which decreases retort efficiency. Reactors do not consider local market conditions as a priority. Reactors will not orient with either market vitality or competitive force in a significant way (Carmichael, 2017). This implies that Reactors may not be responsive to the changing needs of their customers. Hence the following hypothesis will be tested.

H_{4b}: The pursuit of the reactor strategy inhibits SMEs' customer responsiveness.

3.4.5 Hypothesis Formulation

The following hypothesis will be tested by this study:

H_{1a}: The pursuit of the analyser strategy influences SMEs' adoption of e-commerce.

H_{1b}: The pursuit of the analyser strategy inhibits SMEs' customer responsiveness.

H_{2a}: The pursuit of the defender strategy influences SMEs' adoption of e-commerce.

H_{2b}: The pursuit of the defender strategy influences SMEs customer responsiveness.

H_{3a}: The pursuit of the prospector strategy influences SMEs' adoption of e-commerce.

H_{3b}: The pursuit of the prospector strategy influences SMEs customer responsiveness.

H_{4a}: The pursuit of the reactor strategy inhibits SMEs' adoption of e-commerce.

H_{4b}: The pursuit of the reactor strategy inhibits SMEs' customer responsiveness.

3.5 E-commerce Adoption

Rahayu & Day (2015) identified adoption variables under four (4) contexts: technological (perceived benefits, perceived compatibility and cost), organizational (Technology readiness and firm size), environmental (customers/suppliers pressure, competitor pressure and external support) and individual (Owners' IT experience, owners' innovativeness, and owners' IT knowledge) that influence e-commerce adoption. Technology readiness, perceived benefits, owners' innovativeness, owners' IT experience and owners' IT knowledge are the variables that influence e-commerce adoption. Cost, perceived compatibility, firm size, competitor pressure, customers/suppliers pressure and external support are the variables that do not affect e-commerce adoption. The authors argue that, some SMEs do not have so many applications in their business, hence do not see the need to incorporate in their operations a new application like e-commerce. Also cost factors such as prices of software and hardware associated to e-commerce technology are less expensive to these firms hence the fact that cost does not affect e-commerce adoption. Lastly, customers/suppliers pressure, external support and competitor pressure are not acknowledged by Indonesian SMEs as reasons that encourages them to adopt e-commerce technology.

However, Mohtaramzadeh, Ramayah, & Jun-Hwa (2018) perceive that relative advantage does not have any significant effect on B2B e-commerce adoption in manufacturing companies in Iran. Instead, cost of technology significantly and negatively influences the adoption on B2B e-commerce among these firms. Decision makers of SMEs who are usually owners of the firms through their support, knowledge and innovativeness secure the inadequate resource to be allotted for the adoption of technology. They further suggest that managers should take up their roles

effectively, constantly evaluate their value-added services and recognise the facilitators and barriers that influence B2B e-commerce adoption. Competitors also do influence firms to adopt B2B e-commerce. Challenges such as IT expertise, financial resource and training services from government affect these manufacturing SMEs to adopt a B2B e-commerce.

Another B2B e-commerce adoption study by Gorla, Chiravuri, & Chinta (2017) established that price competition, owner's knowledge about reliability problems and security on the Internet influence e-commerce adoption. Benefits of technological innovation and associated costs also help decision makers to be confident in making their decision to adopt or not. Though there are frequent benefits of e-commerce listed in literature, yet their study did not show any noteworthy relationship between perceived operational benefits of adopting B2B e-commerce and adoption decision. A reason made for this was that managers may be more interested in strategic benefits than operational benefits from B2B e-commerce. However, they suggested that to help the adoption of B2B e-commerce, firms' decision makers must endeavour to decrease potential barriers.

Hamad, Elbeltagi, & El-Gohary (2018) also noted that both relative advantage and compatibility (technical factors) have a positive and significant effect on e-commerce adoption. However, organizational variables; top management support and firm size, have an insignificant impact on e-commerce adoption. Competitive advantage, an environmental factor, has a positive and significant impact on SMEs' B2B e-commerce adoption whereas business partner pressure had an insignificant impact on SMEs' B2B e-commerce adoption. In spite of the fact that the authors hypothesized that a positive relationship would exist between business partner pressure and the adoption of B2B e-commerce.

Amaglo (2020) also concluded from his study that the use of social media, hosting of website, mode of payment, and efficient infrastructure are strategies that furniture firms in Ghana combine to adopt ecommerce to improve business performance. Also these furniture firms considered the TAM principles; perceived use (PU) and perceived ease of use (PEOU) to embrace new technology or to adopt e-commerce. According to Lestari (2019), attitude motivates the adoption of e-commerce platforms hence innovativeness has a positive impact on attitude but does not affect an individual's intention to adopt e-commerce.

3.5.1 Types of E-commerce

Businesses that trade their products over the internet are involved in e-commerce. Business-to-Business (B2B), Business-to-Consumer (B2C), Consumer-to-Consumer (C2C) and Consumer-to-Business (C2B) are the main categories of e-commerce. The adoption and execution of e-commerce by SMEs can improve cooperation and business relationships, diffusion of knowledge and quality. The four most common type of e-commerce in literature (Modzi et al., 2016; Iddris, 2012; Vaithianathan, 2010) are:

- 1) Business-to-Business (B2B) e-commerce involves trades amongst businesses, such as transaction between a manufacturer and wholesaler, or a wholesaler and a retailer over the internet. A common example of this kind of e-commerce is Alibaba (www.alibaba.com).
- 2) Business-to-Consumer (B2C) e-commerce is a model that involves trades between a firm that vends products or services, and end-users customers of these products or services. Examples of B2C e-commerce platforms are Amazon and Jumia.
- 3) Consumer-to-Consumer (C2C) e-commerce involves an end-user selling goods or services to another end-user online. Widely known C2C platforms are eBay and OLX.

- 4) Consumer-to-Business (C2B) is a type of e-commerce model where a consumer vends a product or service to an organisation. An example of this platform is Google AdSense.

3.6 Review of empirical literature

Strategic behaviour of firms, customer responsiveness and e-commerce adoption have received literature attention. However, studies have not been able to establish the influence strategic behaviour has on a firm's response to changing needs of its customers and their e-commerce. This section therefore reviews the empirical literature on the concepts of strategic behaviour of firms, customer responsiveness and e-commerce adoption.

3.6.1 Strategic Behaviour and E-commerce Adoption

Feyissa & Sharma (2017) investigated the influence a company's strategy has on the customization level of enterprise applications software that it embraces. Survey data were gathered from 112 companies in diverse continents to appreciate how the application of enterprise applications software is influenced by organizational strategy. Gathered data were analysed using cluster analysis, structural equation modelling and a one-way between-subjects analysis of variance (ANOVA). Their study concluded that product-market innovation strategy has a positive effect on the customization level of enterprise software. Also, analyser and prospector firms embrace more customized enterprise software than defenders.

Carmichael (2017) explored the decision making of U.S. small farm farmers on the subject of use or non-use of e-commerce in running their farm operations employing the Miles and Snow's typology of strategic management through a transcendental phenomenological method of study. 30 small farm farming operations were purposively sampled from Kansas and Missouri with

proceeds less than \$250,000 per annum. Data analysis was 3-tiered and included use of horizontalization, thematic clustering, and synthesis. From his study, the older farmers were defenders who are less prospective to embrace e-commerce. Responders were participants in the mid age range; they were likely to adopt e-commerce regarded it would profit their farming tasks, for instance, the context of expansion. There were no Prospectors or Analysers amongst the participant group.

Gorla et al. (2017) developed a predominant model to elucidate the adoption of business-to-business e-commerce employing five business features: organizational context, external environment, decision-makers characteristics, organizational learning and technology perspective. Data was collected from Information System executives through questionnaire and interview was analysed using logistic regression. Their findings indicate that the forbearing attitude of decision makers concerning negative information about business-to-business e-commerce have significant influence on their adoption decision. The results also point to the fact that perceived barriers and price intensity negatively affect the adoption decision.

Kumar, Fuksa, & Kumar (2018) analysed through survey, the adoption of B2B e-commerce among Canadian manufacturing firms. The study found that, there are numerous clusters of adopters with different characteristics: partial adopters, non-adopters and full adopters within the population of firms. Their subsequent finding acknowledged that the most imperative organizational characteristic to adopting B2B e-commerce is leadership.

3.6.2 Strategic Behaviour and Customer Responsiveness

Kleber & Volkova (2016) used their study to find existing frameworks and underlying logic to help in the delivering of value innovation to confirm loftier customer responsiveness centred on theoretical conceptualization of prevailing value innovation models. Content analysis of distinctive streams in literature on value innovation frameworks and underlying logic for delivering value innovation was the method used. They realized from their study that, because of the varying nature of customers' necessities and skills and augmented rivalry, value intentions need to be reassessed to convey better customer responsiveness. They esteem value innovation for customer changing needs and experiences, as a management process. In that, management creates new product or service traits or delivers new product or services, which is not always necessary since existing service and products can be improved to ensure an increase in customer satisfaction and value.

Tung, Chen, & Schuckert(2017) also examined the impact of employee responsiveness and organizational reassurance in the direction of customer citizenship behaviour (CCB) on building guest satisfaction, perceived value and loyalty. The study employed the scenario-based experimental design to focus on one aspect of CCB identified in extant literature: the policing of other customers. Their study concluded that mutually employee responsiveness and organizational reassurance expressively moderate loyalty, guest satisfaction and perceived value.

Ye, Dong, & Lee (2017) investigated the long-term impact of service empathy and responsiveness on customer satisfaction and profitability in a healthcare context. Their study used 24 quarters of longitudinal patient satisfaction data and archival financial data from 25 clinical units in a large healthcare institute. Data was analysed using regression. Their discoveries demonstrates that

downgrading empathy and responsiveness permits institutes to lessen costs, ensuing in instant productivity benefits; nonetheless, this approach has a lasting negative effect on customer satisfaction and eventually harms profitability in the long run.

Sheng (2019) investigated the behavioural effects of firms' online activeness in inducing customer engagement in word-of-mouth communications. It used a large-scale field dataset of hotel reviews and managerial responses. It empirically examined a firm's responsiveness in relation to community members' participation in the online review posting. One of the conclusions made was that firms ought to make tactical alterations with “committing to long-term paths or trajectories of competence development”. They further suggested that the business's strategic and voluntary exposure on online social sites can aid earn customers' attention, manage customers, increase the consumer network, and enhance social influence and online popularity, all possibly leading to favourable outcomes.

3.6.3 Customer Responsiveness and E-commerce adoption

Alike, Jiang, Jun, & Yang (2016) studied the effect of e-service quality dimensions on customer-perceived value and customer loyalty. A survey on 235 online sampled customers; e-retailing and financial, was conducted and results were analysed using exploratory factor analysis. The study identified five important scopes of e-service quality: reliability, care, ease of use, product portfolio and security, which were well thought-out as significantly vital to customer-perceived value. The “care” factor relays to two constructs: employees' capacity to respond to customer questions and resolve problems that arise quickly and employees' understanding of customer-specific needs and their personal attention to them.

Nisar & Prabhakar (2017) used regression analysis and panel-data analysis to study the effect of customer satisfaction on consumer spending in 115 American based e-commerce retailers. The data sample included the American customer satisfaction index: the leading 115 e-retailers and their sales value in the United States by their consumers. The consumer price index (CPI) in relation to the 115 leading e-retailers in the United States was used. Their study discovered customer satisfaction as significant in mutually offline and online shopping settings. Wide product ranges, improved e-service quality and meeting customer expectations in a timely manner are measures e-commerce retailers use to surge online consumer spending. Hence, a positive relationship between customer e-satisfaction and consumer spending in American e-commerce retailers was demonstrated such that the greater the customer e-satisfaction, the more their willingness to expend.

Daugherty, Bolumole, & Grawe (2019) reviewed research articles on logistics customer service (LCS) published in leading academic logistics journals from 1990 to 2017. Their study noted that customers are impatient and there are changes in their anticipations of service which is as a result of Omni-channel and online retailing (as well as traditional brick-and-mortar retailing). They recommended that more attention should be paid to customer service in academic literature within Omni channel and e-commerce supply chains.

Giao (2020) studied customer satisfaction on the quality of online services at Tiki.vn E-commerce platform in Vietnam. 200 customers (who have shopped at Tiki.vn E-commerce platform for at least the last six months) were conveniently sampled and interviewed directly and through online. The study found that customer service and reliability do influence customer satisfaction the most. Trust, customer service, web design and safety positively influence customer satisfaction with

regards to quality of online services in Tiki.vn E-commerce platform.

3.6.4 SMEs Operations

Waehrens, Slepnirov, & Johansen (2015) examined how SMEs organise their operations on the global scale and the effect on their operational requirements and priorities. The paper was established on survey of 675 Danish and 410 Swedish SMEs involved in offshoring initiatives. The survey covered global operations configurations in terms of drivers, motives, scale, and scopes. The outcomes were worked out with statistical software from IBM (SPSS Statistic) by means of descriptive techniques (frequencies, chi-square tests, and cross-tabs). The paper revealed that, SMEs' choice of global configuration is managed usually by simple cost deliberations. Businesses tangled in offshoring need to justify for important features, such as flexibility, innovation, development, and competitive positioning. They noted from their study that, the alignment of the operations network turn out to be more multifaceted and comprises new ways of interrelating with a disjointed operations landscape comprising of a company's operations facilities, suppliers, and customers.

Tatoglu et al., (2016) provided a comparative analysis of the collaborating impacts of supply chain management(SCM), information systems (IS) practices, SCM-IS enablers and inhibitors on operational performance of SMEs within two developing country surroundings (i.e. Turkey and Bulgaria). A set of propositions was articulated and tested grounded on an empirical study comprising moderately large samples of SMEs from the two countries. Equally, exploratory and confirmatory factor analyses were deployed to recognise empirically validated proportions of the study's constructs. SCM and IS practices as well as SCM-IS related qualifying factors positively influenced SMEs' operational performance. Fundamentally, the study demonstrates that the effects

of SCM and IS practices on operational performance differ through cross-national contexts and external factors. Therefore, there were no universally accepted SCM or IS practices that would unreservedly advance operational performance. Instead, it appears that country of origin and various enabling and inhibiting factors have flawless and influential influence on the relationship between SCM-IS practices and operational performance.

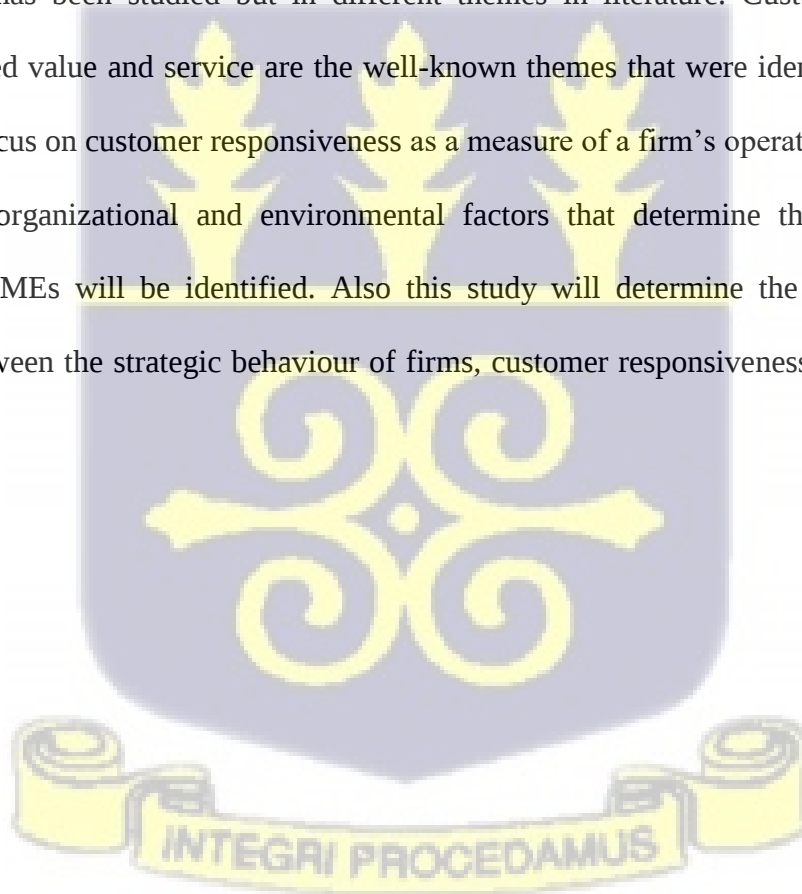
Sahi, Gupta, & Cheng (2020) analysed the effects of strategic orientation (entrepreneurial and market orientations) on operational ambidexterity (exploration and exploitation) for refining business performance. They employed the Resource Advantage Theory and their primary data were obtained from the owners/managers of 204 SMEs located in Industrial Areas 'A' and 'B' in northern India. They performed confirmatory factor analysis (CFA) to evaluate the reliability, validity, and fitness of the latent constructs. Their study revealed that explorative and exploitative operational actions and their levels (average) have significant influences on firms' business performance. Also entrepreneurial and market-oriented SMEs place a greater emphasis on explorative operational activities. They also noted that in spite of the insufficient resources of SMEs, they are eager to commence new projects, discover new opportunities to make profits, and also optimally exploit their existing resources and capabilities. Consequently, the operations role of SMEs can ensure ambidexterity by concentrating similarly on prevailing resources and discovering new ones to grasp market openings.

3.7 Summary of Reviewed Literature

This chapter reviewed theoretical and empirical literature on strategic behaviour, customer responsiveness and e-commerce adoption. The study was grounded in the Technology-Organization-Environment (TOE) theory and Theory of Reasoned Action (TRA). The reviewed

literature reveals that there appears to be a relationship between strategic behaviour or orientation of firms and the operations performance of the firms.

The literature reviewed has demonstrated that there are several typologies to studying the strategic behaviour of a firm. However, that of Miles & Snow (1978) is widely accepted and employed in studying the strategic behaviour of a firm. Also, reviewed literature makes it known that, owners of SMEs have greater influence in an adoption of technology. Analyser, Defender, Prospector and Reactor are the four typology proposed by Miles & Snow (1978) and they will be employed to identify SMEs in relation to customer responsiveness and e-commerce adoption. Also, customer responsiveness has been studied but in different themes in literature. Customer satisfaction, loyalty, perceived value and service are the well-known themes that were identified. This study will therefore focus on customer responsiveness as a measure of a firm's operations performance. Technological, organizational and environmental factors that determine the adoption of e-commerce by SMEs will be identified. Also this study will determine the existence of any relationship between the strategic behaviour of firms, customer responsiveness and e-commerce adoption.



CHAPTER FOUR

RESEARCH METHODOLOGY

4.0 Introduction

A methodology denotes a model to carry out a research within the perspective of a certain paradigm. It encompasses the fundamental sets of beliefs that directs a researcher to decide on one set of research methods over another. A research method comprises of a set of explicit processes, tools and techniques to collect and analyse data (Wahyuni, 2012).

This chapter provides a description of the research design, research approach, target population, sample size, sample technique, data collection instrument, data collection procedure, data collection instrument, data analysis, reliability and viability of research instrument employed in the study as well as the ethical considerations.

4.1 Research Approach

The purpose of this study was to determine the nature of relationships that exist between strategic behaviour of SMEs, customer responsiveness and e-commerce adoption. Therefore, to be able to achieve this purpose, the study employed the quantitative approach. The quantitative approach was selected because it is suitable for determining the existence of and the strength of the relationships that exist between research variables.

4.2 Research Design

This study adopted the cross-sectional study design. Battaglia, Sampling, & Lavrakas (2008) elucidated cross-sectional design as a survey that gathers data to construct insinuations about a

population of interest at one point in time. The authors described cross-sectional surveys as “snapshots” of the populations about which data is being gathered. The survey may be repeated occasionally with other respondents. Due to their potential relevance to the study question(s), the respondents in a cross-sectional study are basically chosen from an available population. Also conducting a cross sectional study is relatively quick and inexpensive to conduct using a survey questionnaire. Cross sectional study is stress-free for creating hypotheses and numerous outcomes can be used to generate an in-depth research survey (Wang & Cheng, 2020).

4.3 Target Population

The study population included service sector SMEs in the Greater Accra Region as defined by the Ghana Statistical Services, (2016): firms involved in the sale of laptops, phones and other electrical gadgets (Information and Communication), firms involved in the selling of home, office and school supplies (Administrative and Support Services), and the fashion sub-sector includes all those firms who are into clothing, shoes and fashion accessories (other services activities).

The target respondents from the population were owners/managers, customer service personnel and proprietors of these SMEs. The operational strategy of these firms is largely influenced by the decisions taken by the owner/ manager or the proprietor of the firm. These individuals are the sources of operations strategy for the small firm hence they represent appropriate source of data for the study (Stockdale & Standing, 2006).

4.4 Sample Size Determination

To help determine the appropriate sample size required, the study employed the formulae developed by Cochran (1963).

formula: $n_o = \frac{z^2 pq}{e^2}$

Where:

n_o denotes the required sample size

z (1.96) denotes the critical value selected at a confidence level of 95%.

p (0.5) denotes the estimated maximum variability of the population

e (0.05) denotes the desired precision level.

q is (1-p).

Hence, $n_o = \frac{(1.96)^2(0.5)(1-0.05)}{(0.05)^2} = 384.16$

Therefore, 384 SMEs operating in Ghana were sampled from the fashion, computing, electronics, phones and tablets, home and office supplies and fashion industries. These industry subsectors were chosen for the study because their operations are significantly influenced by technology and the internet. Though 384 SMEs were sampled, a total of 410 questionnaire were distributed. The table below indicates the medium by which the questionnaire were distributed and the number of questionnaire distributed by a particular medium.

Table 4.1: Means of Questionnaire distributed

Distribution Medium	Number of questionnaire distributed	Total number of Expected Respondents
Emails	190	190
Industrial Visit	150	150
WhatsApp	70	44
Total	410	384

4.5 Sampling Procedure

This study employed non-probability sampling technique. Non-probability sampling technique is totally based on subjective judgement of the researcher hence the probabilities of samples are unknown (Alvi, 2016). Although the study is a quantitative one, the non-probability technique was used because, samples are needed from service firms whose operations are largely influenced by technology and the internet. The purposive sampling technique, also called judgment sampling, is a non-random technique that does not require underlying theories. The researcher resolves what desires to be identified and sets out to discover individuals who can and are keen to make available the information by virtue of knowledge or skill (Etikan, Musa, & Alkassim, 2016). Therefore, this study employed purposive sampling to survey respondents who based on judgement were people in the organization who could provide the needed information.

Firms were conveniently sampled from the service category on the basis of their readiness and willingness to partake in the study.

4.6 Sources of Data and Data Collection

The study employed primary data to make sure the analysis of the strategic behaviour of SMEs with regards to customer responsiveness and e-commerce adoption objective was achieved. The primary data sources include data gathered by the researcher through survey: questionnaires. The

questionnaire helped in obtaining information such as the strategic behaviour or orientation of these SMEs based on Miles and Snow typology, factors that influences their e-commerce adoption and their customer responsiveness.

4.6.1 Data Collection Procedure

Consent was obtained from the thesis supervisor before commencing the data collection process following conclusion on the data collection instrument. An introductory letter from the University of Ghana Business School was obtained and given to firms to inform them of the purpose of the study and to seek access. This initial step was to ensure that the principles of research ethics are followed through the process. The researcher got in touch with possible participants: owners, managers and proprietors of SMEs through e-mails and phone calls. Participants were informed about the study and their role in it. A questionnaire was sent to the respondents. Some of the questionnaires were distributed via e-mails gathered from e-commerce platforms operating in Ghana, some “WhatsApp” platforms of entrepreneurs in the Information and Communication sector, face-to-face through industry visits. The questionnaire was developed using Google forms and connected to a spreadsheet on Sheets to automatically record the answers. The spreadsheet was populated with the responses in real-time.

4.6.2 Data Collection Instrument

The questionnaire which was administered in the current study had 4 sections. The first section solicited information on respondents’ demographics such as gender, age, educational qualification, position and other general information about the respondent. The second section contained Likert Scale measuring the four typology of strategic behaviour of firms.

The third section implored data to help ascertain the tendency to which these firms adopt e-commerce. Again, a Likert scale of 1-5 was presented to respondents where 1 on the scale represents strongly disagree and 5 represents strongly agree. The fourth section had Likert scale to evaluate customer responsiveness. A Likert scale of 1-5 was presented where 1 on the scale represents extremely poor and 5 represents excellent, was employed to assess the firms' drive to being responsive. The questionnaire was pilot-tested on some owners of firms in the Information Technology sub sector. This was to help correct any ambiguity and ensure clearness and easy understanding of the questions. Please refer to Appendix 1 for the survey instrument used for the study.

4.7 Data Analysis and Presentation

The data gathered from the study was corrected to certify constancy and also uncompleted questionnaires were exempted. A pilot data analysis was conducted to exclude unengaged responses from the data set. Descriptive statistics was used to compile numerous aspects of the data. Demographic characteristics data and strategic behaviour construct data were analysed using descriptive statistics tool, SPSS. Data was analysed using Partial Least Square Structural Equation Model (PLS- SEM) using the Smart PLS software. PLS-SEM was adopted for this study because, the sample size is small and the data are non-normally distributed (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017).

4.7.1 Reliability

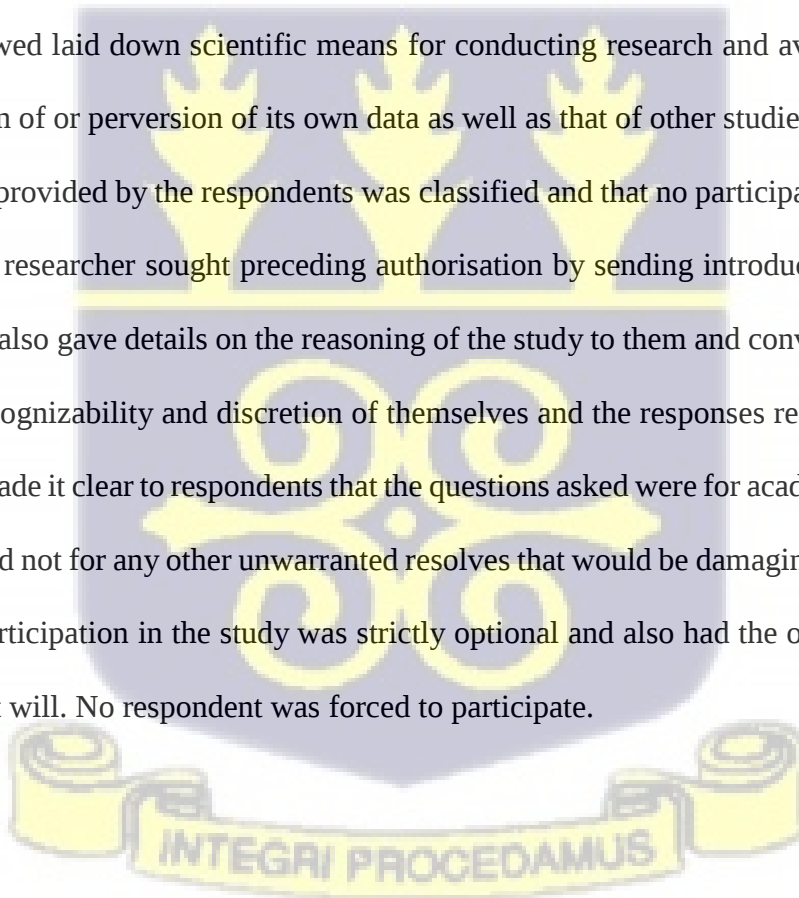
The basis of a worthy research definition is the credibility (reliability and validity) of the data to draw conclusions. Reliability specifies the magnitude to which a study is error free and ensures steady measurement cross time and across the observed scores in the measurement instruments.

The better the reliability, the more precise the results; which improves the chance of making accurate decision in research (Mohajan, 2017) .

To help assess the goodness of a measure, there are two types of measures: Stability and Internal consistency reliability (Bajpai & Bajpai, 2014). However, the internal consistency reliability will be focused on in this study. To ensure reliability therefore, the Cronbach Alpha was applied. Greater values of alpha are more looked-for. As a guideline, a reliability of 0.70 or higher is acceptable. Therefore each construct in this study must have alpha values of 0.70 or better.

4.8 Ethical Consideration

This study followed laid down scientific means for conducting research and avoided plagiarism, misrepresentation of or perversion of its own data as well as that of other studies. The study made certain that data provided by the respondents was classified and that no participant was maltreated in any way. The researcher sought preceding authorisation by sending introductory letters to the respondents and also gave details on the reasoning of the study to them and convinced them of the paramount unrecognizability and discretion of themselves and the responses required from them. The study also made it clear to respondents that the questions asked were for academic and research purposes only and not for any other unwarranted resolves that would be damaging to their persons. Respondent's participation in the study was strictly optional and also had the option to withdraw from the study at will. No respondent was forced to participate.



CHAPTER FIVE

DATA ANALYSIS AND DISCUSSION OF FINDINGS

5.0 Introduction

This chapter presents the data analysis and the discussion of the research findings. The descriptive statistics of the demographic characteristics of the respondents and their firms as well as the strategic behaviour construct are presented in the first part. The next section assesses the measurement model of the research variables. Subsequent, the assessment of the structural model and tests of the hypotheses are put forward. Discussions of the major research findings concludes the chapter.

5.1 Response Rate

The study collected data from 348 firms from Information and Communication, Administrative and Support Services and Fashion subsectors of the Services sector in Ghana. A total of 410 questionnaires were distributed. 200 email contacts were retrieved from Jumia, Kikuu, and Superprice e-commerce platforms and contacted to participate in the study. 190 out of the 200 firms contacted agreed to participate in the study. However, when the questionnaires were issued out to these firms through their emails, only 130 did return the questionnaire answered, representing 68% response rate. 150 firms were also visited (50 firms from each sector) and a questionnaire was issued to each company visited. Out of the 150 questionnaires issued, 140 were retrieved representing 93% response rate. The response rate for this medium is high because this was face-to-face administered. Due to the researcher working in the Information and Communication sector, professional links were used to seek respondents from the sector aside the

50 firms visited by the researcher in this subsector. 70 companies were contacted through phone calls and they agreed to participate. Their questionnaire was distributed through WhatsApp. However, out of the 70, only 50 questionnaires were retrieved representing 71% response rate. A total of 320 respondents returned their responses leaving out 28 firms out of the targeted sample size (348) who failed to return their responses representing an overall 92% response rate. This rate according to Lindemann (2021) & Baruch & Holtom (2008) is acceptable for analysis since it is above the acceptable average rate of 50%. After the data cleaning process, 300 out of the 320 retrieved questionnaires were considered appropriate for inclusion in the analysis.

5.2 Descriptive Statistics

This part presents a descriptive analysis of the characteristics of the respondents (their gender; age; educational level; position in the firm and years they have been in business) and the analysis of the company characteristics (type of service, type of firm ownership, number of employees, website ownership, internet connectivity and duration of surfing for products. It also presents descriptive statistics of the strategic behaviour construct.

5.2.1 Demographic Characteristics of Respondents

The study sought to evaluate some demographic characteristics of the respondents surveyed for the study. Table 5.1 below, presents the frequency and percentages of the demographic characteristics of the respondents.

The findings from Table 5.1 reveals that the sample was skewed more to males (63%) than females (37%). With regards to age, 11% of the respondents were from the 18-24 age bracket and majority of the respondents fell within the 25-34 age bracket (63.7%). They were followed by 20% of the respondents in the 35-44 age bracket, and 2.3% of the respondents from the 45-54 bracket. 2% of

the respondents were from the 55-64 bracket and finally 1% of the respondents fell within the 65 and above age bracket.

The results further indicate that 2.7 % of the respondents had primary education and 16.7% had secondary education. 68.3% of these respondents representing the majority had tertiary education while 12.3 % had professional education. The position of the respondents revealed that 35.3% respondents were Owners. 18.7% of the respondents were Managers and 34.3% were Customer Service Personnel. Also, 2.7% of the respondents were General Managers and finally, 9% of the respondents were IT Managers. Additionally with regards to the years in business, 53.7% representing the majority, had been in business for 5 years and below. Respondents that fell within the 6-10 years represented 32% followed by 9.7% of respondents being in business between 11-15 years. 3% of respondents had been in business between 16-20 years and 1.7% of the respondents being in business for more than 20 years.

Conclusively, it is fascinating to note that greater number of respondents had between 0-5 years (53.7%) in business and with the majority of respondents also being between the ages of 25 to 34 (63.7%) followed by those between the ages of 35 to 44 (20%). Thus, both the participating firms and respondents were relatively young. This is in confirmation of the claim by Awa, Baridam, & Nwibere (2015) that e-commerce adoption is faster amongst younger owners or managers who are below 40 years and who frequently exploit e-commerce platforms to build interconnectivity, corporate growth and competitiveness.

Most respondents also had tertiary education (68.3%) and this confirms the findings of Ibidunni et al. (2018) that educational qualifications are significant to enhancing the relationship between strategic entrepreneurial orientation and SMEs' competitiveness. Sibanda, Bakhouch, Chaita, &

Kahal (2020, p.494) also maintain that, “technology adopters are younger and more educated and SMEs controlled or owned by younger members exhibit higher adoption rate than those controlled or owned by older ones”. This claim has been supported with evidence from the demographic statistics.

Table 5.1: Descriptive Statistics of Respondents

	Frequency	Percent (%)	Cumulative Percent (%)
Gender			
Male	189	63	63
Female	111	37	100.0
Total	300	100	
Age			
18-24	33	11.0	11.0
25-34	191	63.7	74.7
35-44	60	20.0	94.7
45-54	7	2.3	97.0
55-64	6	2.0	99.0
65-above	3	1.0	100.0
Total	300	100	
Education			
Primary education	8	2.7	2.7
Secondary education	50	16.7	19.3

Tertiary	205	68.3	87.7
Professional	37	12.3	100.0
Total	300	100	
Position			
Owner	106	35.3	35.3
Manager	56	18.7	54.0
Customer Service Personnel	103	34.3	88.3
General Manager	8	2.7	91.0
IT Manager	27	9.0	100.0
Total	300	100	
Years in Business			
0 - 5 years	161	53.7	53.7
6 - 10 years	96	32.0	85.7
11 - 15 years	29	9.7	95.3
16 - 20 years	9	3.0	98.3
above 20 years	5	1.7	100.0
Total	300	100	

5.2.2 Characteristics of Company

Table 5.2 below presents the characteristics of the sampled firms. 143 (47.4%) representing the majority of the respondents were from the Information and Communication sector followed by 95 (31.7%) firms from the Administrative and Support services sector and 62 (20.7%) firms from the

fashion sub-sector. With regards to firm ownership, the majority (275) representing 91.7% of these firms have sole ownership, 20 (6.6%) have partnership type of ownership and 5 representing 1.7% were limited liability firms. 33.3% of these firms representing micro firms had between 1-5 employees, 65% representing small firms and the majority had between 6 to 30 employees and 1.7% representing medium firms had employees between 31 to 100 employees.

Also, 238 (79.3%) firms representing the majority do not have their own website and 62 (20.7%) have their own website. In spite of the majority firms not having their own websites, 264 (88.0%) of these firms have internet access whilst 36 (12%) of these firms do not have internet connectivity at their work places. With regards to the frequency at which these firms access the web, 233 firms choose daily representing 77.7%. This means that on a daily basis, these firms exploit the opportunities offered by the internet to improve their business sales. Also 42 (14%) of these firms exploit internet opportunities at least on a weekly basis. 13 (4.3%) of these firms do exploit internet opportunities at least on monthly basis to improve their sales and 12 (4%) of these firms do not exploit the internet opportunities.

Table 5.2: Descriptive Statistics of Firms

	Frequency	Percent (%)	Cumulative Percent (%)
Type of Service Sector			
Information and Communication	143	47.7	47.7
Fashion	62	20.7	68.3
Administrative and Support Services	95	31.7	100.0
Total	300	100	

Type of Firm Ownership			
Sole proprietorship	275	91.7	91.7
Partnership	20	6.6	98.3
Limited Liability	5	1.7	100.0
Total	300	100	
Number of Employees			
1 -5	100	33.3	33.3
6- 30	195	65.0	98.0
31-100	5	1.7	100.0
Total	300	100	
Website availability			
Yes	62	20.7	20.7
No	238	79.3	100.0
Total	300	100	
Availability of Internet Connection			
Yes	264	88.0	88.0
No	36	12.0	100.0
Total	300	100	
Accessibility of web to search for Products			
Daily	233	77.7	77.7
Weekly	42	14.0	91.7

Monthly	13	4.3	96.0
Never	12	4.0	100.0
Total	300	100	

5.2.3 Descriptive statistics of study constructs

The mean scores and the standard deviation of the strategic behaviour model are presented below in Table 5.3. The strategic behaviour construct has an overall mean of 3.23 to imply that service firms (Information and Communication, Fashion and Administrative and Support Services) in Ghana are indifferent about the strategic behavioural types relative to Miles and Snow's typology. The mean values obtained for the dimensions of the strategic behaviour construct were: Prospector (Mean = 3.42; SD = 1.21), Analyser (Mean = 3.37; SD = 1.13), Defender (Mean = 2.96; SD = 1.30) and Reactor (Mean = 3.18; SD = 1.29) resulting in an overall mean score for the strategic behaviour construct of 3.23. On the basis of the Likert Scale employed for the data collection, mean values below 2.5 suggests that respondents disagreed with the strategic behaviour relative to Miles and Snow taxonomy, between 2.5 and 3.5, suggests respondents are indifferent about it and mean values above 3.5 suggests respondents agreed to the strategic behaviour relative to Miles and Snow's taxonomy. The recorded average mean values indicate that SMEs in Ghana are indifferent about these strategic behaviours. This study therefore concludes that Service firms (Information and Communication, Administrative and Support Services and fashion sub-sector) in Ghana are neutral to strategic behaviours (mean=3.23) relative to the typology of Miles & Snow (1978).

Table 5.3: Construct and Measurement Items' Means and Standard Deviation

	Min	Max	Mean	SD
Strategic Behaviour			3.23	0.91
Prospector				
Pros 1	1	5	3.12	1.34
Pros 2	1	5	3.60	1.24
Pros 3	1	5	3.28	1.11
Pros 4	1	5	3.42	1.25
Pros 5	1	5	3.52	1.17
Pros 6	1	5	3.47	1.26
Pros 7	1	5	3.53	1.13
Average			3.42	1.2
Analysar				
Anal 1	1	5	3.45	1.07
Anal 2	1	5	3.54	1.10
Anal 3	1	5	3.36	1.24
Anal 4	1	5	3.38	1.10
Anal 5	1	5	3.26	1.17
Anal 6	1	5	3.41	1.11
Anal 7	1	5	3.25	1.17
Average			3.38	1.14
Defender				
Defe 1	1	5	3.04	1.39
Defe 2	1	5	3.38	1.37
Defe 3	1	5	2.96	1.16
Defe 4	1	5	2.73	1.28
Defe 5	1	5	2.65	1.33
Defe 6	1	5	2.84	1.33
Defe 7	1	5	3.09	1.29
Average			2.96	1.31
Reactor				
Reac 1	1	5	3.35	1.26
Reac 2	1	5	3.31	1.27
Reac 3	1	5	3.35	1.22
Reac 4	1	5	3.13	1.39
Reac 5	1	5	3.01	1.36
Reac 6	1	5	2.99	1.24
Reac 7	1	5	3.09	1.30
Average			3.18	1.29

Source: Field Data (2021)

5.3 Model Evaluation

The assessment of the measurement model and the structural model makes up Partial Least Square – Structural Equation Modelling (PLS-SEM). The measurement model reveals the relationships between the constructs and their indicator variables whilst the structural model exhibits the relationship (paths) between the constructs. This part discusses the assessment of these models (Hair et al., 2017).

5.3.1 Measurement Model Assessment

The assessment of the measurement model was carried out to ensure the meeting of the quality criteria before continuing with the structural model assessment. The measurement model assessment is purposefully carried out to analyse the assumptions related to the reliability and validity of the structural measurement model (Ahmed, Ahmad, & Jaaffar, 2017). In assessing the measurement model for this study, indicator reliability and internal consistency reliability were carried out to help examine the reliability of the constructs of the model. Convergent validity as well as discriminant validity were carried out to help assess the validity of the model.

5.3.1.1 Indicator Reliability

An indicator with a standardised outer loading estimate of 0.700 and above is reliable. However, outer loadings between 0.40 and 0.70 are retained if only their exclusion will reduce the Cronbach alpha and the Average Variance Extracted (AVE) of the matching construct. Consequently, indicators with outer loadings less than 0.07 are expected to be uninvolved from the analysis (Avkiran, 2018; Sarstedt, Ringle, Smith, Reams, & Hair, 2014; Aibinu & Al-Lawati, 2010). Subsequently, submitting items with their loadings to this test, Reac 1 and Reac 3 were removed from the analysis. The outer indicator loadings of the constructs are exhibited in Table 5.4 below.

Table 5.4: Indicator loadings of the Constructs

	Analysr	Customer	Defender	Ecommerce	Prospector	Reactor
Anal 1	0.7609					
Anal 2	0.8418					
Anal 3	0.8128					
Anal 4	0.8413					
Anal 5	*0.6811					
Anal 6	0.8577					
Anal 7	0.8204					
CusR 1		0.8817				
CusR 2		0.9210				
CusR 3		0.8637				
CusR 4		0.8341				
CusR 5		0.9062				
CusR 6		0.9003				
CusR 7		0.7412				
Defe 1			0.7339			
Defe 2			*0.6781			
Defe 3			0.8474			
Defe 4			0.7492			
Defe 5			0.8662			
Defe 6			0.8438			
Defe 7			0.8150			
Ecom1				0.8282		
Ecom 2				0.7624		
Ecom 3				0.8080		
Ecom 4				0.8437		
Ecom 5				0.8425		
Ecom 6				0.8695		
Ecom 7				0.8071		
Pros 1					*0.6170	
Pros 2					0.8825	
Pros 3					0.8483	
Pros 4					0.8824	
Pros 5					0.7616	
Pros 6					0.8267	
Pros 7					0.8495	
Reac 2						*0.6623
Reac 4						0.8064
Reac 5						0.9252
Reac 6						0.8651
Reac 7						0.8242

*Items with loadings lower than the threshold of 0.70 but retained since their exclusion negatively disturbs the composite reliability

Source: Field Data (2021)



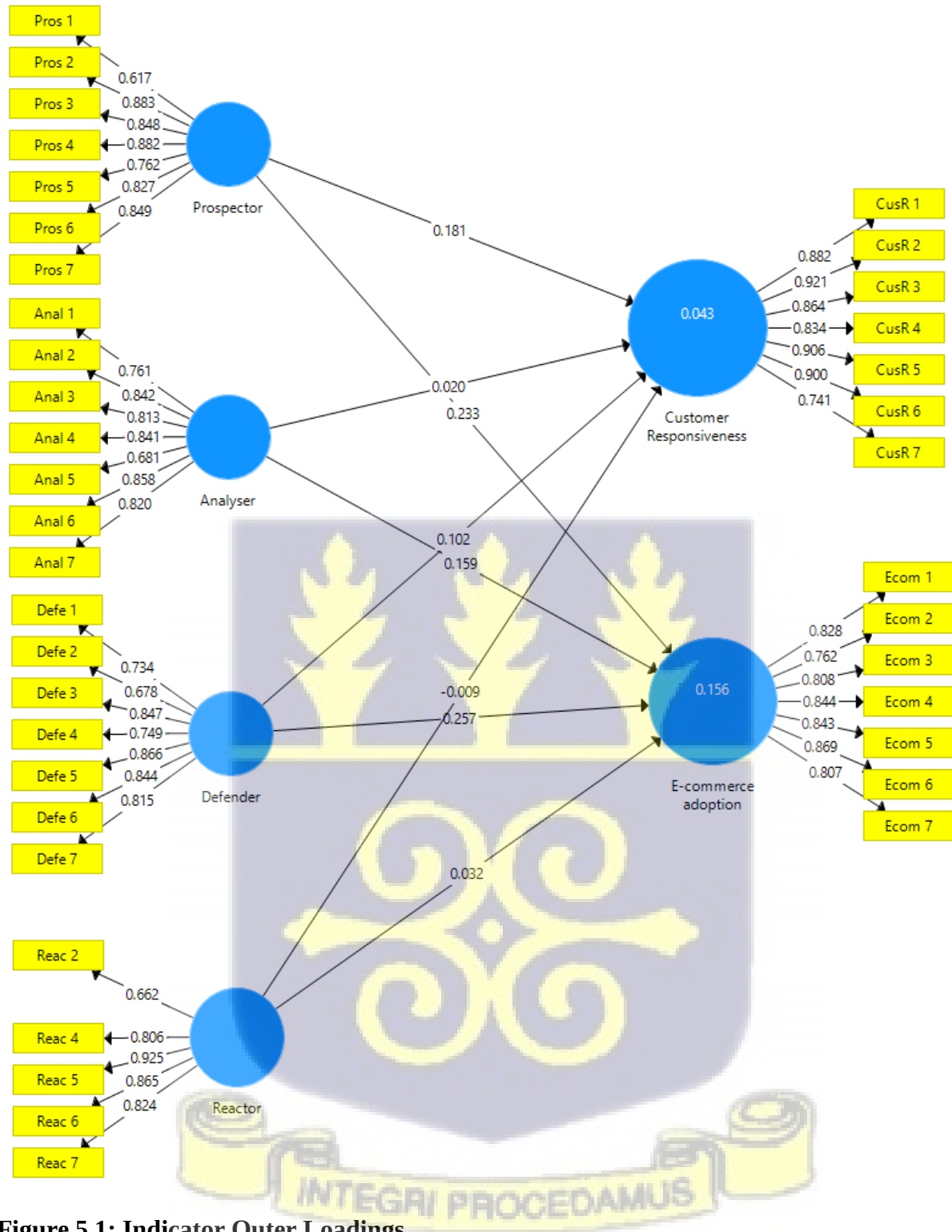


Figure 5.1: Indicator Outer Loadings

5.3.1.2 Internal Consistency Reliability

Cronbach alpha measure was used to estimate the internal consistency of the constructs, and the results are presented in Table 5.5. As proven in Table 5.5, wholly the variables indicated satisfactory internal consistency with the Cronbach alpha values beginning with 0.897 and ending with 0.944. Cronbach alpha greater than or equivalent to 0.70 indicates higher levels of reliability (Bajpai & Bajpai, 2014).

Table 5.5: Construct's Cronbach's Alpha, rho_A, Composite Reliability (CR) and Average Variance Extracted (AVE)

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Analysers	0.9095	0.9230	0.9273	0.6470
Customer Responsiveness	0.9440	0.9557	0.9543	0.7498
Defender E-commerce adoption	0.9023	0.9220	0.9219	0.6292
Prospector	0.9209	0.9271	0.9365	0.6784
Reactor	0.9129	0.9257	0.9317	0.6633
	0.8970	1.1040	0.9111	0.6745

Source: Field data (2021)

5.3.1.3 Convergent validity

The AVE of the constructs were used to measure the convergent validity. The threshold of the AVE is 0.50 or more because 50% differences or more in the indicators should be explained by the construct (Hair, Hult, Ringle, & Sarstedt, 2014). Table 5.5 point out that all the models satisfied the guideline with AVE values extending from 0.629 to 0.750 to indicate the presence of sufficient convergent reliability.

5.3.1.4 Discriminant Validity

In analysing the discriminant validity of the models, the cross-loadings and Fornell-Larcker criterion are the traditional approaches employed. Hair et al. (2014) argue that the analysis of cross-loadings and the Fornell-Larcker criterion can be diverse when further constructs are added to a model. Therefore, the Heterotrait-Monotrait Ratio (HTMT) was proposed to take care of that shortcomings. HTMT results of a protracted model do not modify contrast with those formed in a simple model. The cross-loadings identify the connection amongst the distinct items and the underlying variables they are expected to take measurements of. The outer loadings of an indicator on an associated construct should be greater than any of its cross-loadings on any other construct. It is evident from Table 5.6 that the outer loadings of the indicators for a construct are greater than any of its cross-loadings on any other construct.

Table 5.6: Assessment of Discriminant Validity (Indicator Cross Loadings)

INDICATOR CROSS LOADINGS						
	Analysers	Customer Responsiveness	Defender	E-commerce adoption	Prospector	Reactor
Anal 1	0.7609	0.1128	0.0625	0.1881	0.0325	-0.0447
Anal 2	0.8418	0.0188	0.0978	0.1546	-0.0050	0.0115
Anal 3	0.8128	0.0697	0.0494	0.0765	-0.0093	-0.0490
Anal 4	0.8413	-0.0078	0.0383	0.1489	0.0553	-0.0091
Anal 5	0.6811	-0.0103	0.1195	0.1588	0.0178	-0.0042
Anal 6	0.8577	-0.0218	0.0151	0.1578	0.0047	-0.0437
Anal 7	0.8204	0.0176	0.1007	0.1072	0.0747	0.0777
CusR 1	0.0746	0.8817	0.0887	0.3808	0.1793	-0.0010
CusR 2	0.0375	0.9210	0.0974	0.3495	0.1635	0.0326
CusR 3	-0.0068	0.8637	0.1079	0.2905	0.0944	0.0135
CusR 4	0.0501	0.8341	0.1280	0.2766	0.1518	0.0287
CusR 5	0.0263	0.9062	0.0819	0.3895	0.1784	-0.0223
CusR 6	-0.0040	0.9003	0.0563	0.3449	0.1710	0.0187
CusR 7	0.0108	0.7412	0.0379	0.2894	0.1247	0.0004
Defe 1	0.0606	0.0722	0.7339	0.1819	-0.0126	0.0743
Defe 2	0.1068	0.0798	0.6781	0.2176	-0.1083	-0.0052
Defe 3	0.0194	0.1158	0.8474	0.2260	0.0756	0.0376

Defe 4	0.1029	0.0595	0.7492	0.1594	0.0400	0.1254
Defe 5	0.0626	0.0488	0.8662	0.1923	0.0067	0.0703
Defe 6	0.0729	0.0065	0.8438	0.1437	-0.1037	0.0286
Defe 7	0.0672	0.1165	0.8150	0.2907	-0.0088	0.0033
Ecom1	0.1901	0.2765	0.2165	0.8282	0.1908	0.1092
Ecom 2	0.1528	0.2279	0.2052	0.7624	0.1818	0.0387
Ecom 3	0.1325	0.1959	0.1989	0.8080	0.1784	0.0392
Ecom 4	0.2110	0.4996	0.2626	0.8437	0.1978	0.0389
Ecom 5	0.0881	0.3007	0.2124	0.8425	0.1718	0.0538
Ecom 6	0.1377	0.4473	0.2613	0.8695	0.2466	0.0321
Ecom 7	0.1521	0.2055	0.1775	0.8071	0.1864	0.0606
Pros 1	0.0766	0.0720	0.0910	0.1708	0.6170	0.0907
Pros 2	0.0394	0.1881	-0.0087	0.2054	0.8825	0.0014
Pros 3	0.0301	0.1904	-0.0030	0.1572	0.8483	0.0494
Pros 4	0.0229	0.1610	-0.0475	0.2157	0.8824	0.0850
Pros 5	0.0353	0.0901	-0.0279	0.2152	0.7616	0.1004
Pros 6	-0.0617	0.1102	-0.0388	0.1731	0.8267	0.1204
Pros 7	0.0314	0.1788	-0.0226	0.2089	0.8495	0.0785
Reac 2	0.0517	-0.0361	0.0507	0.0291	-0.0416	0.6623
Reac 4	0.0279	-0.0185	0.0175	-0.0001	-0.0094	0.8064
Reac 5	-0.0107	0.0017	0.0678	0.0808	0.1008	0.9252
Reac 6	-0.0510	0.0446	0.0173	0.0365	0.1095	0.8651
Reac 7	-0.0038	0.0127	0.0184	0.0240	0.0296	0.8242

Source: Field Data (2021)

The Fornell-Larcker criterion is a next method to assessing discriminant validity. It equates the square root of the AVE values of a construct and its' correlation with the other constructs such that the square root of each constructs' AVE must be greater than its highest correlation with the other constructs. The rule of thumb for this criterion is that the square root of the AVE values of a construct must be greater than or equal to 0.50 (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017; Fornell & Larcker, 1981). The results presented in Table 5.7 make evident the square root of the AVEs of the constructs (presented in bold and diagonal) are high up than 0.50 and also high up than all its' AVEs of the other constructs. This indicates that the constructs are valid measures of

the unique concepts. The results suggest that the model displays sufficient discriminant validity based on the Fornell-Larker criterion.

Table 5.7: Assessment of Discriminant Validity (Fornell-Larcker Criterion)

Fornell-Larcker Criterion						
	Analysers	Customer Responsiveness	Defender	E-commerce adoption	Prospector	Reactor
Analysers	0.804					
Customer Responsiveness	0.035	0.866				
Defender	0.086	0.101	0.793			
E-commerce adoption	0.188	0.386	0.269	0.824		
Prospector	0.031	0.180	-0.015	0.237	0.814	
Reactor	-0.015	0.012	0.053	0.064	0.088	0.821

Source: Field Data (2021)

A third option using the HTMT results also indicate that values are below the threshold of 0.9 or 0.85. Therefore, all constructs exhibit discriminant validity based on the HTMT method. This is exhibited in Table 5.8

Table 5.8: Assessment of Discriminant Validity (HTMT Values)

	Analysers	Customer Responsiveness	Defender	E-commerce adoption	Prospector	Reactor
Analysers						
Customer Responsiveness	0.0634					
Defender	0.1034	0.1000				
E-commerce adoption	0.1889	0.3975	0.2751			
Prospector	0.0663	0.1845	0.0906	0.2567		
Reactor	0.0613	0.0354	0.0826	0.0553	0.0886	

Source: Field Data (2021)

5.3.2 Structural Model Assessment

The evaluation of the structural model comprises an assessment of the predictive power and the associations amongst the constructs of the model that is a multicollinearity assessment, path significance assessment, coefficient of determination, effect size, predictive relevance and model fitness. The assessment of the structural model in the current study adhered to the technique recommended by Hair et al., (2014).

5.3.2.1 Multicollinearity Assessment

The valuation of multicollinearity examines and averts path coefficient partialities, which may ensue from comprising the estimates, predictors that reveal collinearity. The variance inflation factor (VIF) was engaged to test for multicollinearity in the structural equation model. Hair et al. (2014); Sarstedt et al. (2014) debate for a satisfactory VIF of a measurement item to be below or equal to five ($x \leq 5$) as a VIF value exceeding 5 point to a possible collinearity issue. The results in Table 5.9 points out that the VIF for all the predictors are below 3.0. This means that the problem of multicollinearity does not exist among the predictor constructs.

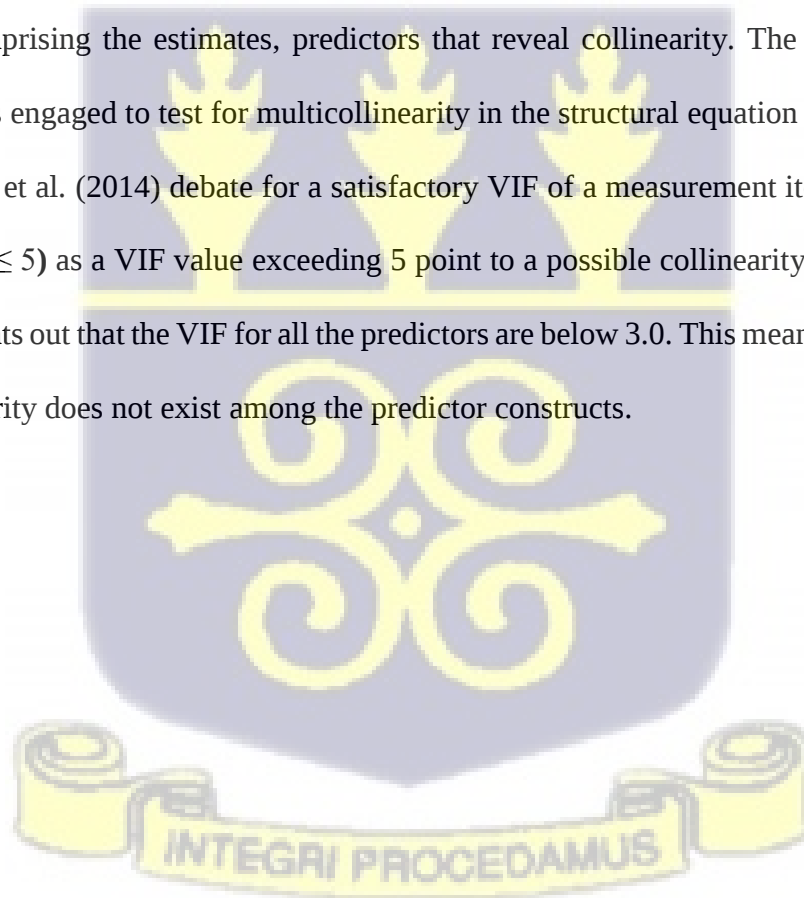


Table 5.9: Multicollinearity Assessment (VIF)

CONSTRUCTS	E-COMMERCE	
	ADOPTION	CUSTOMER RESPONSIVENESS
Analysers	1.0091	1.0091
Defender	1.0111	1.0111
Prospector	1.0093	1.0093
Reactor	1.0113	1.0113

Source: Field Data (2021)

5.3.2.2 Assessment of Path Significance

The assessment of the significance levels of hypothesised relationships employs the p-value. The p-value is the chance of mistakenly rejecting a true null hypothesis. Extant literature estimates relationships at 5 per cent significance level. Sarstedt, Ringle, & Hair (2017) on another end maintains that, a significant level of 0.10 (10 per cent) is acceptable for exploratory research. Yet they add that the selection of significance level and type of test (one or two tails) hangs on the field of study and the objectives of the study. 5 per cent significance level using a two-tailed test are used to estimate the results of the study. This is because, the 0.05 denoted the precision level for determining respondents. Thus, a hypothesis with p-value below or equal to 0.05 or an equivalent t-value higher than 1.96 is considered significant. The results of the valuation of the path significance of the hypothesised relationships are presented in Table 5.10 below.

Table 5.10: Test of Direct Relationships

	Path	Path Coefficient	P Value	T-statistics	Decision
H1a:	Anal -> Ecom	0.159	0.001	3.202	Significant
H1b:	Anal -> CusR	0.02	0.771	0.292	Not Significant
H2a:	Defe -> Ecom	0.257	0	5.269	Significant
H2b:	Defe -> CusR	0.102	0.084	1.734	Not Significant
H3a:	Pros -> Ecom	0.233	0	4.54	Significant
H3b:	Pros -> CusR	0.181	0.002	3.055	Significant
H4a:	Reac -> Ecom	0.032	0.658	0.442	Not Significant
H4b:	Reac -> CusR	-0.009	0.91	0.113	Not Significant

Anal= Analyser; Defe = Defender; Pros = Prospector Reac = Reactor; Ecom = E-commerce

adoption; CusR = Customer Responsiveness

Source: Field Data (2021)



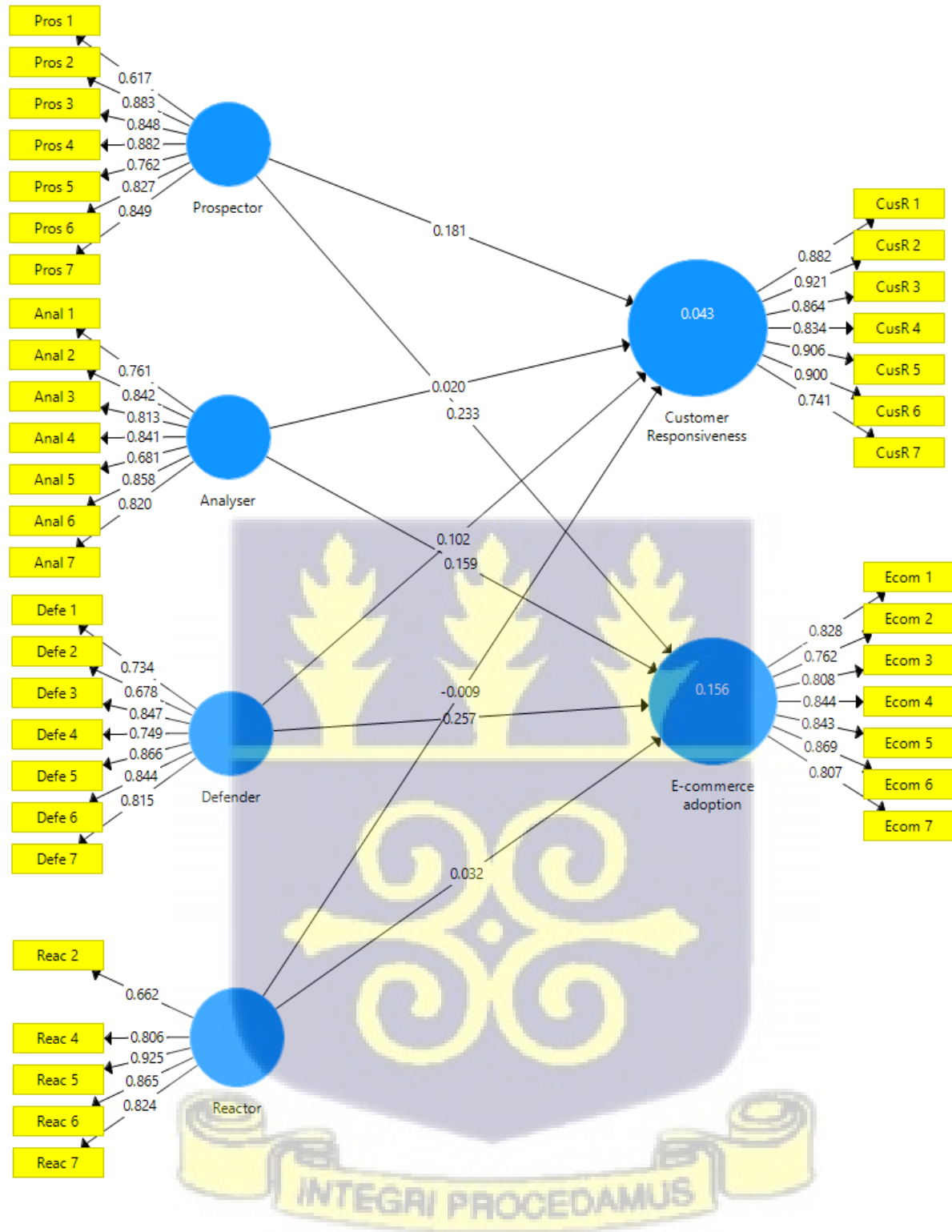


Figure 5.2 Test of Direct Relationships

Table 5.10 shows the path relationships hypothesised for the four strategic behaviours and e-commerce adoption as well as customer responsiveness. Beginning with H1a which states that analyser strategy influences e-commerce adoption, the p-value of 0.001 for this relationship indicates a statistically significant relationship between the analyser strategy and e-commerce adoption. Also, for H1b which states that the analyser strategy inhibits customer responsiveness had a p-value of 0.771 which indicates a non-significant relationship between the analyser strategy and customer responsiveness. The path relationship hypothesised for H2a: defender strategy influences e-commerce adoption had a p-value of 0.000 which indicates a significant relationship between the defender strategy and e-commerce adoption. The path relationship hypothesised for H2b: defender strategy influences customer responsiveness had a p-value of 0.084 indicating a non-significant relationship between the defender strategy and customer responsiveness. The path relationship hypothesised for H3a: prospector strategy influences e-commerce adoption had a p-value of 0.000 indicating a significant relationship between prospector strategy and e-commerce adoption.

The path relationship hypothesised for H3b: prospector strategy influences customer responsiveness had p-value of 0.002 indicating a significant relationship between prospector behaviour and customer responsiveness. The path relationship hypothesised for H4a: reactor strategy inhibits e-commerce adoption had a p-value of 0.658 indicating a non-significant relationship between reactor strategy and e-commerce adoption. Finally, the path relationship hypothesised for H4b: reactor strategy inhibits e-commerce adoption has a p-value of 0.910 indicating a non-significant relationship between reactor strategy and customer responsiveness.

5.3.2.3 Coefficient of determination (R^2)

The coefficient of determination (R^2) is used to evaluate the structural model. It was employed to quantify the model's predictive power by totalling the effect of all the independent variables (exogenous latent variables) on the dependent variables (endogenous latent variables) (Hair et al., 2017). Table 5.11 exhibits the result.

Table 5.11: R squared and Adjusted R squared of Constructs

Constructs	R^2	Adjusted R^2
E-commerce adoption	0.156	0.145
Customer Responsiveness	0.043	0.030

Source: Field Data (2021)

The result in Table 5.11 make known that E-commerce adoption has an R^2 value of 0.156. This reveals that the combined effect of the strategic behaviour (Analyser, Defender, Prospector and Reactor) on E-commerce adoption is approximately 15%. Also, Customer Responsiveness has an R^2 value of 0.043, to mean that the combined effect of the strategic behaviour on Customer Responsiveness is approximately 4%. As a guideline by Hair, Ringle, & Sarstedt (2011); Ringle & Sinkovics (2009) R^2 values of 0.75 represents substantial, 0.50 represents moderate, or 0.25 represents weak. This means that the strategic behaviour construct has a weak combined effect on both E-commerce adoption and Customer Responsiveness since both R^2 values are below 0.25.

5.3.2.4 Effect Size Assessment (F^2)

Effect size indicates the disparity in the R^2 which ensues when an indicated independent variable is misplaced from the model. It is used to appraise whether the misplaced independent variable has a strong effect on the dependent variable in terms of the R^2 . This is done in addition to evaluating

the R^2 . It is estimated by computing the Cohen (1988) f^2 and the procedures for evaluating f^2 are that, values of 0.02 signifies small effect, values of 0.15 signifies medium effect and values of 0.35 signifies large effect of the independent variable. f^2 values below 0.02 point out that there will be no effect with its exclusion from the model (Hair Jr et al., 2021; Leguina, 2015).

Table 5.12: F – Squares of the study constructs

f^2		
Constructs		
	E-commerce adoption	Customer Responsiveness
Analysers	0.030	0.000
Defender	0.078	0.011
Prospector	0.064	0.034
Reactor	0.001	0.000

Source: Field Data (2021)

The results in Table 5.12 tell that based on the f^2 values, the omission of Reactor on E-commerce adoption will not have any effect on the model. Likewise, the removal of Analysers, Defender and Reactor strategies on customer responsiveness will have no effect on the model. However, the f^2 values of Analysers, Defender and Prospector on E-commerce adoption indicate that their omission will have small effect on the model and also the omission of Prospector on Customer Responsiveness will have a small effect on the model based on its f^2 value.

5.3.2.5 Predictive relevance (Q^2)

Stone-Geisser's Q^2 value (Geisser, 1974; Stone, 1974) is employed in assessing the predictive relevance of the constructs. A PLS path model that exhibits predictive relevance accurately predicts data not used in the model estimation. Q^2 value measures how the PLS-SEM model envisages the data points of indicators in a reflectively measured model. As a rule of thumb, Hair et al., (2021) posit that Q^2 values larger than zero indicate that the independent variables have predictive relevance for the dependent variables under consideration. The results from the Table 5.13 below show a Q^2 values of 0.100 (E-commerce adoption) and 0.028 (Customer Responsiveness) for the model to direct that the predictive relevance of the constructs is satisfactory.

Table 5.13: Q-squared of Constructs

Constructs	$Q^2(=1-SSE/SSO)$
E-commerce adoption	0.100
Customer Responsiveness	0.028

5.3.2.6 Model fitness

The model fitness was examined using the Root Mean Square Residual Covariance (RMS_{θ}). This is an alternative to Standardized Root mean Square Residual (SRMR) but relies on covariance. Hair et al., (2021) argue that the threshold of SRMR is likely to be low for a PLS-SEM model because the inconsistency amongst the experimental correlations and model-implied correlations plays not the same roles in CB-SEM and PLS-SEM. CB-SEM's target is to minimize the discrepancy whereas that is not the case in PLS-SEM. Therefore this study adopted the

(RMS_{θ}) which has a threshold of 0.12 and below to indicate a well-fitting model. The result from table 5.14 below indicates that the model has a good fit.

Table 5.14: Model fit Result

RMS Theta	0.122
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5.4 Discussion of Findings

This part confers the findings emerging from the analysis of the data collected with prevailing literature in line, the hypotheses and objectives of the study.

5.4.1 The strategic behaviour of SMEs relative to Miles and Snow's taxonomy

The first objective of the study was to examine the strategic behaviour of firms relative to Miles and Snow's taxonomy. The descriptive statistics with reference to the summary of results presented in Table 5.3, suggest that, service firms are indifferent about the strategic behavioural options relative to Miles and Snow's taxonomy. A possible explanation could be the lack of understanding of the strategic behaviour of these firms since these firms are skewed towards the technological aspects of the strategic behaviour. The mean values of the constructs reveal that these firms do not pay much attention to their organizational structure, marketplace and the growth of their products and services. Also, it appears most of these small firms do not have laid down and resolved operations strategy (comprehensive framework) to direct their long-term vision and improve their competitiveness. Perhaps the informal nature in which these firms operate may equally be a contributory factor. In the case where the firms' problems are not aligned, these firms react when compelled, just like a reactor would.

This implies that SMEs owners, shop managers, IT managers, Customer Service personnel and General Managers are deficient of the conceptual structures that allow them to understand their operational processes and relationships. Also, some respondents perceived a formal definition of a firm's strategic behaviour to be the preserve of large firms. Hence, the need for theory to be developed in this regard as well as managers and policy makers to pay attention to these firms and help them to improve the understanding of their operations strategy (Yanes-Estévez et al., 2018; Zubaedah, Fontana, & Afiff, 2013; Yee & Platts, 2006).

This finding supports the findings by Yanes-Estévez, García-Pérez, & Oreja-Rodríguez (2018) that, there is no pure strategic behaviour associated with SMEs. The four strategies are each not associated to a firm but represents levels in the advancement of a company's strategy. This is because just as Miles and Snow discusses, the implementation of a particular strategy at a particular time, is a manager's decision in purpose of how it recognizes the strategy and the current market competition (Fenişer & Sadeh, 2017).

The firms moderately agreed to most of the technological statements making them more oriented towards the prospector strategy. Meanwhile, the SMEs placed the entrepreneurial and administrative problems at an intermediary point. This could be because these service firms use information technologies the most and therefore pay much attention to technological problems leaving out the other problems that constitutes the strategic behaviour. This confirms the study by Limungi & Marete (2017) in the sense that the environment of these service firms is affected by technology. Therefore, to these firms, the adoption of technology to improve their operations represents a strategic behaviour. Hence, the reason for the indifferent attitude towards strategic behaviours as a whole. Also just like the theory proposed by Miles & Snow (1978), generally firms

cultivate reasonably steady patterns of strategic behaviour in demand to achieve a good position with the apparent environmental circumstances.

5.4.2 The extent to which SMEs differ in terms of their propensity to adopt e-commerce based on Miles and Snow's taxonomy

The second objective was to determine the extent to which the sampled firms differ with regards to e-commerce adoption relative to Miles and Snow's taxonomy. Making reference to the loadings of the taxonomies to e-commerce from Figure 5.2, the surveyed firms based on the Miles & Snow, (1978) taxonomy differ with respect e-commerce adoption. Prospector loaded 0.233 towards e-commerce adoption. Analyser loaded 0.159 towards e-commerce adoption. Defender loaded 0.257 towards e-commerce adoption and finally Reactor loaded 0.032 towards e-commerce adoption. This means that in spite of the importance of e-commerce, these firms approach towards its adoption in their operations makes them more of defenders than prospectors or analysers or reactors. With respect to their loadings towards e-commerce, there is a 3% difference between Defender and Prospector, 10% difference between Defender and Analyser and 23% difference between Defender and Reactor. Also, there is a 7% difference between Prospector and Analyser and 20% difference between Prospector and Reactor. There is also a 13% difference between Analysers and Reactors. From the findings, Defenders have a 26% chance of adopting e-commerce more than Prospectors (23%) who are perceived in literature as innovative and technology inclined, Analysers (16%) and Reactors (3%). This findings disagrees with Feyissa & Sharma, (2017) who postulate that Prospectors and Analysers adopt technology innovation more than Defenders. It also contrast with Saraç (2019) who posit that prospectors are more innovative than defenders. The findings further contrasts with Rahayu & Day (2015) who posit that some SMEs do not see the need to incorporate e-commerce in their operations because they do not have many

applications for it in their business. The disagreement lies in the fact that though the chances (percentages) for these firms to adopt e-commerce are low, at least they have shown that the intent to adopt e-commerce exist.

However, in spite of the differences in their adoption, the findings suggest that service firms' operations strategy favours their adoption of e-commerce, a point which was not statistically significant in the study by Gorla, Chiravuri, & Chinta (2017). The technological capacity posited as technical factors by Hamad, Elbeltagi, & El-Gohary (2018) have also been confirmed to influence the adoption of e-commerce by these firms. The study confirms the finding of Rahayu & Day (2015) who established that owners' innovativeness, owners' IT experience and owners' IT knowledge as well as the firms' strategy, technological readiness and perceived strategic benefits of e-commerce influences its adoption. However, this study disagrees with the study by Awa & Ojiabo (2016) who concluded that technological factors influence SMEs' adoption of technology more than organizational or environmental factors. Abed (2020) also argue that environmental factors influence SMEs' adoption of technology more than organizational or technological factors. The disagreement lies in the fact that, of all the factors of the TOE theory; Technological, Organizational and Environmental, employed in the current study, respondents agreed to most of the organizational factors influencing their adoption of e-commerce other than the technological and environmental factors.

Also, agreement with Lin, Mao, Huang, Sia, & Yang (2020); Lestari (2019); Lai (2017); Otieno, Liyala, Odongo, & Abeka (2016), this study confirms that a firm's attitude towards innovativeness influences the adoption of e-commerce. Also, respondents agreed to have employees who are

technologically supportive and support the firms' implementation of online trading activities. This has confirmed the TRA theory that underpins this study and has justified the use of the theory to provide theoretical foundations for technology adoption.

Finally, the R^2 for both e-commerce adoption and customer responsiveness were below 0.25 to mean that there appears to be a weak relationship between firm's strategic behaviour and adoption of e-commerce and customer responsiveness among SMEs in Ghana. This is a contribution to literature.

5.4.3 The relationships between SMEs' strategic behaviour, e-commerce adoption and customer responsiveness

The third objective was to analyse the relationships between the SME's strategic behaviour, E-commerce adoption and customer responsiveness. Employing the results from the coefficient of determination (R^2), the study established a combined weak relationship ($R^2 = 0.25$) between SMEs strategic behaviour and e-commerce adoption and customer responsiveness in Ghana. However, each of the four behaviours was analysed relative to e-commerce adoption and customer responsiveness.

5.4.3.1 Analyser strategy, E-commerce adoption and customer responsiveness

Contending from existing literature, this study hypothesised that the pursuit of the analyser strategy influences SME's adoption of E-commerce ($H1_a$). The results demonstrates that analyser strategy has a positive and significant relationship with E-commerce adoption ($p\text{-value} = 0.001$ β coefficient = 0.159). This finding implies that SMEs pursuing the analyser strategy are likely to adopt e-commerce in their business operations. This evidence confirms the findings from Feyissa & Sharma, (2017) who established that analysers engage in innovative activities such as product development and market diversification. E-commerce adoption by these organizations is

compatible with the innovative business processes. This findings also confirms the theory that Analysers are responsive to innovation and are efficient at their operations (C. Lin, Tsai, & Wu, 2014). It is therefore not surprising to find out that the analyser behaviour positively influences the adoption of innovations such as e-commerce aimed at improving the firm's operations.

Also, the risk taking nature and purposeful exploratory nature of the analyser as posited by Klinger, Silveira-Martins, de Castro, & Rosetto (2019) has been proven right in that to efficiently employ a particular technology, much exploitation and study needs to be done to understand the pros and cons of the technology before it is introduced into the operations of the firm. Thus, analysers demonstrating this characteristic could form the basis for their adoption of e-commerce.

With regards to H1_b, which asserts that the pursuit of the analyser strategy inhibits customer responsiveness, the result shows a positive but statistically non-significant relationship (p-value = 0.771, path coefficient = 0.020). The results imply that indeed the analyser strategy does not influence customer responsiveness, thus supporting H1_b. This finding confirms the finding of Carmichael (2017) who established that analysers react slowly to the changing needs of their customers in competitive markets. This slow reaction has confirmed the finding that analysers and customer responsiveness do not relate.

The analyser is noted to focus on maintaining its existing customers using efficient operations whilst swiftly responding to competitor's novel product success and innovations. This duality compels the analyser to acquire new knowledge about its market whilst maintaining its core functions. This twofold description of the analyser (conserving a defender position and a

prospector strategy) gives such firms a certain focus which makes it difficult to be responsive to customer demands. Griffith, Kiessling, & Dabic (2012) argue that the dual nature of the analyser encourages the firm to abate the lively pursuit of new knowledge in an undefined market, and to preserve the more definite and directed knowledge transformation of the defender. Also judging by the same dual nature of the analysers, just as they enjoy the benefits of the two strategies, they also encounter the demerits of both as well. They encounter the ineffectiveness of defenders and inefficiencies of prospectors if they fail to administratively differentiate structures and processes that support both stable operations for the core business and innovation in rapidly changing markets. This challenge can also have an effect on their response to their customers as a whole, hence this findings that the analyser strategy indeed does not influence customer responsiveness (Pudenz, 2019; Miles & Snow, 1978).

5.4.3.2 Defender strategy, E-commerce adoption and customer responsiveness

The study hypothesised that, the pursuit of the defender strategy influences e-commerce adoption (H2_a). The result demonstrates that the defender strategy has a positive and statistically significant relationship with e-commerce adoption (p-value = 0.000, path coefficient = 0.257). This means that SMEs pursuing the defender strategy are potential adopters of e-commerce to improve their operations. Defenders habitually administer their products or services to an openly distinct market (Hawrysz, 2020). E-commerce provides an openly defined market for promotion of products and services and helps to draw attention to stable sets of products for firms. Also, with the aim of preserving and promoting efficiency of operations and reducing operating cost, analysers may have a good justification for their propensity to adopting e-commerce (Lumbantoruan & Pujangkoro, 2020; Haj Youssef & Christodoulou, 2017).

The hypothesis H2_b shows a positive but insignificant relationship (p-value = 0.084, path coefficient = 0.102). This means that the relationship between Defender strategy and customer responsiveness is not statistically supported. Hence the alternative hypothesis was accepted to mean that, pursuit of a defender strategy will not influence customer responsiveness. This finding contrasts with Hawrysz, (2020) , Lumbantoruan & Pujangkoro, (2020) and Haj Youssef & Christodoulou, 2017) who all agree that Defenders put prominence on their customers. A possible reason could be the slow decision-making process carried out by such firms and their decision to oblige to a transformation after broad research and analysis which may take a longer time to be completed. Also, it could be that the exceptional services they provide to their customers, may not be effective since efficiency is a key factor to their operations. Again, the fact that they provide exceptional services to their customers does not mean they are likely to influence customer responsiveness.

5.4.3.3 Prospector strategy, E-commerce adoption and Customer Responsiveness

H3_a proposes that the pursuit of the prospector strategy influences e-commerce adoption. The results revealed a positive and statistically significant relationship between the prospector strategy and e-commerce adoption (p-value = 0.000, path coefficient = 0.233). The quest to constantly seek for product and market opportunities drives a firm to become innovative. Also, the flexibility character and the ability of a firm to usher into completely new markets and take noteworthy risks describes the technology inclination of a prospector firm. E-commerce is a highly competitive and dynamic market that launches new products and offers flexible means of operations. The characteristics of the prospector strategy aligns well with e-commerce hence the not surprising result that the prospectors are likely to adopt e-commerce. This result supports claims by Cassol, Lorandi, Carvalho, Cintra, & Ribeiro (2019, p.109); Yanes-Estévez, García-Pérez, & Oreja-

Rodríguez (2018); Chaimankong & Prasertsakul (2012) that prospectors are technology driven and innovators and influencers of e-commerce adoption.

With regards to customer responsiveness, H3_b (The pursuit of the prospector strategy influences SMEs customer responsiveness) was supported because the results revealed a positive and statistically significant relationship between prospector strategy and customer responsiveness (p-value = 0.002, path coefficient = 0.181). Thus, the pursuit of a prospector strategy has significant influence on a firm's customer responsiveness. This finding is to be expected given that Yanes-Estévez et al. (2018) describes prospectors as a strategic behaviour that is concerned with human resource. Customers are the lifeblood of a firm and the greatest human resource aside employees of a firm. Therefore, a firm will pay great attention to the customer that brings in the money in exchange for its products and services. This finding also confirms the proposition by Chaimankong & Prasertsakul (2012) that prospectors are proactive in addressing customer's changing needs without considering the associated cost, thus, making the prospector strategy a customer focused strategy.

5.4.3.4 Reactor Strategy, E-commerce Adoption and Customer Responsiveness

H4_a proposed that the pursuit of the reactor strategy inhibits SMEs' adoption of e-commerce. The test of this hypothesis proved a statistically positive but insignificant relationship (p-value = 0.658, path coefficient = 0.032) to mean that H4_a is actually supported. This finding does not come as a surprise because reactors are known to be firms that pay no attention to their environment and changes that occur in them. Therefore, with an advancement in technology such as e-commerce, reactors will recognize such opportunity though but will not adopt because it is difficult for them

to practice the adoption unless they are compelled by their operating market environment. The finding supports Klinger et al. (2019) who established that a reactor firm upholds a current strategy-structure relationship in spite of the vast changes in their operational environmental conditions. Besides, the absence of clear operational approach by these firms provides another good justification for this finding. The finding further confirms the assertion by Aleksic & Jelavic (2017) that firms pursuing the reactor strategy do not have a clear operational approach hence, they do not have a laid out plan with regards to how they will incorporate e-commerce into their operations. Reactors insensitivity to technological advancement and as well as their inability to align well with changes in their operational environment makes it more difficult for them to adopt e-commerce. Finally, reactors' lack of a definite strategy could possibly be another reason for this finding. Reactors do not have an organizational structure that fits any chosen strategy to enable them realize the long term vision of the firm. Since they do not pay attention to changes in their environment, their management do not outline strategies that will help them to fit into either a dynamic or competitive markets (Carmichael, 2017).

H4_b states that the reactor strategy inhibits customer responsiveness was supported because the results revealed a negative and statistically non-significant relationship between the reactor strategy and customer responsiveness (p-value = 0.91, path coefficient = - 0.009). This means that, the reactor strategy has been proven to not influence customer responsiveness statistically. It takes a firm that constantly acquire knowledge about its environment to notice the changing needs of customers and put in efforts to meeting these changes. However, the management of the reactor strategy are noted for temperately acquiring knowledge about their markets. This mild method of acquiring knowledge is done without a determined exertion. Reactors even after acquiring knowledge from their markets, hardly understand the knowledge acquired and often times ignore

such information. As a result, they are unable to apply the acquired knowledge to enhance their operational effectiveness.

A firm with such an attitude will not be responsive to the changing demands of its customers hence the finding that the reactor strategy does not influence customer responsiveness. This finding is in agreement with Griffith, Kiessling, & Dabic (2012) who posit that knowledge acquisition for reactors is modest, and at best without rigorous efforts and their ability to make use of prevailing knowledge is either disregarded or taken the wrong way, in addition to being unable to efficiently apply any knowledge attained to reduce cost. This deficiency leads to the conclusion reactors do not pay attention to changes that occur in their operating environment (Pudenz, 2019; Carmichael, 2017; Miles & Snow, 1978) hence the finding.

5.5 Chapter summary

This chapter presented the analysis of the data collected by first, analysing the descriptive statistics of the respondents, their firms and the strategic behaviour construct, followed by the assessment of the measurement the structural models. The discussion of the hypothesised relationships amongst the four strategic behaviours, e-commerce adoption and customer responsiveness has also been dealt with in this chapter. Overall, the analyses suggested that service sector SMEs are indifferent toward the taxonomy of strategic behaviours. Also, these firms differ with regards to e-commerce adoption.

Seven out of eight hypotheses were accepted leaving out one rejected. H1_a which posited that the pursuit of analyser strategy influences e-commerce adoption was accepted (p-value = 0.001, path coefficient = 0.159). H1_b which posited that the pursuit of analyser strategy inhibits customer responsiveness was accepted (p-value = 0.771, path coefficient = 0.020). H2_a which posited that

the pursuit of defender strategy influences e-commerce adoption was accepted (p-value = 0.000, path coefficient = 0.257). H2_b which posited that the pursuit of defender strategy influences customer responsiveness was rejected (p-value = 0.084, path coefficient = 0.102). H3_a which posited that the pursuit of prospector strategy influences e-commerce adoption was accepted (p-value = 0.000, path coefficient = 0.233). H3_b which posited that the pursuit of prospector strategy influences customer responsiveness was accepted (p-value = 0.002, path coefficient = 0.181). H4_a which posited that the pursuit of reactor strategy inhibits e-commerce adoption was accepted (p-value = 0.658, path coefficient = 0.032). H4_b which posited that the pursuit of reactor strategy inhibits customer responsiveness was accepted (p-value = 0.91, path coefficient = - 0.009). The subsequent chapter presents a summary of the findings and the conclusions drawn grounded on the findings.



CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND CONTRIBUTIONS

6.0 Introduction

This chapter completes the study. It presents the summary of the major findings of the study, the conclusions drawn grounded on the findings, contributions of the study, recommendations for future research as well as the limitations of the study.

6.1 Research Summary

The study examined the impact of strategic behaviour of firms on e-commerce adoption and customer responsiveness in Ghana. The quantitative research approach as well as the survey research design were employed. The Statistical Package for the Social Science (SPSS) was used in analysing the descriptive statistics of the demographics of the respondents, company characteristics and the strategic behaviour construct. The Partial Least Square Structural Equation Modelling technique (PLS-SEM) was utilised in analysing the hypothesised relationships.

6.2 Summary of Research Findings

On the whole, the results point to the fact that service firms (Information and Communication, Administrative and Support services and Fashion sub sectors) are neutral with regards to the strategic behaviour options relative to the Miles & Snow (1978) taxonomy. These behaviours differ in terms of their tendency to adopt e-commerce. Defenders have the greatest tendency (26%) compared to prospectors (23%), analysers (16%) and reactors (3%). The Analyser, defender and prospector behaviours positively influence e-commerce adoption. The Reactor has statistically

been established not to have a relationship with e-commerce adoption. The current study has confirmed the prospector behaviour to positively influence customer responsiveness. Analyser, defender and reactor behaviours do not have any statistically significant relationships with customer responsiveness.

6.2.1 The strategic behaviour of SMEs relative to Miles and Snow's taxonomy

The findings on the strategic behaviour of SMEs relative to Miles and Snow's taxonomy associates to the study objective one. The results propose that service firms (Information and Communication, Fashion and Administrative and Support Services) in Ghana are indifferent about the strategic behaviour options relative to Miles and Snow typology. The mean values gotten for the different strategic behaviour constructs point to the fact that SMEs in Ghana are indifferent about these behaviours. Possible contributing factors for this finding are the non-existence of laid down and resolved operations strategy (comprehensive framework) for the firms and the informal nature of their operations. Also, these firms use information technologies therefore they consider the technological problems leaving out the other problems that constitutes the strategic behaviour. (Yanes-Estévez, García-Pérez, & Oreja-Rodríguez, 2018).

6.2.2 The extent to which SMEs differ in terms of their propensity to adopt e-commerce based on Miles and Snow's taxonomy.

Relating to e-commerce adoption, service firms (Information and Communication, Fashion and Administrative and Support Services) differ in terms of their propensity to adopt e-commerce based on Miles and Snow taxonomy. Comparatively, the defender behaviour has a 26% chance of adopting e-commerce than prospector (23%), analyser (16%) and reactor (3%). Surprisingly, the current study finds the defender behaviour to have the greatest chance of adopting e-commerce than the prospector and analyser behaviours contrary to what Saraç (2019) and Feyissa & Sharma

(2017) have established. In spite of their differences, service firms (Information and Communication, Fashion and Administrative and Support Services) agreed most to organisational factors (owners' innovativeness, owners' IT knowledge and experience, firms' strategy, technological readiness of firm and strategical benefits of e-commerce) as reasons for their adoption of e-commerce over technological (Awa & Ojiabo, 2016) or environmental (Abed, 2020) reasons.

6.2.3 The relationship between SMEs' strategic behaviour, e-commerce adoption and customer responsiveness

Objective three of the study was to analyse the relationships between SMEs' strategic behaviour relative to e-commerce adoption and customer responsiveness. This was to determine the relationship between the four strategic behaviours and e-commerce adoption and also between the four behaviours and customer responsiveness. Though findings from section 5.3.2.3 revealed a combined weak relationship between SMEs strategic behaviour and e-commerce adoption and customer responsiveness in Ghana, there was still the need to analyse their relationship individually. To achieve this objective, eight (8) hypotheses were tested using PLS-SEM (Smart PLS software).

The findings of the study supported the first two set of hypotheses i.e. H1a and H1b. After testing, H1a that theorises that analyser influence e-commerce adoption, had a p-value of 0.001 exhibiting a significant relationship between the two constructs. H1b also theorises that analyser behaviour inhibits customer responsiveness. This had a p-value of 0.292 which means a non-significant relationship exists between the two constructs. This concludes that, all two hypotheses are supported.

The next set of hypotheses, H2a and H2b were for the defender strategy. H2a hypothesised that the defender strategy influences e-commerce adoption. The p-value after testing was 0.000 to mean that a significant relationship exist between the two constructs. With regards to H2b that hypothesised that defender strategy influences customer responsiveness, a p-value of 0.084 was obtained. This translates to mean that a non-significant relationship exists between the two constructs. Therefore, the hypothesis H2a was supported but H2b was not supported.

Furthermore, H3a hypothesised that the prospector strategy influences e-commerce adoption. The resulting p-value of 0.000 means that indeed a significant relationship exist between the two constructs. H3b also hypothesised that the prospector strategy influences customer responsiveness. With a p-value of 0.002, a significant relationship between the prospector behaviour and customer responsiveness was established. Hence these two hypotheses were also supported.

Finally, H4a hypothesised that the reactor strategy inhibits e-commerce adoption. The test returned a p-value of 0.658 to mean a non-significant relationship exists between reactor strategy and e-commerce adoption. H4b hypothesised that the reactor strategy inhibits customer responsiveness. A p-value of 0.91 implies a non-significant relationship between the reactor strategy and customer. Hence the two hypotheses were also supported.



6.3 Conclusions of the Study

6.3.1 The strategic behaviour of SMEs relative to Miles and Snow's taxonomy

The study concludes for the first objective that service SMEs (Information and Communication, Fashion and Administrative and Support Services) are indifferent about the strategic behaviour options described by Miles and Snow (Analyser, Defender, Prospector and Reactor).

6.3.2 The extent to which SMEs differ in terms of their propensity to adopt e-commerce based on Miles and Snow's taxonomy.

The conclusion for the second objective is that service firms (Information and Communication, Fashion and Administrative and Support Services) based on the four behaviour options described by Miles & Snow (1978), differ in terms of their propensity to adopt e-commerce. Also, organizational factors influence most, their adoption of e-commerce and the owner's attitude to a large extent also influences the firm's adoption of e-commerce. This has confirmed the TOE and TRA theories that underpin this study and has justified the use of the theories to provide theoretical foundations for technology (e-commerce) adoption.

6.3.3 The relationship between SMEs' strategic behaviour, e-commerce adoption and customer responsiveness.

For the objective three, the study concludes that strategic behaviours based on Miles and Snow taxonomy, Analysers, Defenders and Prospectors have a significant positive influence on e-commerce adoption whilst reactors do not have a significant influence on e-commerce adoption. This means that the pursuit of analyser, defender and prospector strategic behaviours will influence e-commerce adoption whilst the pursuit of the reactor strategy will not influence e-commerce adoption. However, the combined effect firm's strategic behaviour has on e-commerce adoption and customer responsiveness is weak.

Analysers strategy's exhibition of a positive and not significant relationship with customer responsiveness has led to the conclusion that indeed analysts strategy inhibits customer responsiveness. Defender strategy showed a positive but insignificant relationship with customer responsiveness. The conclusion can therefore be made that the null hypothesis that stated that the defender strategy influences customer responsiveness is rejected and the alternative hypothesis that states that the defender strategy inhibits customer responsiveness is accepted. Hence the defender strategy does not influence customer responsiveness. The Prospector strategic behaviour had a significant positive influence on customer responsiveness to mean that the pursuit of the prospector strategy influences customer responsiveness. Reactor's negative and not significant relationship strategy with customer responsiveness has led to the conclusion that indeed the reactor strategy does not influence customer responsiveness.

6.4 Contribution of the Study

The findings of this study contribute to research/theory, practice and policy. Firstly, this study contributes to research in that, the study sets out as a connection amid the literature on Miles and Snow typology and e-commerce adoption among service SMEs in a developing country context. It also serves as a connection between literature on Miles and Snow's typology and customer responsiveness among service SMEs in a developing country context where literature is lacking. This study also contributes to theory in that the theories that underpin the study have been justified especially TRA theory. This study has justified that indeed the behavioural intention to adopt a technology is influenced by attitude and societal influence (Sharma & Mishra, 2014). This study has also advanced literature that strategic behaviour (using Miles and Snow typology) has a combined weak relationship on e-commerce adoption and customer responsiveness. In spite of the fact that there is extensive literature in the area of operations strategy, the findings of this study

harmonise prevailing literature, particularly furnishing understandings on the operations strategy of SMEs in developing countries.

The findings of the study educates managers to know that strategies of firms though complex are necessary evil for the survival of a firm. Therefore entrepreneurs of these firms need to know how to respond strategically to their changing environment and develop business models that will help them to be competitive globally. Also, from the perspective of Technological, Organisational and Environment theory, organisational factors such as a firm's strategy, technological readiness and strategic benefits of e-commerce should be given much attention since they have been proven to influence e-commerce adoption. Also, these firms should respond timely to customers' needs and wants and keep an excellent relationship with their customers since such organisational factors influence customer responsiveness the most. From the TRA perspective, the results also suggest that owner's influence (innovativeness, IT knowledge and experience) greatly influence the adoption of e-commerce. Therefore managers of firms need to pay attention to their owners influence since their influence play significant role in realising the intended objectives for the firm.

The results from the study will help policy makers to appreciate the operations strategy of SMEs in that the continued existence of an SME will rest on the quality of the orientation between the three problems (administrative, entrepreneur and technological) in its strategy and the environments of each firm (Yanes-Estévez et al., 2018; Miles & Snow, 1978). Therefore, the instituting of policies and action plans targeted at preparing and making managers ponder on the strategic modification between the three problems recognised and the explicit perspective of each firm. The reasons of e-commerce adoption will inform the development of the appropriate e-commerce-related policies and initiatives that will help improve the adoption of e-commerce to

improve their operations performance. The result that reveal that the sampled firms based on the strategic behaviour options differ with regards to e-commerce adoption will help policy makers to develop applicable strategies to help promote e-commerce acceptance and adoption among all service firms. The results will also enable policy makers to develop tailored policies that will promote excellent relationships among service firms and their customers and also to promote timely response to customers' needs and wants.

6.5 Recommendations of the Study

The study makes commendations to apprise practitioners and policy makers as follows:

Owners and Managers of service firms should constantly analyse their strategic contexts and align their strategic problems. This is because the alignment between the problems and their strategic imperatives will help determine the performance of the firm together with their strategies and resources. These firms ought to know that no pure strategy is assigned to a firm. Their capability to respond to modifications in their operational setting leads to the application of mix of strategies making the strategic behaviour more informal to them than how formal they perceive it to be. Also, service firms should pay attention to their owners and organisational influence on technology adoption.

The findings of the study demonstrate that strategic behaviour affects e-commerce adoption and customer responsiveness. However, their combined effect is weak. It is recommended that policy makers and government interventions targeted at enhancing e-commerce adoption by firms ought to place more prominence on education, teaching, originating and supporting awareness campaigns amongst the key deciding authorities of the various industries. Education and coaching will upturn the acquaintance about the possible usefulness of e-commerce adoption, therefore leading to succeeding adoption by firms. The crafting and supporting of awareness programs will inform

firms under the numerous industries about the need for the globalizations of their operations and the need to stay competitive, thereby enabling them to focus attention towards the adoption of e-commerce. Also, policy makers for the various industries need to educate and train owners, managers and customer service personnel about the benefit of rapid response and having a good customer response. These managers also further need to educate their sales representatives about the need to be effective in their relationship with customers because it will make them efficient and also influence their responsiveness to customers changing requirements.

6.6 Limitations and Directions for Future Studies

The researcher recognises the limitation of this study. The data gathered was from three selected service sub-sectors hence this affects the generalisability of the study for all service sector firms. Future studies could also focus on other service sectors such as Real Estate, Education, Social Work activities and other services activities. Additionally, the study was cross-sectional, therefore, a longitudinal approach could be considered to determine if firms migrate in their strategic behaviours over a period.

This study engaged a quantitative design and possibly will not collect specialised knowledge specifying the respondents' reasons for giving out precise answers about their strategic behaviour, e-commerce adoption, and customer responsiveness. Prospect studies may think through employing a qualitative design, like case studies and in-depth interview, to discover why SMEs are largely indifferent towards the strategic behaviours relative to Miles and Snow's taxonomy.

This study is among the few studies to have explored the impact of strategic behaviour of firms on e-commerce adoption and customer responsiveness. Future studies using the same Miles and Snow typology verify what impact the strategic orientation of a firm has on the performance of the firm

using a mediator (age or size). The degree of alignment between the three problems that make up the adaptive cycle needs to be studied. Also, a study on the impact of strategic behaviours of firms on profitability could be considered using the Miles and Snow typology.

6.7 Chapter Summary

This chapter wraps up the study giving a summary of the findings of the study. Similarly, conclusions have been drawn on the research objectives. Valuable contributions of the study have been highlighted and relevant recommendations made with respect to policy, practice and future research.



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APPENDIX

FLORENCE NEWMAN
UNIVERSITY OF GHANA BUSINESS SCHOOL
DEPARTMENT OF OPERATIONS AND MANAGEMENT INFORMATION SYSTEMS
SURVEY QUESTIONNAIRE

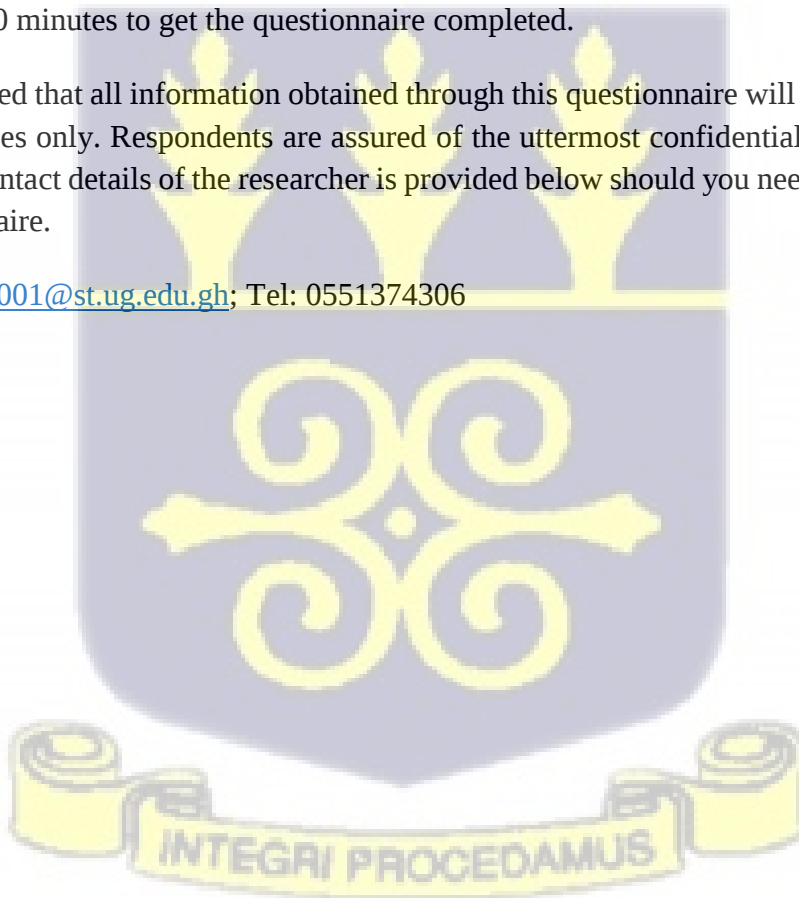
Dear Sir/Madam,

This study is being conducted by a MPhil Operations Management student of the University of Ghana Business School on the topic “**The impact of strategic behaviour of firms on e-commerce adoption and customer responsiveness**” I humbly request you to complete the questionnaire below by selecting the most suitable response option that applies to you. It takes approximately 20 minutes to get the questionnaire completed.

Please be informed that all information obtained through this questionnaire will be used purely for academic purposes only. Respondents are assured of the uttermost confidentiality of information provided. The contact details of the researcher is provided below should you need any clarification on the questionnaire.

Email: fnewman001@st.ug.edu.gh; Tel: 0551374306

Thank you.



INSTRUCTION: Please select the applicable response

SECTION A: DEMOGRAPHIC INFORMATION OF RESPONDENTS

1. Gender: a) Male ☐ b) Female ☐
2. Age range of respondent:
18-24 ☐ 25-34 ☐ 35-44 ☐
55-65 ☐ 65- above ☐
3. Educational level:
Non formal ☐ Primary Education ☐ Secondary Education ☐
University ☐ Professional ☐
4. Position:
Owner ☐ Manager ☐ Customer Service Personnel ☐
General Manager ☐ IT Manager ☐
Other: _____
5. Years in Business:
0 – 5 years ☐ 6 – 10 years ☐ 11 – 15 years ☐
16 – 20 years ☐ above 20 years ☐

SECTION B: COMPANY CHARACTERISTICS

1. Type of Service Sector:
Information and Communication ☐ Fashion ☐
Administrative and Support Services ☐
2. Type of firm ownership:
Sole proprietorship ☐ Partnership ☐ Limited Liability ☐
3. Number of employees:
1 – 5 ☐ 6 – 30 ☐ 31 – 100 ☐
4. Does the firm have a website?
Yes ☐ No ☐
5. Do you have internet connection?
Yes ☐ No ☐
6. How often do you access the web to search for products?
Daily ☐ Weekly ☐ Monthly ☐ Never ☐

SECTION C: STRATEGIC BEHAVIOUR OF SMES

Please describe your firm with the following statements regarding the firm's strategic behaviour using a scale of 1-5 where 1 represents "strongly disagree", 2 represents "agree", 3 represents "neutral", 4 represents "agree" and 5 represents "strongly agree").

TYPES OF STRATEGIC BEHAVIOUR	1	2	3	4	5
PROSPECTOR					
Our firm has a flexible non-formal organizational structure.					
Our firm is always looking out for new market opportunities.					
Our firm has the capacity to take considerable amount of risk.					
Our firm considers itself as an agent of change.					
Our firm is technology inclined.					
Our firm provides few products and services of high quality.					
Our firm concentrates more fully on developing the current market we serve.					
ANALYSER	1	2	3	4	5
Our firm devotes a great deal of responsiveness to innovation.					
Our firm simultaneously run several stable products and services.					
Our firms' product and service are consistently defined throughout the market.					
Our organizational structure is primarily functional (departmental) in nature.					
Our firm reacts to opportunities or threats in the marketplace to maintain or enhance our position.					
Our firm grows into new marketplaces.					
Our firm endeavours to control risks whiles exploiting opportunities.					
DEFENDER	1	2	3	4	5
Our firm pays attention to growth of new products in a predictable manner.					
Our firm competes on price and quality other than new products or markets.					
Our firm concentrates on revamping the efficiency of our present operations.					
Our firm adopts a unified structure to maintain control over efficient services.					
Our firm takes on a lot of proper planning, collect and analyse large amounts of data on our products and service needs.					
Our firm cautiously assess any suggested changes in technology and actions before taking action.					
Our firm directs products or services to an openly defined market.					
REACTOR	1	2	3	4	5
Our firm does not have a clear strategy or operational approach.					
Our firm's response to market development is through altering our strategies in limited ways.					

Our firm exhibits a pattern of adjustment that is both inconsistent and unstable.					
Our firm does not align well with local market conditions as a priority.					
Our firm does not align with either market dynamism or competitive intensity in a substantial manner.					
Our firm is characterized by apathy and lethargy of actions.					
Our firm does not put actions into practice, unless pressurized by the environment.					

SECTION D: E-COMMERCE ADOPTION

- Which type of e-commerce model do you operate in? (Choose all that apply)
 - Business to Business(B2B) ☐
 - Business to Consumer(B2C) ☐
 - Consumer to Consumer(C2C) ☐
 - Consumer to Business(C2B) ☐
 - None of the above ☐
- Which of the following e-commerce platforms do you commonly use? (Choose all that apply)
 - Jumia ☐
 - Aliexpress ☐
 - Alibaba ☐
 - Amazon ☐
 - E-Bay ☐
 - OLX ☐
 - Superprice ☐
 - Kikuu ☐

Please describe your firm with the following statements regarding its adoption of e-commerce using a scale of 1-5 where, 1 represents “strongly disagree”, 2 represents “agree”, 3 represents “neutral”, 4 represents “agree” and 5 represents “strongly agree.”

E-COMMERCE ADOPTION	1	2	3	4	5
Our firm has the technological capacity to engage in electronic buying and selling					
Our firm has a technologically savvy employees to support the implementation of its online trading activities					
Our firm generates a good percentage of its sales from online business transactions with customers					
Our firm plans to expand its online business transactions in the future					
Our customers are satisfied with our online trading activities					

Our firm is able to offer good customer service with its customers over the internet trading activities					
Our firm has an operations strategy which favours the implementation of e-commerce.					

Please indicate the reason for which your firm adopts/ will adopt e-commerce using a scale of 1-5 where, 1 represents “strongly disagree”, 2 represents “agree”, 3 represents “neutral”, 4 represents “agree” and 5 represents “strongly agree.”

REASONS FOR E-COMMERCE ADOPTION	1	2	3	4	5
Our owners’ innovativeness, owners’ IT experience and owners’ IT knowledge influences our firm’s e-commerce adoption.					
The age range and experience of our managers influence adoption of e-commerce.					
Our firm’s strategy influences e-commerce adoption.					
Our firm’s size influences e-commerce adoption.					
Our firm’s top management support influences e-commerce adoption.					
Our owner’s knowledge about security and reliability problems on the Internet influences e-commerce adoption.					
The technological readiness of our firm influences e-commerce adoption.					
The perceived strategic benefits of e-commerce to our firm influences its adoption.					
The perceived operational benefits of e-commerce to our firm influences its adoption.					

SECTION E: CUSTOMER RESPONSIVENESS

Please describe your firm with the following statements regarding its customer responsiveness using a scale of 1-5 where, 1 represents “strongly disagree”, 2 represents “agree”, 3 represents “neutral”, 4 represents “agree” and 5 represents “strongly agree.”

CUSTOMER RESPONSIVENESS	1	2	3	4	5
Our firm responds to customers’ needs and wants in a timely manner.					
Our firm is able to react timely to significant events, opportunities or threats to bring about or maintain competitive advantage.					

Our firm has the ability to achieve its operational goals in the presence of disturbances.					
Our firm has the ability to effectively respond to variations in demand.					
Our firm pays attention to finding solutions to customers' problems.					
Our firm has excellent relationship with its customers.					
Our firm is able customize products for its customers.					

Thank you

