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The role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace

by

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DECLARATION

I, Ngandu Robert Buasha, affirm that this research report is the product of my own independent effort. It is submitted in fulfilment of the requirements for the degree of Master of Commerce in Marketing Management at the University of the Witwatersrand, Johannesburg. It has not been previously presented for any degree or examination at any other academic institution.

N R

Ngandu Robert Buasha

6th day of August in the year 2024

DEDICATION

This dissertation is dedicated to my late father, Mr. Ngandu Mukute, my elder brother, Betu wa Ngandu, and my late sister, Misenga wa Ngandu. I know your souls are in a better place, watching over me as angels. I wish you were here to walk this milestone with me. I will always make you proud and my love for you is everlasting" … Diba Kaladji Mu njila.

"Rejecting the low sights of mediocrity, let them scale the ascending heights of excellence in all they aspire to do…"

Light of guidance, 2154.

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ABSTRACT

Customer-to-customer (C2C) social commerce (S-Commerce) is a growing trend where social networks such as Facebook are evolving beyond their traditional roles to facilitate online transactions, particularly for second-hand goods. A new phenomenon has been observed in S-Commerce which consists of the purchase of second-hand goods. However, the widespread adoption of C2C S-Commerce has been hindered by a lack of trust in the platform used to sell goods and in individual sellers. Several studies have investigated this phenomenon to uncover the antecedents of trust and purchase behaviour on S-Commerce platforms. Despite the growing interest in this field, prior research has overlooked certain dimensions of trust, considering it in most cases to be a single dimension. Therefore, there is a need to investigate trust through a multidimensional lens to understand how different dimensions of trust influence C2C purchase behaviour. Additionally, the role of sustainability of the purchase behaviour of second-hand goods on S-Commerce, specifically the Facebook marketplace has been less investigated.

To address these gaps, the current study aims to investigate the role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on the Facebook marketplace. To achieve this aim, this study proposes a model that integrates signalling, social network, and social presence theories, trust in both the seller and S-Commerce platform, and sustainable practices of consumers. Additionally, this study investigates the moderation effect of sustainability on the relationship between trust in the seller (TS), trust in the social commerce platform (TSCP), and purchase behaviour (PB), as well as the moderation of the type of goods sought in S-Commerce platform.

The current study adopted a positivist philosophy using a quantitative method. A survey was conducted using online and paper-based questionnaires administered to 404 South African Facebook Marketplace users aged between s18 and 65. Data was collected through purposive sampling and analysed using structural equation modelling (SEM), multigroup and moderation analyses in the International Business Machines (IBM) Statistical Package for the Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) version 29, providing a rigorous test of the proposed model.

The findings of this study revealed interesting results that enrich the understanding of S-Commerce marketplace in South Africa. Firstly, the results revealed that trust in the seller and the sustainable practices of consumers are the two main direct antecedents of the purchase behaviour of second-hand goods on Facebook Marketplace in South Africa. Secondly, social media instrumental relationships, the social presence of interaction with the seller, and trust in S-Commerce platform influence trust in the seller. Thirdly, the social presence of interaction with the seller and the social presence of others are the main antecedents of trust in social commerce platforms. Trust in S-Commerce platform does not directly influence purchase behaviour on Facebook Marketplace. However, it does extend this trust to the seller, who influences the purchase behaviour of Facebook Marketplace buyers.

Furthermore, the results of the moderation analysis reveal that consumers' sustainable practices moderate the relationship between trust in the seller and the purchase behaviour of second-hand goods on Facebook Marketplace. Lastly, the results of the multigroup analysis indicated that the type of goods sought on S-Commerce platform influences the purchase behaviour of second-hand goods. An interesting insight observed was that consumers on Facebook Marketplace show a preference for durable goods over non-durable goods. They also emphasise the importance of the social presence of the web in building trust in the purchase process. These results contribute to the existing knowledge theoretically and practically, enriching the understanding of S-Commerce environment and the factors that influence the purchase behaviour of second-hand goods on Facebook Marketplace.

This study provides significant theoretical contributions by integrating the signalling theory, the social network theory, and the social presence theory to examine their influence on purchase behaviour of second-hand goods on Facebook Marketplace. It further contributes to the literature by exploring trust as a multidimensional concept, examining trust in the seller and trust in the social commerce platform. Additionally, the current study investigates the actual purchase behaviour rather than the intentions, thereby shedding light on the customer purchase behaviour on S-commerce platforms such as Facebook Marketplace. Furthermore, this study reveals the moderation effect of sustainable practices on the relationships between trust in the seller and purchase behaviour, and the moderation of the type of second-hand goods on social commerce platforms.

Moreover, this study provides several practical implications that can be found in section 6.3.2, including insights for sellers to enhance trust through communication and verification processes. It also provides recommendations for promoting sustainable practices among Facebook Marketplace users to stimulate the circular economy and contribute to environmental conservation efforts. Finally, the current study recommends that Facebook Marketplace administrators implement practical measures to enhance trust in the platform such as identity verification and seller ratings.

The originality of this study lies in its unique integration of ST, SNT, and SPT to examine their combined impact on trust, an aspect not explored in previous research. It stands among a limited number of studies that have delved into actual purchase behaviour on S-Commerce, as opposed to focusing solely on purchase intentions. This research further contributes to the academic discourse by shedding light on the influence of sustainability on the purchase behaviour of second-hand goods on S-Commerce platforms. The study's originality is further underscored by its examination of the moderating effects of the types of products sought and the sustainable practices of consumers. This comprehensive approach provides a novel perspective in the field of S-Commerce research.

Keywords: S-Commerce, C2C, social media, social network, purchase behaviour, Second-hand goods, durable goods, non-durable goods, sustainability and sustainable practices.

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LIST OF ABBREVIATIONS

AMOS:	Analysis of moment structures
AVE:	Average variance extracted
B2:	Business-to-business
B2:	Business-to-consumer
B2G:	Business-to-government
C2C:	Customer-to-customer
CAGR	Compound annual growth rate
CB-SEM	Component-based structural equation modelling
CD:	Consumer durables
CFA:	Confirmatory factor analysis
CFI:	Comparative fit index
CND:	Consumer non-durables
COD:	Cash on delivery
CR:	Composite reliability
EDI:	Electronic data interchange
HTMT:	Heterotrait-monotrait
IM	Instant messaging
KOLs:	Key opinion leaders
MCFA:	Multi-group confirmatory factor analysis
MGA:	Multigroup analysis
MOOCs:	Massive open online courses
PB:	Purchase behaviour
PCA	Principal component analyses
PMI	Partial metric invariance
PSM	Procurement and supply chain management
PurchB	Purchase behaviour
PwC	Pricewater house coopers
RMSEA:	Root mean square error of approximation
RPL	Return policy leniency
S-Commerce:	Social commerce
SA	South Africa
SADC	Southern African Development countries
SBP	Sustainable Purchase behaviour
SCCs:	S-Commerce constructs
SD:	Standard deviation
SDG12:	Sustainable developmental goal 12
SEM:	Structural equation modelling
SMET:	Social media expressive ties
SMIT:	Social media instrumental ties
SMMA:	Social media marketing activities

SMS	Short message services
SNT:	Social network theory
SP	sustainable practices
SPB:	sustainable purchase behaviour
SPI:	Social presence of interaction
SPO:	Social presence of other
SPSS:	Statistical package for social sciences
SPT:	social presence theory
SPW:	Social Presence of the Web
ST	signalling theory
TS:	trust in the seller
TSCP:	Trust in social commerce platform
UNOSD:	United nations office for sustainable development
WHO:	World health organization

CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

Customer-to-customer (C2C) social commerce (S-Commerce) is a rapidly growing trend in online retail, driven by the increasing popularity of social networks that connect buyers and sellers (Li *et al.*, 2022). Platforms such as Instagram, TikTok and Facebook facilitate online transactions in addition to their traditional function of connecting individuals for social purposes (Algharabat and Rana, 2021). C2C commerce, within S-Commerce, refers to commercial transactions between individual customers (Li *et al.*, 2022). The expansion of S-Commerce can be attributed to various influences. First, social networks have become an integral part of individuals' lives, offering them a convenient audience for their products and services (Goddevrind *et al.*, 2021). Second, the increased readiness of mobile devices and high-speed internet has made it easier for people to buy and sell online, and finally, the COVID-19 pandemic has hastened the shift to online shopping, prompting a search for new transaction methods for various goods.

In recent years, a new phenomenon has been observed in S-Commerce consisting of an increase in second-hand goods sales on social networks, such as Facebook Marketplace, which enables individuals to monetise their social ties and build personal brands (Goddevrind *et al.*, 2021). Facebook Marketplace was introduced in 2016 as a Facebook social networking platform, enabling individuals to post their goods and sell them directly to online community members. Facebook dominates the global social media marketplace with a 69% market share, and it is also prevalent in South Africa with 87% of the market share (Algharabat and Rana, 202; Startcounter, 2023). S-Commerce facilitates interactions between consumers through various features such as chats, likes, comments, and voice and video calls (Muda and Hamzah, 2021). While some Facebook users are taking advantage of the platform due to its ability to connect faraway consumers to products and services, many are still reluctant to the idea of conducting commercial activities on the platform due to a lack of trust (Sosic and Herceg, 2023).

The lack of trust is a major barrier to the adoption of the Facebook Marketplace S-Commerce platform (Jang and Kim, 2023; Li *et al.*, 2023; Moriuchi and Takahashi, 2022). This gap needs to be addressed by examining the drivers of trust in Facebook S-Commerce. The remaining sections of this chapter are organised in the following manner: First, a background providing the context and current state of C2C S-Commerce and the need for the study is presented.

Second, the objectives of the current study are provided. Third, the research methodology provides a brief description of the research philosophy, approach, population, sampling, measurement and data analysis. Finally, the chapter concludes with the definition of key concepts and the dissertation's structure.

1.2 BACKGROUND TO THE STUDY

C2C S-Commerce is thriving in many countries. In the United States for example, S-Commerce retail sales amount to $56.17 billion (eMarketer, 2023), while in Germany, the C2C platform eBay Kleinanzeigen had an estimated 28 million users in 2021, representing 40% of the German adult population. Vented, a European online S-Commerce platform was valued at $4.2 billion in May 2021 (Goddevrind *et al.*, 2021). C2C S-Commerce is a fast-growing and lucrative market that can contribute to poverty eradication, which is an important United Nations sustainable developmental goal (UN SDG). C2C S-Commerce stimulates entrepreneurship by allowing individuals with limited resources to access a large consumer base and market their products at lower costs, which reduces poverty (Carpenter and Wilson, 2022). C2C interactions remove intermediaries, resulting in extra income for sellers and enhanced bargaining power for buyers due to alternative choices (Trehan and Sharma, 2020). Individual sellers can also generate extra income to support their families through second-hand goods sales (Goddevrind *et al.*, 2021). Facebook Marketplace, hosted by the Facebook social network, is one of the most used platforms for C2C S-Commerce worldwide (Al-Adwan and Sammour, 2021).

Facebook Marketplace is a new trend that is changing how consumers shop online, using social networks to buy and sell goods without switching platforms (Saarijärvi *et al.*, 2018). It is the most used C2C S-Commerce platform in the world (Martella and Bracciale, 2022). It is estimated that 42% of the European population uses Facebook for networking and the purchase of goods and services (Saarijärvi *et al.*, 2018). The growth of Facebook S-Commerce can be attributed to the increase in network usage in many countries. For instance, 70% of Finns, 83% of Norwegians, and 74% of Swedes use Facebook (Saarijärvi *et al.*, 2018). In South Africa, Facebook has about 32.68 million active users, representing 52.7% of the population, according to StatsSA (2023), and this number is estimated to reach 35.92 million by 2026 (Statista, 2023). While Facebook represents a good business opportunity, limited research has examined Facebook Marketplace and the few studies that did, focused on different consumer behaviours such as impulse buying (Han and Li, 2021), trust intention (Aityoussef and Belhcen, 2022),

customer engagement (Algharabat and Rana, 2021; Macca *et al.*, 2024; Maree and Van Heerden, 2020), and purchase intention (Ingard, 2021). Therefore, there is a need to explore other implications of Facebook Marketplace, such as how to build trust in the platform and how sustainable practices influence consumer purchase decisions among Facebook Marketplace users.

C2C S-Commerce can be used to address the pressing global issue of sustainability. As stated in the UN SDG 12 preamble, the current levels of pollution, climate change and biodiversity loss are largely due to unsustainable human production and consumption behaviour. C2C S-Commerce, with its global reach and influence, can significantly contribute to achieving the objectives of UN SDG 12, which promotes sustainable consumption and production behaviour. By facilitating the exchange of goods and services directly between consumers, C2C S-Commerce promotes the reuse and recycling of goods. This not only reduces waste but also contributes to a more sustainable economy. Thus, C2C S-Commerce aligns with the objectives of SDG12, making it a powerful tool in the pursuit of this goal (Goddevrind *et al.*, 2021). Additionally, Gutiérrez Taño *et al.* (2022) argued that consumer environmental awareness strongly influences their consumption behaviours. Based on the above evidence, there is a need to investigate how consumer proclivity towards environmental protection can influence their purchase behaviour in the context of second-hand goods to promote sustainability through C2C S-Commerce.

1.3 PROBLEM STATEMENT AND RESEARCH GAP

S-Commerce has brought about a new era in online business, providing a convenient and interactive platform for peer-to-peer commerce, including the sale of second-hand goods (Machado *et al.*, 2019). However, the adoption of S-Commerce is hindered by a lack of trust, as highlighted by numerous scholars (Alkhalifah, 2022; Molinillo *et al.*, 2020; Yuen *et al.*, 2023). Although previous studies have researched consumer trust in C2C interactions on S-commerce (Eja, 2019; Gille *et al.*, 2020; Kim and Kim, 2021; Lăzăroiu *et al.*, 2020; Xu *et al.*, 2021), current literature has overlooked specific dimensions of trust such as trust in the institution, the seller, S-Commerce community and the payment system (Alkhalifah, 2022). Therefore, there is a need to examine trust through a multidimensional lens. This could provide a new understanding of how trust is formed on C2C S-Commerce platforms such as Facebook Marketplace and how it influences purchase behaviour.

Moreover, the current literature on C2C trade in S-Commerce has also been dominated by theories such as the trust commitment theory (Morgan and Hunt, 1994), social support theory (Lee and Cha, 2022), trust transfer theory (Cheng *et al.*, 2020) and social identity theory (Muda and Hamzah, 2021). However, signalling theory (Chen *et al.*, 2023; Guest *et al.*, 2021), social network theory (Liu *et al.*, 2017) and social presence theory (Yuen *et al.*, 2023), which are relevant theories, and have been separately applied in S-Commerce field. These important theories, when integrated into a study, can provide a different outlook and a fresh theoretical underpinning on the role of trust in C2C S-Commerce transactions. To the best of the author's knowledge, there is limited evidence on the integration of these three theories. Therefore, previous studies have overlooked this aspect, and there is a need to integrate these theories into a model to investigate their influence on trust.

Furthermore, despite the extensive research on trust, several gaps have been identified in the literature. Firstly, trust is often viewed as a unidimensional construct (Zhao *et al.*, 2019). Secondly, trust studies have focused on consumer purchase intention rather than actual consumer purchase behaviour (Goraya *et al.*, 2018; Xiang *et al.*, 2022). Thirdly, signalling theory, social network theory and social presence theory have been applied separately (Handarkho, 2020; Liu *et al.*, 2019; Zhao *et al.*, 2023), and there is limited evidence of their combined influence on trust in S-Commerce. Therefore, there is a need for an integrated approach to understand the multidimensional aspects of trust and their effects on consumer purchase behaviour in S-Commerce.

To address these gaps, the current study first integrates signalling theory (ST), social network theory (SNT) and social presence theory (SPT) to examine their influence on second-hand goods purchase behaviour on Facebook Marketplace. ST, SNT and SPT focus on information asymmetry reduction, social interactions and online communication, respectively (Liu *et al.*, 2019; Yuen *et al.*, 2023). ST investigates how information asymmetry between two parties to a transaction can be reduced through the exchange of signals (Zhao *et al.*, 2023). SNT studies social interactions between individuals and groups and how they shape beliefs and attitudes (Wang *et al.*, 2022) and SPT examines how individuals communicate and interact online through social networks, influencing their views and actions (Xu *et al.*, 2021). These theories are relevant for understanding how interactions on S-Commerce platforms such as Facebook Marketplace influence consumer behaviour. Second, this study considers trust from a bi-dimensional perspective, namely trust in the vendor and trust in S-Commerce platform. Third,

this study investigates the role of sustainability inclination as an antecedent of consumer purchases on Facebook Marketplace and as a moderator in the proposed model. Fourth, this research focuses on buyers' actual purchase behaviour rather than purchase intention. Fifth, this study proposes a model integrating ST, SNT and SPT to analyse their influence on consumer trust on the Facebook Marketplace. Sixth, the study assesses whether the proposed conceptual model would vary across the type of product (i.e., consumer durable and non-durable) through multigroup analysis.

The purpose of this study is to address the following research questions: (1) To what extent do social ties and social presence impact trust? (2) What is the role of trust and sustainable practices in influencing C2C purchase behaviour of second-hand goods on Facebook Marketplace in South Africa? (3) To what extent is the type of product relevant in these relationships in the model?

1.4 PURPOSE OF THE STUDY

The main aim of the current study is to examine the role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace. This examination is guided by the frameworks of social network theory, social presence theory and signalling theory. The proposed conceptual model integrates aspects of social presence, social connections, trust in both the seller and the social media platform and sustainable practices. This study seeks to offer a fresh insight into how trust and sustainable practices influence this behaviour, thereby facilitating poverty reduction and contributing to environmental protection efforts.

1.4.1 Secondary Objectives.

This study set the following objectives to accomplish its main aim:

- To examine the influence of social presence and social network factors on TS and TSCP.
- To examine the relationship between trust in Facebook Marketplace and the seller's trust.
- To examine the influence of trust in the seller and trust in social commerce platforms on consumer purchase behaviour.
- To examine the influence of sustainability on consumer purchase behaviour on Facebook Marketplace.

- To examine whether product type (consumer durables and non-durables) influences purchase behaviour on Facebook Marketplace.

1.5 BRIEF OVERVIEW OF THE CONCEPTUAL MODEL

This study proposes a framework that integrates three theories to understand how purchase behaviour is shaped on S-Commerce platforms such as Facebook Marketplace. The integration of these theories is guided by their examination of specific aspects of purchase behaviour on S-Commerce platforms. This study aims to examine the role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace. The theories used are signalling theory (ST), which explains how buyers and sellers exchange signals to reduce information asymmetry and increase trust (Chen *et al.*, 2022; Spence, 1973; Zhao *et al.*, 2023); social network theory (SNT), which provides the mechanism for understanding how social commerce interactions shape users' behaviour and habits (Andreas *et al.*, 2022; Freeman, 1979; Gamper, 2022; Liou and Daly, 2023); and finally, social presence theory (SPT), which explains how social commerce users perceive each other as real and present in computer-mediated communication and how this perception shapes their purchase decisions (Kreijns *et al.*, 2022; Short *et al.*, 1976; Yuen *et al.*, 2023).

These theories in the current research scientifically define the scope and perspective of the study, providing a deeper understanding of the phenomenon under investigation. The theories used enhance the quality and significance of this research by connecting the data to a larger body of knowledge. As Ayers and Olander (2013) suggest, theory is a systematic and coherent explanation of phenomena that is based on empirical evidence and logical reasoning. It also provides the foundation and direction for practice by offering insights, predictions and recommendations. Stewart and Klein (2016) agree that a theoretical framework offers a unified and consistent structure for making sense of and linking data gathered from diverse sources and methodologies. Furthermore, it is important to combine relevant theories to gain a comprehensive insight into the phenomenon studied. Reeves *et al.* (2008) argue that theories offer elaborate and holistic explanations of phenomena that are not easily defined. Based on these scholars' guidance, this research integrates theories that explain how purchase behaviour is influenced in C2C S-Commerce. In this regard, ST addresses information asymmetry and allows both parties to have access to the same information. This theory explains how signals generated by the seller (social media ties and social presence of the web), the platform (social presence of the web) and other buyers (social presence of others) affect both trust in the seller

and the platform. SNT analyses social interactions and their influence on online behaviours. SP theory elaborates on different social presences perceived by the buyer and their influence on purchase behaviour. The integration of these theories is illustrated in Figure 1. 1 below.

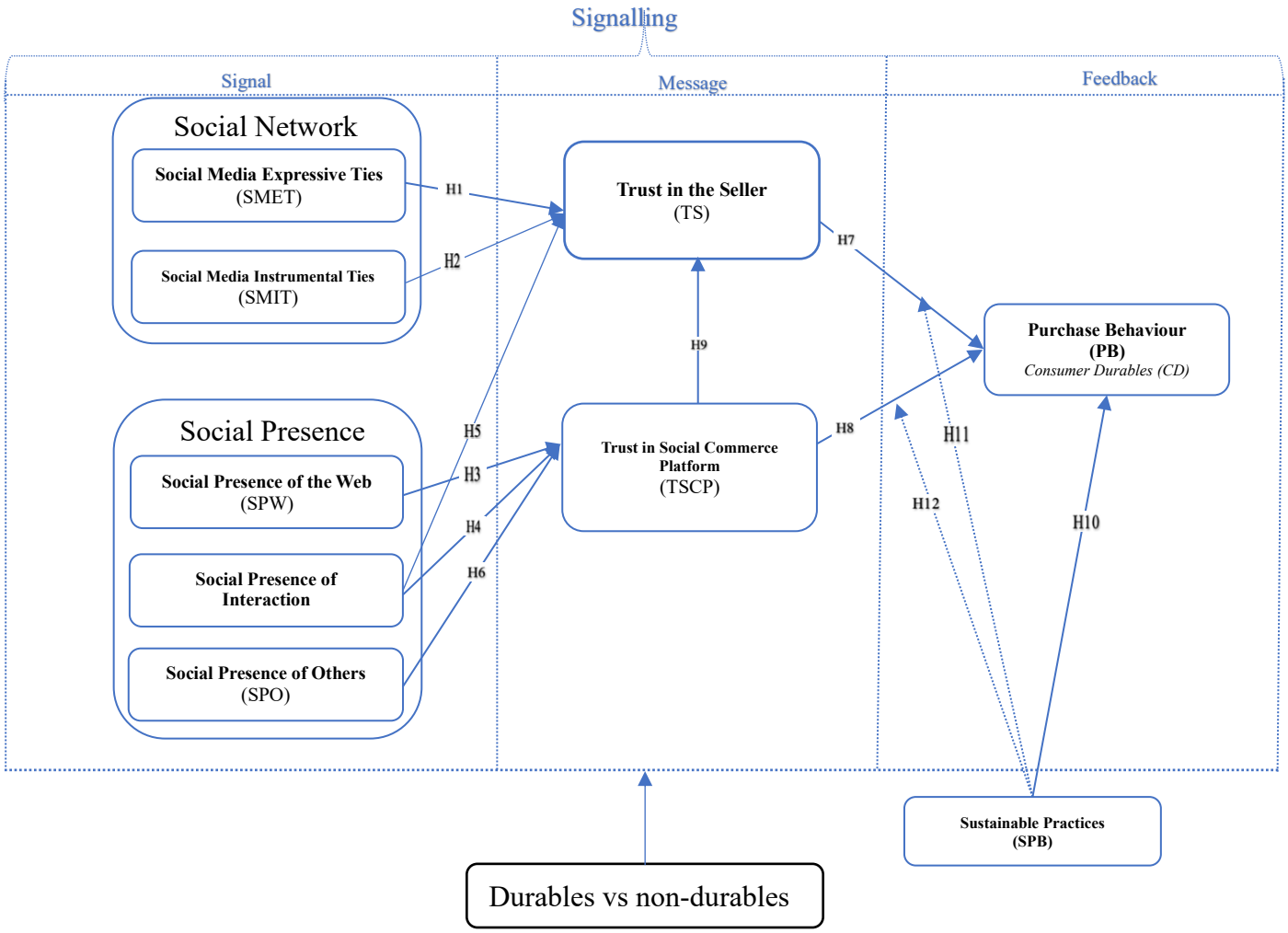


Figure 1. 1 Conceptual Framework

1.6 HYPOTHESES FORMULATION AND DEFINITION OF CONSTRUCTS

1.6.1 Social Media Expressive Ties

Social media expressive ties (SMET) are deep emotional relationships formed through personal sharing, leading to strong connections via feelings and intimate interactions (Li *et al.*, 2023). In the context of this study, social media expressive ties are close relationships Facebook Marketplace sellers develop with the buyers. Due to incongruency and role conflicts between

business and friendship relationships (Wongkitrungrueng *et al.*, 2020; Li *et al.*, 2018), this study proposes that SMET negatively influences trust in the seller.

H_1: Social media's expressive ties negatively influence trust in the Facebook Marketplace seller.

1.6.2 Social Media Instrumental Ties

Social media instrumental ties (SMIT) are purpose-driven relationships, often in professional contexts, where each party contributes and benefits equally, requiring minimal time and infrequent interactions (Li *et al.*, 2023; Chen *et al.*, 2023; Granovetter, 1973). SMIT positively influence trust as they are created with transactional intentions. Therefore, this study proposes the following:

H_2*:* Social media's instrumental ties positively influence trust in the Facebook Marketplace seller.

1.6.3 Social Presence of the Web

SPW refers to S-Commerce platform's ability to create a sense of human warmth and sociability (Leong *et al.*, 2020). SPW positively influences trust in the platform used. In this study, SPW refers to the ability of S-Commerce platform (Facebook Marketplace) to convey a sense of warmth and sociability. In line with this, the following hypothesis is proposed:

H_3: Social presence of the web positively influences trust in the Facebook Marketplace seller.

1.6.4 Social Presence of Interaction

The social presence of interaction (SPI) is the perceived closeness and personal connection established between the buyer and seller during their interaction (Leong *et al.*, 2020). The interaction between the seller and the buyer enhances trust in the seller by providing trustworthy cues and facilitating information exchange about products and services. Therefore, this study hypothesises the following:

H_4: The social presence of interaction positively influences trust in the Facebook Marketplace seller.

H_5: The social presence of interaction positively influences trust in the Facebook Marketplace platform

1.6.5 Social Presence of Others

The social presence of others is defined as the extent to which other participants appear to be present and responsive within virtual communities (Leong *et al.*, 2020). This sense of presence is achieved through active participation in online discussions, the use of self-presentation features, and regular status updates. In the context of this study, the social presence of others refers to users' interactions through comments on products, reviews, referrals and online groups and communities (Ye *et al.*, 2019). Based on these views, the current study proposes the following:

H_6: The social presence of others positively influences trust in the Facebook Marketplace platform.

1.6.7 Trust in the Seller

In the context of C2C S-Commerce, trust in the seller refers to the buyer's confidence in the seller, their willingness to resolve issues, the closeness of their relationship, and the sincerity and friendliness of their interactions (Zhao *et al.*, 2019). This trust has the possibility of influencing the buyer's behaviour. Therefore, this study proposes the following:
H_7: Trust in the seller positively influences the purchase behaviour of second-hand goods on Facebook Marketplace.

1.6.8 Trust in Social Commerce Platform

Trust in S-Commerce platform (TSCP) refers to the user's confidence in the platform's performance, reliability, and the quality and dependability of its features (Nadeem, 2020).

Scholars have empirically confirmed the relationship between trust in S-Commerce platform used and purchase behaviour, as well as trust in the seller. (Mejia-Delgado and Parades, 2023; Alkhalifah, 2022; Lai *et al.*, 2021). Hence, this study proposes the subsequent hypotheses:

H_8: Trust in S-Commerce platform positively influences the purchase behaviour of second-hand goods on Facebook Marketplace.

H_9: Trust in S-Commerce platform positively influences trust in the Facebook Marketplace seller.

1.6.9 Sustainable Practices

Sustainable practices are those that respect the environment, promote social justice for all generations, and contribute to the economic well-being of all stakeholders (Alagarsamy *et al.*, 2021). In the current study, sustainable practices have a positive influence on purchase behaviour (Alagarsamy *et al.*, 2021; Shiel *et al.*, 2020), and the subsequent hypotheses are proposed:

H_{10}: Sustainable practices positively influence the purchase behaviour of second-hand goods.

H_{11}: Sustainable practices moderate the relationship between trust in the seller and the purchase behaviour of second-hand goods.

H_{12}: Sustainable practices moderate the relationship between trust in S-Commerce platform and the purchase behaviour of second-hand goods.

1.6.10 Purchase Behaviour

Purchase behaviour can be defined as the process by which consumers decide to acquire goods or services. In the current study, PB specifically refers to the decision-making process involved in purchasing second-hand goods on platforms such as Facebook Marketplace (Chen *et al.*, 2024). Two types of second-hand goods are analysed in this study: consumer durables (CD) and consumer non-durables (CND). Consumer durables are goods that are consumed within a shorter period of time, in other words, they have a shorter lifespan. On the other hand, consumer durables are goods that can be used over a long period of time (Devanathan, 2019). In this regard, scholars have suggested that consumer behaviour differs depending on the type of goods purchased (Pradish Kumar *et al.*, 2023; Thangasamy and Patikar, 2014; Tyagi and Arora, 2018). For instance, buying second-hand house cleaning products does not require the same thinking and consideration as purchasing a second-hand car. Therefore, through multigroup analysis (MGA), this study will investigate consumer purchase behaviour across second-hand CDs and CNDs.

1.7 SIGNIFICANCE OF THE STUDY

This current study enriches the understanding of trust in C2C S-Commerce by examining it from a multidimensional perspective, considering both trust in the seller and the platform. This is important, as previous studies have overlooked this theoretical lens by considering trust in a single dimension. Thus, investigating trust in a double dimension provides a new, fresh insight

into the theoretical understanding of S-Commerce. This study further contributes to the existing literature by integrating ST, SNT, and SPT to provide a comprehensive theoretical framework for understanding consumer purchase behaviour in C2C S-Commerce. This integration addresses the gap in the literature where these theories have been applied separately, offering a fresh perspective on the role of trust in C2C S-Commerce transactions.

For marketing practitioners, this study provides valuable insights, particularly for S-Commerce platforms such as Facebook Marketplace. It highlights the importance of understanding the influence of SNT and SPT on trust, as explained by ST. Moreover, a key insight is the reduction of information asymmetry by providing reliable and relevant product information, which can increase buyer trust. The study also underscores the role of social interactions in S-Commerce. By leveraging ST, sellers can harness social influence to foster a sense of community among buyers, enhancing their reputation and attracting more customers. Furthermore, enhancing online communication through responsiveness, personalisation, and empathy can improve the shopping experience, increasing buyer satisfaction and referrals. This can also reduce conflicts and complaints, thereby increasing referral rates. Finally, the study emphasises the importance of focusing on actual purchase behaviour over purchase intention for a more accurate measure of business strategies.

The current study is of relevance to society as it underscores the role of sustainability inclination in consumer purchase behaviour, particularly in the context of second-hand goods on S-Commerce platforms. It demonstrates how sustainability inclinations can influence consumer behaviour, potentially reducing waste and environmental impact by promoting the reuse of goods. Furthermore, this study underscores the significance of the double dimensions of trust in S-Commerce. These trusts can enhance the quality of online transactions and customer satisfaction, contributing to safer and more reliable online trading environments. Moreover, the insights provided by this study can also guide businesses and policymakers in promoting sustainable consumption behaviour on S-Commerce platforms, thereby creating social and economic value. Thus, this study not only contributes to the understanding of consumer behaviour in the context of S-Commerce but also provides a fresh insight into sustainability that benefits society.

1.8 RESEARCH METHODOLOGY

The following subsections present the methodology and research design employed in the current study.

1.8.1 Research Philosophy

This study adheres to the principles of positivism, a research philosophy that relies on data gathered from observable reality. Positivism philosophy seeks to identify patterns and causal relationships in data to formulate general laws (Saunders *et al.*, 2019). This research adopted the positivism philosophy to gather measurable data from a sample, aiming to test the applicability of ST, SNT, and SPT theories in understanding the buying behaviour of second-hand goods on Facebook Marketplace. Positivist research philosophy typically employs surveys and experiments to test hypotheses (Sekaran and Bougie, 2019), with statistics and mathematical computations being integral to the process (Saunders *et al.*, 2019:129). In line with this, the present study utilises a survey strategy for data collection and employs statistical tools, including the Statistical Package for Social Sciences (SPSS) and structural equation modelling (SEM) for data analysis. This approach ensures a rigorous and systematic investigation into the research question.

1.8.2 Research Approach

A deductive approach to theory development was employed in alignment with the positivist philosophy underpinning this study. This approach is predominantly linked to quantitative studies (Saunders *et al.*, 2019). Pursuing this approach, a review of the literature was undertaken to delve into existing theories (refer to Chapter Two), formulate hypotheses (refer to Chapter Three), and gather quantitative data. This data was utilised to test the study's proposed hypotheses (see results in Chapter Five). A survey research strategy, in the form of a self-reported questionnaire, was adopted to obtain the required data for analysis. This strategy aligns with the positivist philosophy, which primarily employs surveys and experiments for hypothesis testing. Consequently, the study was cross-sectional as the data was collected only once.

1.8.3 Population and Sampling

The current research focuses on a specific subset of the South African social network user base, specifically those aged between 18 and 65 who have previously engaged in the trading of

second-hand goods. The study further refines this group to include only users of Facebook Marketplace within the same age range residing in South Africa. These individuals have engaged with the platform for both gathering information and conducting transactions involving a variety of goods, both durable and non-durable. The decision to focus on this particular S-Commerce platform is strategic, given Facebook's significant standing as the first social commerce network in South Africa with a dedicated marketplace feature (Mofokeng, 2019; Tlapana *et al.*, 2023). This population was selected using the sampling frame explained in the next paragraph.

A sampling frame is a comprehensive list of individuals or entities from a specific population that a researcher aims to study (Saunders *et al.*, 2019). It is crucial for the accuracy and representativeness of the sample and, thus, the credibility of the research results (Sekaran and Bougie, 2019). However, in this study, which focuses on consumer behaviour in S-Commerce within South Africa and specifically on Facebook Marketplace, the researcher was unable to obtain an exhaustive list of users who have previously purchased second-hand goods. This limitation posed a challenge in establishing the sample frame. Thus, this study opted for non-probability sampling, which eliminates the need for a sampling frame, and this will be explained in the subsequent paragraph.

Sampling is a crucial step in research, allowing extrapolation of a population's characteristics from a subset (Sekaran and Bougie, 2019). The current study employed a non-probability sampling technique due to the non-existence of a reasonable and exhaustive sampling frame required for probability sampling. Non-probability sampling involves selecting participants based on specific characteristics relevant to the study, rather than at random. This method is suitable when the population is inaccessible, or the study is exploratory. It includes techniques like convenience, quota, purposive, and volunteer sampling, each with its selection criteria. While findings from non-probability sampling may not be inferred from the entire population, it is a viable alternative in certain research scenarios. The study used purposive sampling by selecting only Facebook Marketplace users who have purchased second-hand goods before as respondents. After the sampling, this study calculated the sample size to determine how many respondents would be required to participate in the research. The calculation is explained in the following paragraph.

This study's sample size determination was calculated using the "10 times rule" posited by Hair *et al.* (2019, 2021), which advocates for a sample size that is ten times the

number of model scale items to bolster parameter estimation. Aiming to align with this guideline and considering the range of sample sizes in existing studies from 122 to 874, the current study initially targeted 400 participants. This benchmark was not only met but exceeded, with 404 valid questionnaires collected, thus fulfilling Hair *et al.*'s (2019) recommendation and laying a robust groundwork for the study's statistical analysis.

1.8.4 Measurement Instrument

An online self-administered questionnaire composed of three sections was used to collect data from the sample, preceded by an introduction. The introduction explained the purpose of the study and presented the consent form for respondents to provide their voluntary consent. The first section collected data related to consumer purchase behaviour related to second-hand goods on Facebook Marketplace. In this section, before collecting purchase behaviour data, screening questions were presented to respondents to ensure that only Facebook Marketplace users who had previously purchased second-hand goods online participated in the study. The second section comprised questions related to variables of the study, namely social presence and social network factors, trusts and sustainable practices. The final section collected the respondents' biometric information.

1.9 DATA ANALYSIS

The collected data was processed and analysed using the Statistical Package for Social Sciences (SPSS), specifically Version 29. The internal reliability of the items measuring the constructs was evaluated by analysing the Cronbach's alphas of the constructs. In addition, structural equation modelling (SEM) was employed for further data analysis. SEM is a multivariate statistical analysis technique that is used to analyse structural relationships. This technique was applied using the analysis of moment structures (AMOS) software. AMOS is a visual programme for SEM that permits the analysis of model relationships more precisely among multiple variables. These rigorous analytical methods ensured a comprehensive examination of the data, thereby enhancing the robustness of the study's findings.

1.10 DEFINITIONS OF KEY CONCEPTS

Customer-to-Customer (C2C): A retail model in which individual customers sell goods and services to other customers, bypassing traditional intermediaries such as wholesalers (Li *et al.*, 2022).

Social-Commerce: An internet-based combination of social networks and commercial activities that allows individuals and groups to market and sell goods and services to online communities (Schwob *et al.*, 2022).

Sustainability: Sustainability is the process of satisfying the needs of society today and tomorrow without destroying the environment (Lavrinenko *et al.*, 2019).

Second-hand goods: Products that have been previously owned by someone else (Shen *et al.*, 2020).

Consumer Durables: Goods with a long lifespan that can be used over an extended period of time (Mounika and Reddy, 2021).

Consumer non-durables: They are goods that have a shorter lifespan and cannot be used over a long period of time (Devanathan, 2019).

Social Network Sites: Internet-based social media sites where individuals create accounts to connect and interact with others (Fakhfakh and Bouaziz, 2022).

Facebook: Internet-based social media site where individuals create accounts to connect with and interact with others (Chen *et al.*, 2016).

Facebook Marketplace: An online marketplace introduced by Facebook within its social network site in 2016 to enable users to buy and sell goods and services with others in the online community (Chen *et al.*, 2016).

1.11 STRUCTURE OF THE DISSERTATION

The dissertation is organised into six chapters as summarised in Table 1.1.

Table 1. 1 Dissertation Structure

Chapter Number	Title	Brief Summary

1	Introduction and background of the study	This chapter presents an overview of the research, detailing its historical context, identifying the research problem, and the aims of the investigation, condensing the methodological approach, emphasising the importance of the study, and defining essential concepts.
2	Literature review	In this chapter, the researcher first provides a background on e-commerce from global, regional and South African perspectives. A critical review of the literature related to C2C S-Commerce and Facebook Marketplace is then provided. Finally, the main trends of S-Commerce research are highlighted.
3	Theoretical framework and hypotheses development	This chapter comprises two main sections. The first section provides an in-depth development of the theories used in the study. The theories' strengths and limitations are also provided. An interactive schematic that integrates ST, SNT, and SPT is also provided, creating a sound conceptual framework that has been tested through empirical evidence. The second section presents the development of hypotheses guided by the theories used.
4	Research methodology	The research methods and design are developed in this chapter. First, special attention is given to the research philosophy, approach, strategy choice, and sampling process. Additionally, the population size and the data analysis tools and techniques are also explained. Finally, the ethical compliance followed in this study is explained.
5	Data analysis	The analysis of the data, such as demographics, descriptive statistics, and central tendency measures of constructs is presented in this chapter. The chapter concludes with the hypotheses-testing results.
6	Discussion of findings, implications and conclusions	This chapter provides a summary of the key research findings and discusses the implications of the findings, linking them to the research objectives. It addresses the study's limitations, the practical and theoretical implications, as well as the concluding remarks for the study.

Source: Author's own compilation

1.12 CHAPTER SUMMARY

This chapter introduced the topic of S-Commerce and Facebook Marketplace, providing the background and context for this study. It also provides the problem statement, research objectives, and purposes, focusing on C2C S-Commerce, trust, and sustainable practices. It further presents a brief research methodology and defines some key concepts and terms used in this study. The final section of this chapter outlined the structure of this dissertation.

CHAPTER TWO: PERSPECTIVE AND BACKGROUND OF SOCIAL COMMERCE IN SOUTH AFRICA

This chapter provides a comprehensive overview of the social commerce landscape within the unique context of South Africa. It is organised into two sections. The first section outlines the global, regional and South African e-commerce perspectives and the unique context of S-commerce in South Africa. The second section offers a brief review of the literature on C2C S-Commerce, highlighting the main debates, trends and thoughts in the current academic literature.

2.1 OVERVIEW OF THE GLOBAL E-COMMERCE LANDSCAPE

The early development of e-commerce around the world can be attributed to the introduction of Electronic Data Interchange (EDI) in the 1960s, which streamlined business transactions by enabling electronic document exchange (Laudon and Traver, 2001). However, e-commerce truly took off in the 1990s, driven by the accessibility of the Internet and the emergence of secure online payment systems such as PayPal (Porter, 2001). The mid-1990s marked a turning point with the widespread adoption of the World Wide Web, which allowed businesses to establish online storefronts and reach a global customer base (Simakov, 2020). Pioneering companies such as Amazon and eBay showcased the potential of online retail. Academic research highlights the continued influence of brands on consumer decision-making in the e-commerce landscape (Smith and Brynjolfsson, 2021). E-commerce is defined as the commercial activities conducted using a computer (Hendricks and Mwapwele, 2023). According to Adam *et al.* (2022), global e-commerce is the use of the Internet to purchase and sell goods and services between individuals in different countries and the provision of after-sale services.

Over half of the world's population has been using the internet since 2017 and the penetration rate has increased from 42% in 2014 to 59% in 2021 (Xiao *et al.*, 2022). This has spurred the growth of international e-commerce platforms such as Amazon, eBay, Taobao and Lazada, which offer multilingual interfaces and coherent product descriptions in local languages (Li *et al.*, 2020). The global retail e-commerce market reached US$5.2 trillion in 2021 and it is projected to reach US$8.2 trillion by 2026 (Statista, 2022). The Chinese Alibaba is the world's top e-commerce company, selling US$780 billion annually, followed by US-based Amazon as the second-largest e-commerce company, with sales of US$690 billion (Statista, 2022). E-

commerce can take different forms at the global level, encompassing transactions between businesses and consumers (B2), interactions among companies (B2), exchanges between customers (C2C), and dealings with governmental entities (B2G) as outlined by Adam *et al.* (2020). The current research explored the C2C e-commerce. Different factors have contributed to the rise of global e-commerce, such as globalisation, technological development, the lifting of trade barriers between countries and the COVID-19 pandemic.

Globalisation is the process of increasing interconnectedness and interdependence between different countries and economies (Jelinkova *et al.*, 2021). It has made it easier for businesses to produce more goods and services at a lower cost, access a wider range of resources and sell their products and services to more customers, which has helped global e-commerce grow (Aydın and Savrul, 2014). Countries that have invested more resources in technology have benefitted more from e-commerce development. For example, in 2013, China was the first country in terms of e-commerce market share, followed by Japan and the United States in second and third place, with the United Kingdom ranking fourth and South Korea fifth respectively (Aydın and Savrul, 2014). Additionally, the technological revolution, which has increased the availability and accessibility of smartphones and other smart devices such as tablets, has also contributed to the development of global e-commerce (Zhu *et al.*, 2023). Moreover, the lifting of trade barriers between countries has spurred the development of cross-border e-commerce (Zhu *et al.*, 2023). This has incentivised many countries to take advantage of these developments to find new markets in different countries**.** Furthermore, the e-commerce market grew substantially during the recent COVID-19 pandemic due to government-imposed restrictions on people's movement and access to public places, including shopping malls and commercial centres, which stimulated consumers to turn to online shopping (Xiao *et al.*, 2022).

The global adoption of e-commerce by organisations has been impeded by a lack of adequate technological infrastructure, social and economic development, national ICT strategies and ICT access (Adam *et al.*, 2020). Additionally, Barriers impacting the global adoption of e-commerce include mistrust in online transactions, low delivery success, fraudulent activities, counterfeit goods, inconsistent product descriptions, abrupt contract terminations, unauthorized charges, and defective products (Adam *et al.*, 2020). Furthermore, many countries have been reluctant to adopt global e-commerce due to the disruption of local retail industries and job losses in some countries, which have impacted local economies (Zhu *et al.*, 2023). Some countries have imposed high import tariffs and import quotas as measures to prevent disruption of local economies and protect local industries (Jia, 2017).

2.2 OVERVIEW OF THE AFRICAN E-COMMERCE LANDSCAPE

African e-commerce is growing rapidly. In 2021, African e-commerce users were estimated to be 434,6 million, which represents about 40% of the entire population with a projected value of 609.33 by 2027 (Statista, 2023). This growth is driven by several factors such as a young and growing population, increasing internet and smartphone penetration and rising disposable incomes (Ebanx, 2023; Hendricks and Mwapwele, 2023). The market is dominated by five major countries, namely Nigeria, Kenya, Morocco, South Africa and Egypt (Statista, 2022). Four major e-commerce companies such as Jumia and Konga, based in Nigeria, Kilimall in Kenya and South Africa's Takealot.com, are leading the market (Hassan and Lee, 2021).

African e-commerce has grown rapidly in recent years, but it is still facing several challenges. One of the most significant challenges is the limited infrastructure. Many African countries have poor infrastructure, including roads, electricity and internet connectivity, which can make it difficult for e-commerce businesses to operate and for consumers to access online goods and services (Almousa, 2013; Hendricks and Mwapwele, 2023; Jia, 2017; Mthembu *et al.*, 2018). Logistics is another challenge. Delivering goods to customers in Africa can be challenging due to the continent's large size and diverse geography. Additionally, many African countries have high import duties and taxes, which can make online shopping expensive (Hendricks and Mwapwele, 2023; Jia, 2017). Payment options are also a challenge for many African consumers who do not have access to traditional payment methods, such as credit cards. This can make it difficult for them to purchase goods and services online (Hassan and Lee, 2021; Hendricks and Mwapwele, 2023). Finally, trust in the e-commerce marketplace is still a challenge in Africa. Some African consumers are hesitant to shop online due to concerns about fraud and product quality (Hassan and Lee, 2021).

Despite the challenges faced, African e-commerce presents several opportunities for consumers. Firstly, Africa has a young and growing population, with over 60% of the population under the age of 25 (Xiao *et al.*, 2022). This young population is increasingly internet-savvy and has a growing appetite for online shopping. Secondly, mobile payment has contributed to e-market development as it offers convenience and accessibility at any time. For instance, M-Pesa, a mobile money payment launched by Vodacom that is linked to cell phone numbers, accounted for 11 billion payments on the continent in 2018–2019 (Statista, 2023). Thirdly, African e-commerce is still in its early stages of development. There is still a lot of room for growth. Businesses that can overcome the challenges of the African market can

position themselves for significant success as the market possesses untapped potential (Jia, 2017). Finally, many African governments are recognising the importance of e-commerce and are taking steps to support its growth. For instance, some governments are investing in infrastructure and developing e-commerce policies (Wrona, 2023). E-commerce benefits individuals, businesses and the overall economy by using resources efficiently**.** By fostering e-commerce development, African economies can create jobs, empower entrepreneurs, expand access to markets and boost trade as more African governments are investing in infrastructure and putting in place regulations(Li and Bode, 2020). Table 2.1 summarises the challenges and drivers of opportunities in African e-commerce.

Table 2. 1 Drivers of opportunities and Limitations in African E-Commerce

Opportunities drivers	Limitation
Increased investment and internet coverage	Lack of electricity and poor transportation
Growth of the youth population	A large portion of the rural population is inaccessible
High mobile penetration	Insufficient broadband networks
Increased accessibility to mobile payments	Lack of proper urbanisation (e.g. street address)
Increased e-market demand due to rapid population growth	Less developed local delivery service
The growth of the middle class and their purchasing power	Less developed banking and financial systems
Free trade area agreement and national e-commerce policies	Lack of trust in the banking system
	Less secure Internet system, immature e-commerce system
	Lack of online trust, high online fraud rate, high language diversity
	Complex customs clearance procedures, low literacy rate,

Source: Adapted from Li and Bode (2020).

2.3 OVERVIEW OF SOUTH AFRICAN E-COMMERCE LANDSCAPE

In South Africa, e-commerce emerged in the early 2000s with the rise of internet penetration (Jobodwana, 2009; Mofokeng, 2021). Initially, the major types of S-Commerce were business-to-customer (B2) and customer-to-customer (C2C) (Leung *et al.*, 2022). However, the growth of C2C e-commerce was hindered by challenges such as limited infrastructure, low consumer trust, and unreliable online payment systems (Bizcommunity, 2015; Jobodwana, 2009; Singh, 2005). Despite its benefits, South African organisations have been slow to embrace e-commerce due to factors including a lack of adequate ICT infrastructure, substandard cybersecurity, high illiteracy rates, and an insufficient legal framework (Johnson and Iyamu, 2019; Daily Maverick, 2023). However, recent technological advancements (Deloitte, 2021) and shifting consumer behaviours (Moodley *et al.*, 2021) have paved the way for significant e-commerce development. Efforts are being made to address these challenges and with improved internet access, enhanced security measures and ongoing technological progress, the expansion of online commerce in South Africa is gradually overcoming these obstacles.

2.3.1 South African E-Commerce Landscape in Pre-COVID Era: 2013 - 2018

The e-commerce industry in South Africa experienced significant growth from 2013 to 2018. Local online retailers largely dominated the market, with foreign websites accounting for only 24% of online purchases in 2014 (Johnson and Iyamu, 2019). The online retail sector has consistently maintained high growth rates of over 20% since the beginning of the 21st century (Worldwide Worx, 2017). However, in 2015, this rate reached a peak of 26%, resulting in an online retail market value of R7.5 billion (Worldwide Worx, 2017). Contrary to predictions of a slowdown to below 20%, the sector exceeded expectations in 2018, achieving a value of R14 billion (Wordwidewox, 2019). This represented a substantial increase of 25% from the previous year. Furthermore, BusinessDay (2018) reported a significant rise in online transactions, which increased from R5.7 billion to R18 billion between 2013 and 2018. The e-commerce boom during this period was driven by several factors. These included increased internet access, lower internet data costs, widespread use of smartphones and smart devices, the emergence of online marketplaces and secure online payment systems, among others (Flicker Leap, 2018).

2.3.1.1 Increased internet usage in South Africa

The expansion of internet access in South Africa has been extraordinary, rising from 34% in 2012 to 53% in 2018, as reported by a Research ICT Africa survey (Gillwald and Mothobi,

2018). However, the survey also reveals significant usage disparities among low-income populations. Compared to other African countries, South Africa ranks high in internet penetration, followed by Lesotho and Senegal, with 32% and 31%, respectively, as presented in Figure 2. 1.

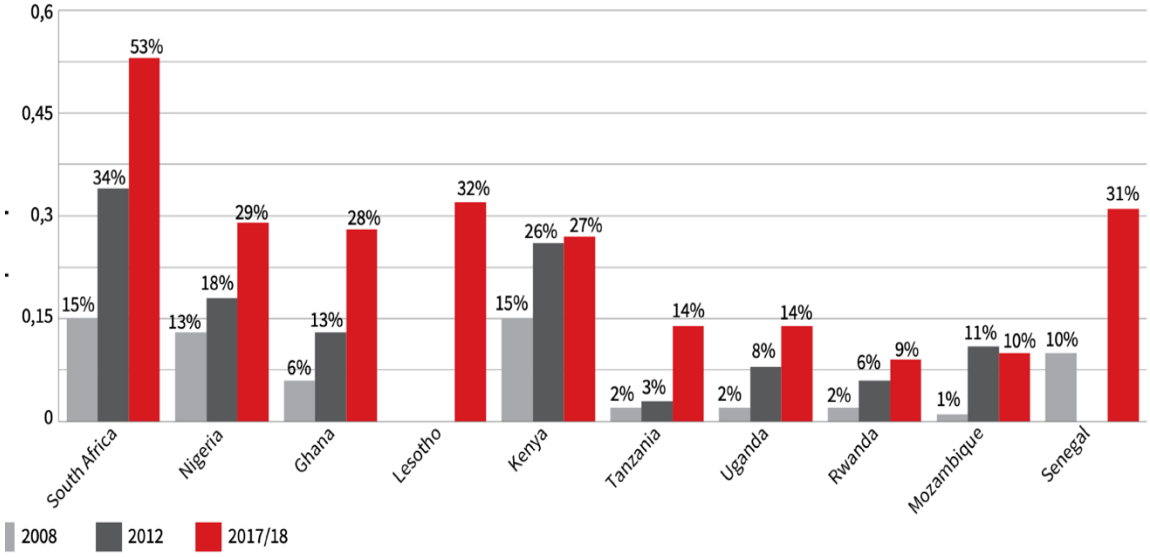
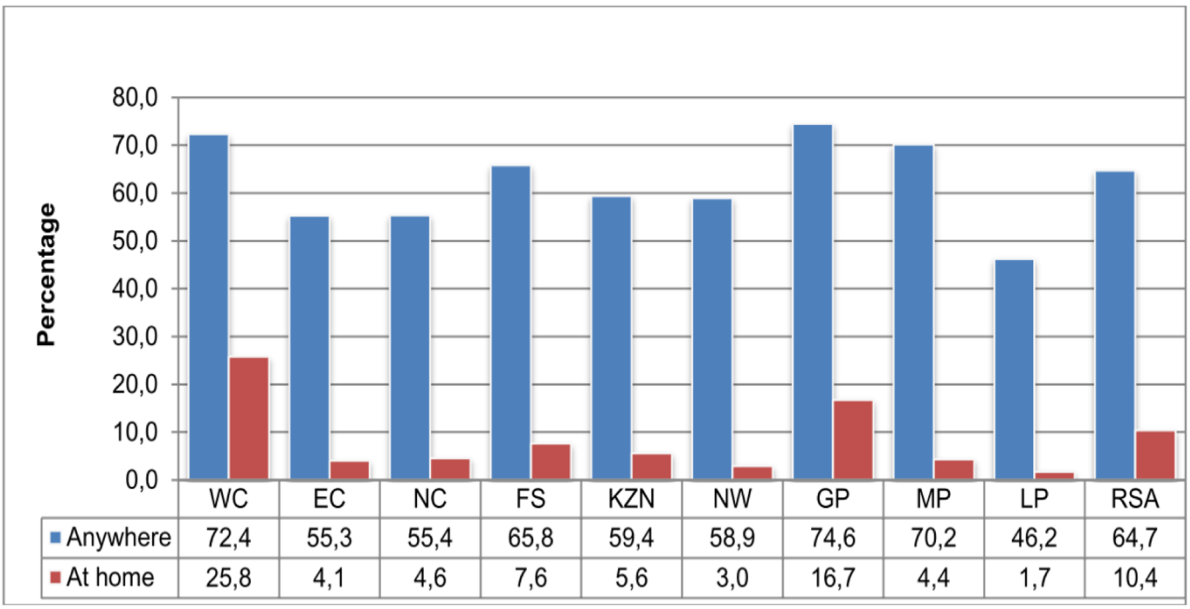


Figure 2. 1 2018 Internet Usage in African Countries (Gillwald and Mothobi, 2018)

Nigeria, Ghana and Kenya follow closely with 29%, 28%, and 27%, while Rwanda has the lowest rate at 9% (Gillwald and Mothobi, 2018). The increase in internet penetration in South Africa has also boosted the adoption of e-commerce, as more consumers have access to the internet and mobile devices (Flicker Leap, 2018). E-commerce platforms offer convenience and product diversity that appeal to online shoppers (Research and Markets, 2022). Vodacom's annual report confirms the upward trend of internet usage in South Africa, driven by higher smartphone penetration and mobile internet utilisation (Joosub and Macozoma, 2023). StatsSA data shows a significant increase in internet-connected households, from 40.9% in 2013 to 64.7% in 2018, mainly due to smartphones, which accounted for 60% of internet usage in 2018 compared to 18% in 2013 (StatsSA, 2018), as presented in Figure 2. 2



	WC	EC	NC	FS	KZN	NW	GP	MP	LP	RSA
Anywhere	72,4	55,3	55,4	65,8	59,4	58,9	74,6	70,2	46,2	64,7
At home	25,8	4,1	4,6	7,6	5,6	3,0	16,7	4,4	1,7	10,4

Figure 2. 2 2018 Internet Usage in South Africa (StatsSA, 2018)

2.3.1.2 Prevalence of digital devices

The widespread adoption of smartphones and mobile devices has had a profound impact on online shopping (Flicker Leap, 2018). With increased affordability and availability of smartphones and mobile data, consumers now have convenient access to products and streamlined payment systems (Moodley *et al.*, 2021). This shift is supported by the findings from Vodacom SA's 2013 annual report, which highlight a positive correlation between higher smartphone penetration, increased mobile internet usage and growth in data revenue and traffic (Vodacom, 2013). South Africa has one of the highest smartphone adoption rates in sub-Saharan Africa. According to a Pew Research report from 2018, more than half of the adults have smartphones and another 40% have basic mobile phones. The country has 46.9 million smartphone subscriptions, which include users who have more than one phone (GeoPoll, 2019). Additionally, StatsSA reports indicate a significant rise in the percentage of internet usage on smart devices, with 60% in 2018 compared to 18% in 2013 (StatsSA, 2013, 2018). This translates to a substantial increase in the number of people using smart devices to access the internet.

The penetration of smartphones has not only facilitated online shopping but also revolutionised payment methods (Mkansi and Nsakanda, 2023; Moodley *et al.*, 2021). Smartphones have become a viable alternative to traditional wallets (Nielson, 2018), with various industries offering cashless options and this shift has expanded e-commerce to include debit and credit

transactions through mobile phones (Research and Markets, 2023). The widespread availability of the Internet, smartphones and self-service technologies, both in South Africa and globally, has led to the growth of mobile commerce and the development of mobile application services (Alalwan, 2020). This transition has prompted businesses to develop mobile applications and optimised websites to cater for the growing demand for mobile-based shopping experiences (Ngubelanga and Duffett, 2021). The importance of mobile devices in our daily lives is highlighted in Vodacom's 2013 annual report, acknowledging their role in revolutionising communication, connectivity and transactions (Vodacom, 2013).

2.3.1.3 Development of online marketplaces

The South African Competition Commission (2022) reported that the online retail landscape is shared between pure online retailers, which are shops that do not have physical stores where consumers can visit to view the products sold, and brick-and-mortar shops that own either their online ordering system or are selling through a third-party platform. The emergence of online marketplaces has significantly shaped the e-commerce landscape in South Africa. During the period from 2013 to 2018, popular online marketplaces such as Takealot, Zando, and Bidorbuy, also known as pure-play retailers providing a variety of products and services to consumers, gained prominence (Ligaraba *et al.*, 2022). To cater for the increasing demand for online shopping, many pure-play retailers such as Takealot and Superbalist have developed mobile applications that enable consumers to shop, make payments, communicate with the sellers and track deliveries conveniently using their smartphones (Mkansi and Nsakanda, 2023).

In addition to providing convenience for consumers, these online marketplaces have also created opportunities for small businesses and entrepreneurs to expand their reach and establish an online presence without the need for independent e-commerce websites (GeoPoll, 2021). In South Africa, major e-commerce platforms such as Takealot, Superbalist, Woolworths, Pick n Pay, PriceCheck, Makro and Checkers Group compete not only with local retailers but also with international e-commerce giants such as Alibaba, Amazon, Shein, Wish, and eBay (Mordor Intelligence, 2023). However, the Takealot Group, which owns Takealot.com, Mr. Delivery Food and Superbalist, commands a significant share of the market, estimated at 60% of South African online sales (Statista, 2023).

2.3.1.4 Improvements in payment systems

The growth of e-commerce has been enhanced by the development of secure and convenient payment systems that foster trust and facilitate seamless transactions (Research and Markets, 2022). Various factors influence consumers in the online shopping and payment experience, such as brand trust, customer service, easy checkout, smooth refunds and returns and payment methods (MoneyWeb, 2023). Payment systems are crucial for online transactions and have contributed significantly to the development of e-commerce. They play a critical role in shaping consumers' preferences and enabling secure and efficient payments. According to Stitch SA (2013), 85% of consumers consider the security of the payment system a key factor in their online shopping decisions. This highlights the importance of payment systems in building consumer trust and fostering the growth of e-commerce.

Digital payment methods have made online payments easier and more secure, increasing consumer confidence in online shopping (Hassan and Lee, 2021; Kim and Kim, 2022). E-commerce platforms are also striving to provide consumers with a seamless and secure online shopping experience by developing secure and efficient payment systems (Research and Markets, 2022). Following global trends, South Africa’s online banking, mobile wallets and payment gateways have become increasingly popular, providing consumers with a variety of convenient and secure payment options (Kim and Kim, 2022). Instant EFT has emerged as the preferred payment method due to its perceived benefits of speed, reliability and safety (Statista, 2022). Blockchain-based payment models are also gaining traction, as they offer enhanced security and simplicity (Kim and Kim, 2022).

2.3.2 South African E-Commerce Landscape During COVID-19 Era: 2019-2022

The pandemic of COVID-19 caused by the SARS-CoV-2 virus has significantly influenced human lives, affecting public health, economies and daily life worldwide (Di Crosta *et al.*, 2021). In March 2020, the World Health Organization (WHO) declared COVID-19 a global pandemic (Hirose *et al.*, 2021). The implementation of lockdowns and social distancing measures in many countries, including South Africa, to control the virus spread, led to a surge in e-commerce activities, mirroring the global trend (Deloitte, 2021). Ndlovu and Chetty's study (2021) found that the adoption of e-commerce platforms by South African consumers increased significantly during the COVID-19 pandemic. Online shopping's convenience and safety appealed to more individuals, leading to a shift in consumer behaviour towards e-

commerce as their preferred method for purchasing goods and services (Accenture, 2020). A survey among VISA card users in South Africa indicated a surge in online shopping, with 64% of consumers purchasing groceries online for the first time and 53% making their first online pharmacy purchase (Musakwa and Petersen, 2023; Reuters, 2020). In addition, another study on consumer spending during COVID-19 conducted in 2020 by Mastercard, which is a payment processing system, revealed that 68% of consumers in South Africa had increased their online shopping activities since the start of the pandemic (Mastercard, 2020).

The COVID-19 pandemic has fundamentally changed how consumers live, buy and think (Heyns *et al.*, 2022). The pandemic has accelerated the adoption of digital commerce and shifted consumer preferences and values (Rao *et al.*, 2021). Consumers are shopping more consciously, locally and sustainably (Mtotywa and Kekana, 2023). They are also seeking digital solutions for entertainment, learning, communication and and work. These changes have important implications for consumer goods and service companies, which need to adapt their offerings, channels and marketing strategies to meet the new needs and expectations of consumers (Rao *et al.*, 2021). Convenience, fast delivery, and health and safety concerns were consumers' main priorities when shopping online during COVID-19 (Heyns *et al.*, 2022). Individual's well-being takes precedence, with the wellness of friends and relatives coming next. This is followed by the assurance of food and medical supplies, financial stability and personal safety. Consumers are becoming more environmentally conscious and acting to limit any negative economic, environmental and health consequences of their choices (Gumasing *et al.*, 2022).

The South African e-commerce market has seen significant growth from 2019 to 2022, particularly during the strict lockdown measures from the first quarter of 2020 to the fourth quarter of 2021 (Mtotywa and Kekana, 2023). According to the First National Bank (FNB, 2020), one of the South African banks, e-commerce's share of total card payments in the retail space increased from 8% before the pandemic to 14% by the end of 2020, while the share of travel and accommodation decreased from 35% to 11% during the same period (FNB, 2020). This rise in online card payments shows how consumers have changed their buying behaviour (Research and Markets, 2022). In 2019, South Africa's e-commerce market was worth US$3 billion, and it is expected to expand at a 13% CAGR through 2024 (Deloitte, 2021; Mofokeng, 2021). The pandemic has accelerated this growth as more consumers have turned to online shopping (Reuters, 2020). It was approximated that close to 22 million individuals in South

Africa engaged in online shopping in 2020 and this figure is projected to grow to 32 million by 2024. The South African e-commerce market is projected to reach US$6.36 billion by the end of 2023.

The transition to online shopping has reshaped the retail landscape in South Africa, with businesses and consumers adapting to the changing environment (Accenture, 2020). The growth in e-commerce has been further fuelled by other factors such as advancements in digital technologies, improved logistics and the proliferation of mobile devices (Moodley *et al.*, 2021; Mordor Intelligence, 2023). Moreover, the COVID-19 pandemic acted as a catalyst for the adoption of online shopping, forcing businesses to pivot and optimise their digital presence to meet evolving consumer demands. E-commerce platforms and online marketplaces have gained prominence, enabling businesses to reach a wider customer base and offer convenient purchasing options (Research and Markets, 2022). However, competition has intensified, emphasising the importance of differentiation and providing exceptional customer experiences to thrive in this evolving landscape (Deloitte, 2021).

The COVID-19 pandemic has triggered a surge in online shopping. Several organisations reported significant growth in online revenue. For instance, the Takealot Group, a Naspers-owned e-commerce company, grew its revenue by 65% and trading profit by more than 100% in 2021(Naspers, 2021). Likewise, Woolworths Holdings Limited recorded a significant 22.4% rise in online sales (BusinessTech.co.za, 2022). Pick n Pay experienced a remarkable 150% year-on-year increase in online clothing sales and successfully launched its online application Asap! which saw a staggering 200% growth in on-demand grocery online grocery sales since its introduction in July 2021 (BusinessTech.co.za, 2022). Additionally, Massmart, the operator of Game, Builders and Makro brands, reported substantial growth, with online sales increasing by 50% and a 109% increase in online transactions from 2020 to 2021 (Abdool-Samad *et al.*, 2022). According to several sources (e.g., BusinessTech, 2022; PRNewswire, 2022; Similarweb, 2023),Takealot Group is the top South African e-commerce platform in terms of market share amongst several online stores that gained prominence during the COVID-19 pandemic. Figure 2.3 presents Takealot online shop landing page.

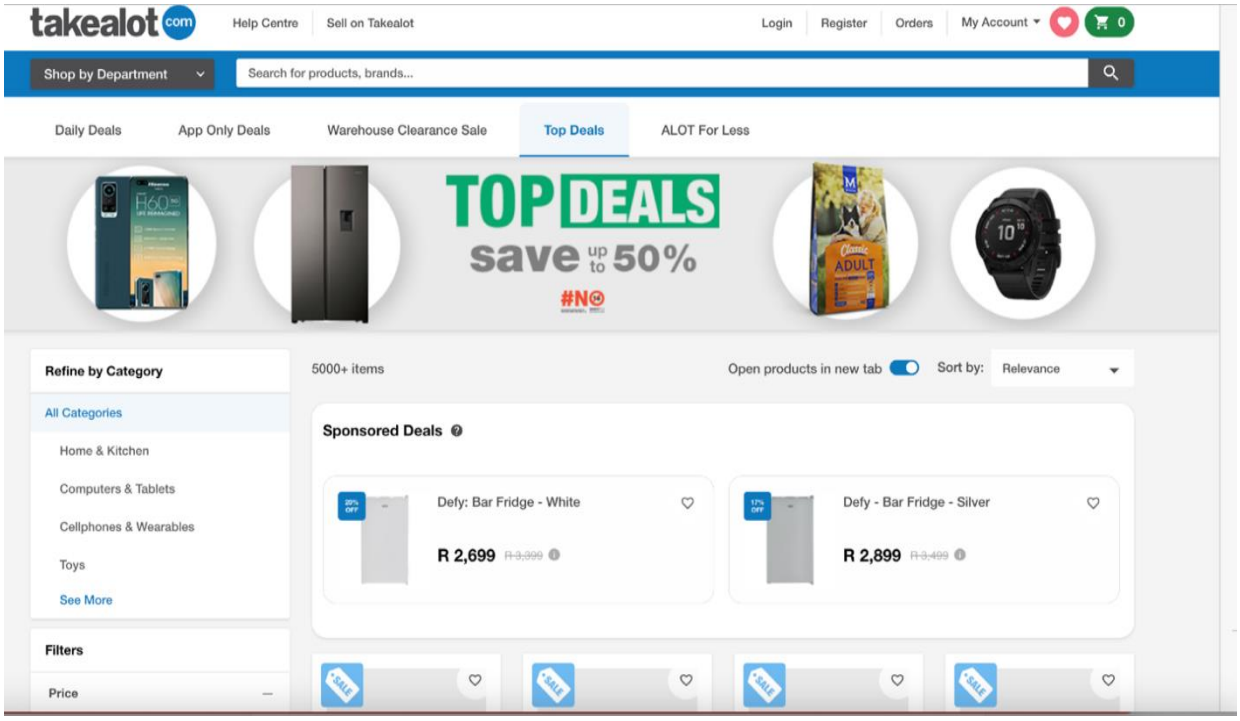


Figure 2. 3 No1 South African e-commerce platform (Takealot, 2023).

2.3.2.1 Online grocery shopping (e-grocery)

One notable development during the COVID-19 period that influenced e-commerce in South Africa was the accelerated growth of online grocery shopping. Following the global trend, South African consumers turned to online platforms to purchase essential items while minimising physical contact (Accenture, 2020a; Hassen *et al.*, 2022; Deloitte, 2021). According to a report by Nielsen (2020), online grocery sales in South Africa grew significantly during the COVID-19 pandemic, with platforms such as Pick n Pay and Woolworths seeing a surge in demand. This shift in consumer behaviour not only reshaped the grocery sector but also contributed to the overall growth of e-commerce in the country (McKinsey and Company, 2022). Furthermore, South African online retailers dominated the market compared to foreign e-commerce platforms in the country, with many sellers deciding to go digital in response to changing consumer behaviour and opportunities in the e-commerce market (Deloitte, 2021; MoneyWeb, 2023).

The demand for convenience, accentuated by the COVID-19 pandemic and the subsequent stay-at-home orders, has been a key driver behind the burgeoning growth of online grocery stores (Daily Maverick, 2020; Ligaraba *et al.*, 2022). This trend has been further propelled by

the entry of global giants and multinational corporations, such as Uber Eats, into the market, underscoring its increasing significance (IOL, 2023). Notably, this trajectory aligns with the findings of Kumar *et al.* (2023), who delve into the factors influencing consumer satisfaction and continued usage of e-grocery retailing platforms, highlighting the importance of convenience as a critical driver of customer loyalty.

In response to the shift towards online grocery shopping, many brick-and-mortar retailers have developed their mobile applications to facilitate delivery services, a strategy well demonstrated by Checkers through its Sixty60 application (Checkers, 2023). This innovative approach, allowing customers to order groceries for delivery within 60 minutes, reflects the dynamic nature of the e-grocery landscape, as discussed in Saghiri *et al.*'s (2023) research on grocery omnichannel perishable inventories and performance measures. Similarly, Pick n Pay has introduced ASAP, a mobile application designed to provide same-day grocery delivery, showcasing the competitive strategies of traditional retailers entering the e-grocery realm (eCommerce, 2023). These initiatives parallel the findings of Ligaraba *et al.* (2022), who explore the antecedents of the re-usage intention of online and mobile grocery shopping, shedding light on how established brands are adapting to meet evolving consumers. The South African e-grocery landscape is presented in Figure 2. 4.

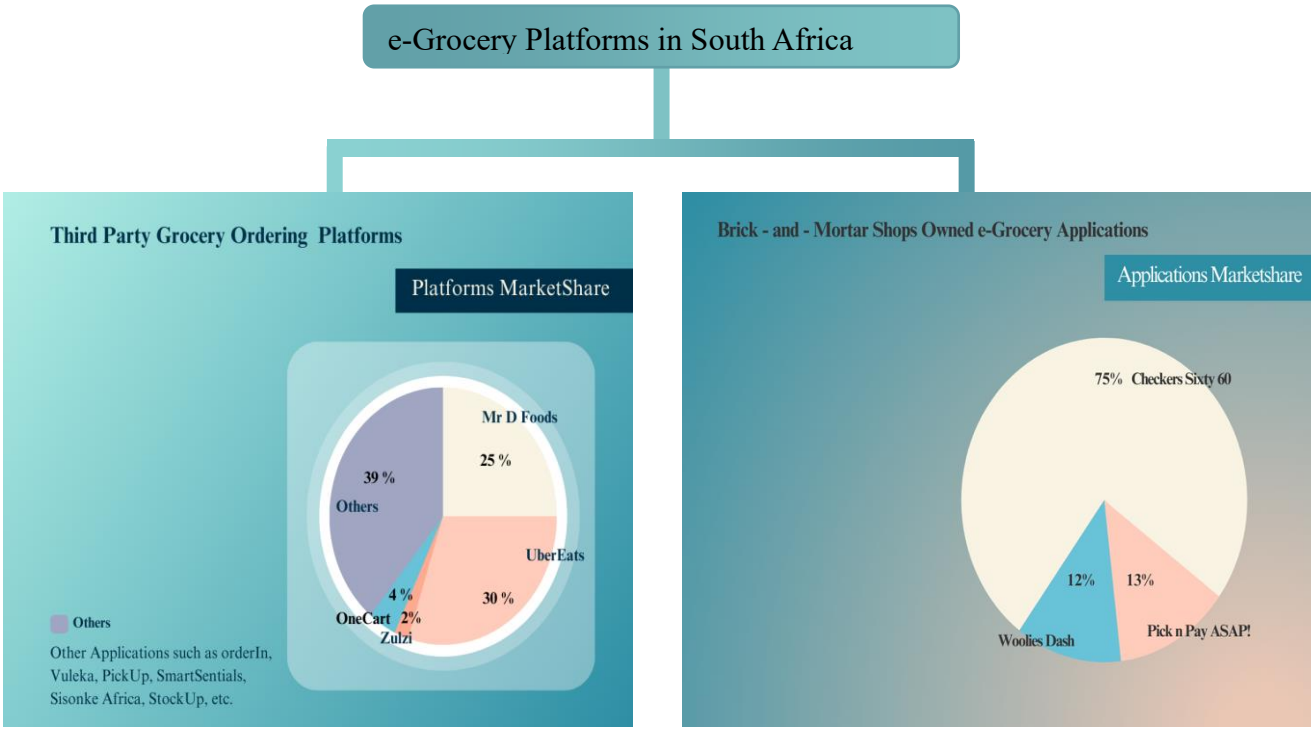


Figure 2. 4 Main e-grocery platforms in South Africa

2.3.3 Overview of Social-Commerce Industry in South Africa.

S-Commerce refers to the fusion of social media channels and online buying, enabling users to shop directly within the social media platform (Wiese, 2021). While S-Commerce and e-commerce share common ground in their digital retail nature, there is a notable debate in scholarly circles about the exact relationship between the two concepts. Some scholars contend that S-Commerce should be regarded as a subset of e-commerce (Bugshan and Attar, 2020; Camacho and Barrios, 2022), while others emphasise distinctive differences between these two realms (Leung *et al.*, 2020; Moriuchi and Takahashi, 2022). A summary of the differences and similarities is presented in Table 2.2.

Table 2. 2 The differences and similarities between e-commerce and s-commerce

Dimension	E-Commerce	S-Commerce
Interpersonal Interaction	Focused on online product reviews	Focused on user interactions and leveraging user-formed social networks to drive business activities.
Social media	Fewer social media functions	A blend of e-commerce and social media, fosters user dialogue through community functions. Its core activities are primarily driven by social media.
Business Intention	Focused on product information and price competitiveness, with sales being the key metric and maximising purchase rate as the core business objective.	Focused on user interaction, collaboration and user-generated content. It empowers users to take on roles beyond just being recipients, allowing them to co-create. The core business objective is the achievement of social goals.
Information flow	Information dissemination is largely a one-way process, with content primarily flowing from businesses to customers, not the other way around.	Prioritises user contributions and user-generated content, fostering trust and enhancing information dissemination through open user interactions.
System Design	Focus on showcasing product or service features, with key technologies being information	Centred around user and community interactions, with key features including comments, discussions and ratings.

Dimension	E-Commerce	S-Commerce
	retrieval tools like search and navigation.	

Source: Adapted from Wang and Xie (2020).

S-Commerce has revolutionised the way businesses interact with consumers, with platforms such as Pinterest, Facebook and Instagram leading the way in facilitating online shopping experiences (Deloitte, 2022; Tlapana *et al.*, 2023). The global S-Commerce market had already generated around $1.9 trillion in 2018, indicating its substantial growth and impact (Deloitte, 2021). Facebook, under Meta Platforms ownership, has over 2.9 billion active monthly users worldwide, and its advertising revenue reached $113.6 billion in 2022 (Statista, 2023; Oberlo, 2023). Notably, the United States and China are prominent hosts of S-Commerce platforms, with top-ranked networks such as WeChat, QQ and Douyin gaining mainstream appeal in their respective regions. As S-Commerce continues to expand, it is predicted to become the next global shopping revolution (Forbes, 2023).

The evolution of S-Commerce in South Africa continued to shape the e-commerce landscape from 2019 to 2023, witnessing even more significant developments and market growth (Deloitte, 2021). According to a recent forecast published in Research and Markets (2023), S-Commerce sector in South Africa will experience a remarkable annual growth rate of 60.6%, reaching a value of US$1.40 billion by 2023. This exponential growth can be attributed to several factors, including advancements in technology, the proliferation of smartphones, changing consumer behaviour and the COVID-19 pandemic (Deloitte, 2021; Statista, 2023). The Strategic Market Research and Grand View Research reports delve into the prospects of S-Commerce, highlighting the increasing adoption of mobile shopping, the rise of influencer marketing and the integration of artificial intelligence to enhance personalised shopping experiences (Business Wire, 2023; Grandreviewresearch, 2021). In the first quarter of the year 2023, the South African S-Commerce Market Intelligence and Future Growth Dynamics Report indicated a growing interest and investment in S-Commerce sector, signalling the intentional decision of social commerce actors to generate more growth (Business Wire, 2023).

Social media platforms have distinct roles in shaping consumer behaviour and influencing business strategies (Confetto *et al.*, 2023; Francis and Sarangi, 2022). There are four main social media categories. Social network platforms such as Facebook and Twitter facilitate connections between individuals, fostering interactions with relatives, friends, brands and even

unknown people (Chaffey *et al.*, 2019). Media-sharing networks such as Instagram, Snapchat, TikTok and YouTube provide spaces for users to share photos, videos and other media content (Duffett, 2017). Discussion forums such as Reddit offer valuable insights for market research (Tuten and Solomon, 2017). Consumer review platforms such as TripAdvisor and Yelp play a pivotal role in impacting consumer decisions (Ye *et al.*, 2009). Social media types play diverse roles in influencing consumer behaviour and providing valuable marketing opportunities for businesses. Different developments that influenced the growth of S-Commerce will be discussed in subsequent sections.

2.3.3.1 Increased Social Media Usage

During the period from 2013 to 2018, social media platforms experienced significant growth in South Africa, driven by increased smartphone usage and improved internet accessibility (Worldwideworx, 2013; StatsSA, 2018). Platforms such as Facebook, Instagram and Twitter gained widespread popularity (StatsSA, 2018). As a result, these platforms have evolved beyond their traditional roles as sources of information and communication to become popular channels for consumers to engage with brands and even shop directly on social media leading, to the emergence of S-Commerce (McKinsey and Company, 2023; Wiese, 2021). A survey of urban adult cellphone users in South Africa revealed a substantial increase in instant messaging (IM) usage, with WhatsApp being the most prevalent at 53%, followed by Facebook Chat (45%), Mxit (25%) and BBM (21%) (Worldwideworx, 2013). Social media's influence is poised to continue growing, presenting lucrative opportunities for marketers and retailers.

Social media adoption in South Africa has grown remarkably over the past decade, with major brands using various platforms for communication and marketing. According to studies by Worldwide Worx and Ornico (Worldwideworx, 2017, 2018), Facebook, Twitter, YouTube and Instagram were the most popular platforms among brands with high adoption and advertising rates. These reports further commented that Facebook remains the preferred choice with an impressive 97% adoption rate, followed by Twitter (90%), LinkedIn and Instagram (both at 72%). Moreover, brands recognised the value of these platforms as advertising channels, with 86% choosing Facebook, 45% Twitter and 40% Instagram for their marketing endeavours (Worldwideworx, 2018). The rise of mobile-friendly strategies has also contributed to the efficiency of social networks in reaching audiences in South Africa (BusinessTech, 2021). Social media has emerged as an essential instrument for organisations to connect with stakeholders and enhance their brand engagement.

The number of active social network users grew from 9.8 million in 2014 reaching 28 million in 2022(Statista, 2023). South Africans use social media to stay connected with friends and family, read the news and seek product recommendations (Statista, 2023). WhatsApp has emerged as the leading private messaging social network in the country, being used by more than 95% of the social network population (Statista, 2023). Businesses and individuals have utilised social media for various purposes, including communication, advertising and gathering consumer feedback for better decision-making (BizCommunity, 2023). The adoption of social media by major brands underscores its importance as a cost-effective and efficient means of reaching audiences and improving customer satisfaction (Worldwideworx, 2017, 2018). Social media has proven to be an invaluable tool for organisations and individuals in South Africa, allowing them to connect with their target audience, share engaging content and gather insights for enhanced marketing strategies.

2.3.3.2 Expansion of Social Commerce Platforms

The rise of S-Commerce platforms in South Africa has been a significant and transformative trend in the country's digital landscape (Mogashoa, 2019). As social media usage continues to soar, businesses and consumers alike have embraced these platforms for both social interactions and commercial transactions. S-Commerce operates by merging social media and e-commerce, facilitating online shopping transactions via social media platforms. It capitalises on social interactions, enabling users to exchange opinions and discuss products, which often sway buying decisions (Dincer and Dincer, 2023). User-generated content such as reviews and testimonials offers valuable insights to potential buyers (Li *et al.*, 2021). Personalisation is achieved by utilising data from users' social media profiles to customise the shopping experience (Chen *et al.*, 2023). Peer recommendations allow users to see what products their friends have liked or reviewed, influencing their purchasing decisions (Chandrruangphen *et al.*, 2022; Chandrruangphen *et al.*, 2022). Some platforms enable direct purchasing, streamlining the shopping experience. S-Commerce also allows businesses to interact directly with customers on the platform (Ingard, 2021) by facilitating prompt customer service.

According to data from DataReportal (2023), there were approximately 29.6 million social media users in South Africa as of 2023, representing a considerable market potential for S-Commerce. Popular social network platforms such as Facebook and Instagram have integrated

shopping features, including "buy" buttons and shoppable posts, enabling businesses to directly reach and engage with their target audiences (Accenture, 2022). This convergence of social media and e-commerce has allowed brands to showcase products, offer seamless shopping experiences and leverage social proof through user reviews and influencer marketing. Additionally, TikTok, one of the rising social media platforms in South Africa, has also been shaking up the landscape and gaining momentum as businesses tap into its engaging short-form video format for advertising and product promotion (Daily Maverick, 2023).

Furthermore, S-Commerce market intelligence report for South Africa indicates that the country's S-Commerce market is expected to grow significantly in the coming years (Research and Markets, 2023). As more South Africans adopt digital technologies and embrace social media, the opportunities for businesses to leverage S-Commerce will continue to expand. The statistics clearly show the widespread use of various social media platforms in South Africa. These platforms include WhatsApp, YouTube, Facebook, Instagram, Facebook Messenger, LinkedIn, Skype, Pinterest, Twitter, TikTok, Snapchat, Telegram, Reddit, WeChat, Tumblr, and Badoo (BusinessTech, 2021). As these platforms evolve and integrate more commerce-oriented features, sellers are presented with an unprecedented chance to engage with their audiences directly, drive sales and build brand loyalty. S-Commerce has emerged as a game-changer in the marketing and retail landscape in South Africa, creating a dynamic environment for sellers to capitalise on the social media trend and establish a competitive edge in the digital marketplace (Entrepreneur, 2021; Visual Capitalist, 2019).

2.3.3.3 Introduction of Marketplaces on Social Network Platforms

Social media platforms have introduced “buy buttons”, which enable users to make purchases directly from posts or ads without leaving the platform (Statista, 2023). This feature was first integrated in 2014 by Facebook, allowing users to purchase merchandise from retailers entirely within the platform (Martínez-López *et al.*, 2019). Following Facebook's lead, other social platforms such as Twitter, Pinterest, WeChat and Weibo also introduced their variations of buy buttons around the same time (Martínez-López *et al.*, 2019). Despite this integration, the impact on e-commerce sales has been relatively small, with social channels accounting for only 1.8 per cent of online sales during the holiday season (The Washington Post, 2016). One of the challenges has been the lack of awareness and familiarity among users, as well as the limited selection of items available for purchase. However, buy buttons have shown the potential to

reduce the conversion gap on mobile devices by facilitating impulse buying and reducing friction in the purchasing process (The Washington Post, 2016). While some consumers have shown interest in making direct purchases from social media, others have been less enthusiastic, with 45% of surveyed consumers expressing reduced interest in the buy button feature (Business Insider Intelligence, 2017).

Buy buttons on social media have changed how S-Commerce works in South Africa. More brands are using affiliates and brand ambassadors to sell products on platforms like Instagram and TikTok, which have improved their in-app shopping features (Marketing Spread, 2022). Younger consumers, particularly those belonging to the Millennial and Generation Z cohorts, are more open to buying directly from social networks, according to a US survey by Deloitte (2021). “Buy buttons” generated less interest when they were first introduced in South Africa (Business Insider Intelligence, 2017). However, as they learn more about the feature, they may be more willing to shop through social media. The success of buy buttons for S-Commerce will depend on how well brands and influencers use them to reach their audiences (Marketing Spread, 2022). Buy buttons could become more important for S-Commerce sales and brand engagement in South Africa as social media platforms and consumers embrace them more.

Facebook Marketplace is an accessible platform within the Facebook social network that enables users to both sell and purchase items. Unlike many other online marketplaces, it is a public space where users can list items for sale without requiring a Facebook account (Chang *et al.,* 2020). To sell an item, users typically upload a photo, provide a description, set a price, and post it in the Marketplace. Interested buyers can then browse through the listings and directly communicate with sellers via various methods, such as Facebook Messenger, phone, or WhatsApp. Facebook itself does not directly participate in the actual buying and selling process but serves as a facilitator for connecting buyers and sellers (Chang *et al.,* 2020).

Facebook Marketplace serves as an affordable option for individuals looking to reach a broad customer base with their listings (Camacho and Barrios, 2022). Depending on the type or nature of the products being sold, various Facebook users create localised groups associated with the Marketplace. Buyers who navigate the Marketplace to find products can also see items posted in these local groups (Chang *et al.*, 2020). Notably, one of the prominent categories in the Marketplace is the sale of second-hand goods. It is important to note that Facebook typically does not charge a service fee for posting items or conducting transactions. However, sellers,

have the option to enhance the visibility of their listings to a wider audience by paying a fee to boost their post's visibility. Additionally, Facebook occasionally offers the "buy" button feature, enabling users in certain regions to make direct purchases from the Marketplace

2.3.3.4 The Rise of S-Commerce Influencers

S-Commerce relies heavily on social media influencers, who use their platforms to sway consumer behaviour and brand perceptions (ShopifySA, 2023). These influencers have large followings on various online platforms, such as Facebook and Instagram, where they share content related to their niche or personal brand. They are classified into macro-influencers (over 100 000 followers), micro-influencers (10 000 to 100 000 followers), and nano-influencers (less than 10 000 followers) (Nizri, 2022; Akbarpour, 2018). Influencers can affect consumer decisions and purchases by sharing their opinions on products or services (Ramela *et al.*, 2022; ShopifySA, 2023). Their credibility and expertise create trust among their followers, which is more effective than traditional brand messaging (Meltwater, 2023). Brands have realised the value of influencers in reaching their target audiences authentically, and they have adopted influencer marketing as a key strategy in S-Commerce (Influencer Marketing Hub, 2023; Ogilvy, 2021).

The increasing prominence of social media opinion leaders has significantly contributed to the development of S-Commerce through several key factors. As consumers sought authenticity and relatability, influencers emerged as trusted sources of product recommendations, surpassing traditional brand messaging (Meltwater, 2023). The democratisation of fame on social media platforms allowed anyone with an online voice to become an influencer, revolutionising the marketing communication landscape (Marketing Spread, 2022). This shift has transformed influencer marketing into a prominent strategy for companies, with significant budget allocations for influencer partnerships and content creation (EWN, 2022). In South Africa, influencer success stories have flourished, turning influencing into a prosperous full-time career with creative autonomy and substantial earning potential (EWN, 2022). As exemplified by Glow Recipe, the impact of influencers on S-Commerce can be profound, with a single TikTok video causing a surge in sales by 600% (Accenture, 2022).

Social media influencers, also known as 'instafamous' live streamers or key opinion leaders (KOLs), are a new breed of online celebrities with a significant following on platforms such as

Facebook (Wu *et al.*, 2022). They possess unique resources that set them apart from traditional marketers. These resources, as identified by Wu *et al.* (2022), include network assets (the size and diversity of their social connections), persuasion capital (the trust and influence they command within their community), knowledge stores (their expertise and insights on various topics) and creativity (their ability to generate novel and engaging content). These resources empower them to shape their followers' opinions and behaviours. For instance, in the context of Facebook Marketplace, influencers play a crucial role in shaping purchase decisions (Kurdi *et al.*, 2022). They are considered credible and reliable sources of information, making them valuable marketing tools for brands aiming to reach and influence potential customers on Facebook.

2.3.3.5 Customer Reviews

Customer reviews play a crucial role in C2C S-commerce, as they provide potential buyers with valuable insights into the products and services being offered. According to Schwichtenberg (2023), 86.8% of consumers agree that customer reviews are a very important part of their product choices. Social networks such as Twitter and Facebook provide convenient platforms for customers to share their reviews with a wide audience (Omayma Rezk, 2022). These reviews can be in text, image, or audio format and offer important information about the quality of the goods sold, the customer service experience, and the overall value for money (Alotaibi, 2023). For instance, a positive review on Facebook Marketplace can boost a seller's reputation, while a negative one can warn potential buyers about the seller's service or product quality. For sellers, customer reviews on social media can be a double-edged sword. On the one hand, positive reviews attract new customers and build trust. On the other hand, negative reviews can damage the seller's reputation and discourage potential buyers (Tyagi and Shrivastava, 2022). It is therefore imperative for sellers to monitor their social network pages and respond to customer reviews promptly and professionally. Sellers should thank customers for their positive reviews and apologise for any negative experiences (Tyagi and Shrivastava, 2022). They should also take the opportunity to address any issues that customers have raised in their reviews.

Consumer reviews on social media networks are vital for S-Commerce, which combines social networks and e-commerce to improve online shopping experiences. Several studies (Bailey *et al.*, 2021; Cheung *et al.*, 2021) have shown how engaged consumers influence brand

interactions and behavioural intentions through reviews and recommendations. According to McKinsey and Company (2022), peer insights have a stronger influence on consumer behaviour than any other marketing strategy. Deloitte (2014) found that 81% of consumers depend on peer reviews of online products and services when making purchasing decisions. In South Africa, where consumers trust online reviews (Nielsen, 2012) and actively participate in brand communities (Santos *et al.*, 2022), their opinions can enhance the perceived trustworthiness of online stores and service providers (Utz *et al.*, 2012). Moreover, their personal experiences and recommendations can foster community and authenticity, leading to customer loyalty and advocacy for brands (McKinsey and Company, 2022). Therefore, South African consumer reviews are crucial for the development of S-Commerce in the digital realm. Customers do not only share their opinions on social networks, but they also do so on different platforms, such as Google (ReviewTrackers, 2022).

2.3.3.6 Growth of live-streaming Shopping

Live-streaming shopping has emerged as a prominent trend worldwide, reshaping the way consumers interact with e-commerce platforms and brands. In the United Kingdom, for example, a study conducted by Chan (2022) delved into the impact of social media influencers on consumer buying behaviour, highlighting their significance as a marketing channel. Moreover, the increase in live-streaming e-commerce in China has been well documented (Forbes, 2023), with its success driven by the establishment of parasocial relationships and source credibility (Rungruangjit, 2022). While some analysts speculate about its potential to take over traditional e-commerce (Forbes, 2023), others argue that it complements rather than replaces existing online shopping methods. The adoption of live-streaming shopping is not limited to Asia, as Aldo's pilot initiative in Canada indicates (RetailInsider, 2021). Furthermore, in South Africa, the launch of a live stream mall (Ecommerce.co.za, 2023) and the introduction of the first live shopping app (Shopstar, 2023) demonstrate the country's growing interest in this innovative shopping experience. In 2023, brands and retailers can succeed in live-streaming e-commerce by utilising emerging technology, promoting their programs, transforming content to meet consumer desires and partnering with talent to expand online communities(Weinswig *et al.*, 2023).

Live-streaming shopping is a transformative trend in the global market that has the potential to revolutionise the shopping experience, with 46% of shoppers confirming they have engaged with it (McKinsey and Company, 2021). This trend is significantly boosted by platforms like

Taobao, which leverages celebrities to showcase products (Meng *et al.*, 2021). Social media influencers play a crucial role in this evolution, acting as a new marketing channel that affects consumers' psychological well-being and perceived social responsibility (Kim and Kim, 2022). They foster a sense of community and interactivity during shopping experiences, enhancing the social aspect of e-commerce (Retailing Africa, 2021). Facebook's live-streaming shopping is an innovative form of e-commerce that provides consumers with convenience, entertainment and social interaction (Ingard, 2021; Jais *et al.*, 2021). It transforms the traditional online shopping experience into an interactive process where attributes such as product quality, price transparency and seller interactivity influence consumer trust and shopping intentions (Chandrruangphen *et al.*, 2022; Wongkitrungrueng and Assarut, 2020). Thus, live-streaming shopping is shaping the future of e-commerce and S-Commerce worldwide (Deep Dive, 2023; Weinswig *et al.*, 2023).

2.4 SOUTH AFRICAN S-COMMERCE PERSPECTIVE

The landscape of S-Commerce in South Africa is undergoing rapid growth, propelled by its distinctive socio-cultural and economic attributes (Netshirando *et al.*, 2021). Precious studies (Bashar *et al.*, 2023; Bhanye *et al.*, 2023; Heyns *et al.*, 2022; Omotoso *et al.*, 2022) have explored this realm, unravelling the intricate web of local factors that influence consumers' engagement and behaviour within this unique context. One remarkable factor that boosted this growth is the high smartphone penetration rate coupled with limited access to traditional retail infrastructure in certain areas (Bhanye *et al.*, 2023; StatsSA, 2018). This digital divide has created an environment conducive to the rise of S-Commerce platforms, offering a convenient and accessible way for consumers to engage in online shopping (Deloitte, 2021).

Socio-cultural dynamics also play a pivotal role., with trust emerging as a cornerstone of S-Commerce transactions (Alsaleh *et al.*, 2019). South Africans place considerable emphasis on relationships and recommendations from their social circles, leading to a strong impact on purchasing decisions and facilitating word-of-mouth marketing within digital communities (Ali *et al.*, 2020; Bashar *et al.*, 2023). A study by Heyns *et al.* (2022) underscores the importance of trust in shaping consumer engagement in S-Commerce activities. Given South Africa's socio-economic diversity and historical context, establishing trust in online interactions is crucial, as consumers may exhibit cautious behaviour due to concerns related to security and reliability (Heyns *et al.*, 2022). This aligns with the findings of Ngobo and

Ogunleye (2020), which highlight the significance of trust-building mechanisms in fostering online transactions in South African marketplaces.

The economic disparities in South Africa have also sparked interest in S-Commerce as a way for small businesses and informal entrepreneurs to access wider markets (Mpinganjira *et al.*, 2019). Research demonstrates that platforms such as Facebook Marketplace provide a platform for individuals, sellers and smaller enterprises to engage in online commerce, potentially contributing to economic empowerment (Gilton *et al.*, 2023; Netshirando *et al.*, 2021). Promoting the diffusion of the internet and mobile technology appears to be a way to reduce income inequality both in the short and long term, as it leads to the creation of opportunities for individuals and small businesses to reach large audiences at lower costs (Lechman and Popowska, 2022). Additionally, the rich cultural diversity of South Africa necessitates a different approach to marketing as the role of engagement on social platforms is heavily influenced by language preferences and cultural subtleties (Dos Santos and Duffett, 2021).

The cultural diversity inherent in South Africa presents a compelling challenge and opportunity for S-Commerce. Cultural nuances and language preferences exert a significant influence on consumers' engagement with social platforms, necessitating brands to adopt tailored messaging strategies that resonate with the diverse cultural groups within the nation (Dos Santos and Duffett, 2021; Lubua and Pretorius, 2019). In this intricate socio-cultural fabric, the role of trust emerges as a central factor shaping S-Commerce behaviour. Heyns *et al.* (2022) highlight the crucial role of trust in influencing consumer behaviour in S-Commerce, particularly within South Africa's socio-economically diverse and historically contextual environment. Given consumer caution due to concerns related to security and reliability, establishing trust in online interactions becomes paramount to reducing perceived risk in online marketplaces (Wiese, 2023). Socio-cultural factors, including community values and interpersonal relationships, further influence the level of trust consumers place in online platforms, underscoring the necessity for businesses to tailor their strategies to these unique socio-cultural dynamics.

Considering this, inequality in South Africa has been a persistent issue since the apartheid era, with multidimensional poverty and inequality continuing to affect the country’s socio-economic landscape (Omotoso *et al.*, 2022). Despite significant strides in human development, the disparity between different social groups remains a challenge (Gumede, 2021). Interestingly**,** S-Commerce, an emerging trend in the digital economy, could potentially

address this issue. By leveraging the power of social media platforms and online communities, S-Commerce can provide opportunities for economic growth and financial inclusion, particularly for low-income earners (Magau *et al.*, 2021). Trust plays a crucial role in this mechanism. Consumers' perceived values and purchase intentions are significantly influenced by trust in the platform (Ingard, 2021). Therefore, building trust among users is key to the success of S-Commerce initiatives. Moreover, social enterprises have demonstrated that investing in people and communities can bring about social change (Kajiita and Kang'ethe, 2020). These enterprises could serve as models for S-Commerce initiatives aimed at reducing inequality.

The academic discourse surrounding S-Commerce in South Africa is multifaceted, providing invaluable insights into its dynamics. Studies have examined a range of topics, from understanding purchase intention and impulse buying behaviour to exploring the role of social media as a communication channel for different sectors. The evolving challenges brought about by the COVID-19 pandemic have also garnered attention, with research focusing on changes in online shopping behaviour and the importance of customer satisfaction and e-service quality (Heyns and Kilbourn, 2022; Mtotywa and Kekana, 2023). Through these investigations, a comprehensive understanding of the South African S-Commerce landscape has emerged. This nuanced comprehension, steeped in the local context and supported by robust research, underscores the potential for tailored strategies to drive success within this dynamic market. As the fusion of socio-cultural and economic factors continues to shape S-Commerce behaviour in South Africa, the insights derived from these studies are invaluable for businesses and individuals seeking to navigate and thrive in this evolving digital landscape.

Given the economic disparities in South Africa, marked by income inequalities, a high unemployment rate, and low economic growth leading to increased poverty, there is a need for strategic decisions to stimulate specific industries to bridge the wealth gap between the population. One of the strategies that has proven to be effective is stimulating customer-to-customer social commerce. For instance, in China, C2C commerce was used to alleviate poverty by selling products that had been produced in poor areas online (Wang *et al.*, 2023). C2C S-Commerce has many advantages such as low costs and increased profits, that positively impact the market participants' income levels (Carpenter and Wilson, 2022). Moreover, the interactions between customers in the C2C marketplace bypass middlemen, resulting in increased earnings for sellers (Trehan and Sharma, 2020). Additionally, by selling used items in C2C S-commerce, individual sellers can generate supplementary income to help sustain their

households, thereby alleviating poverty (Goddevrind *et al.*, 2021). C2C S-Commerce has the potential to foster sustainable purchasing habits (Goddevrind *et al.*, 2021). Furthermore, social commerce can serve as a platform to enhance sustainability awareness. In line with this, Gutiérrez Taño *et al.* (2022) posited that an individual's environmental consciousness profoundly influences their consumption choices. Therefore, studying C2C social commerce in South Africa can help tap into poverty alleviation and sustainability practices.

2.5 SUSTAINABILITY

C2C S-Commerce platforms are digital spaces that foster user interaction and trade, enabling the discovery and transaction of goods and services (Leung *et al.*, 2020a). The technological development of these platforms has enabled the emergence of a new form of social commerce called sharing commerce or sharing economy (Attar *et al.*, 2022). The sharing economy takes customer interaction to the next level by enabling the service provider and consumers to collaborate and co-create value. Collaboration in this context can involve service providers granting consumers access to resources or services they could not obtain independently, or consumers offering feedback to service providers to enhance their offerings (Wei *et al.*, 2021). In addition, S-Commerce platforms foster interaction and information sharing, while sharing commerce platforms emphasise collaboration and co-creation between the service provider and consumers (PwC, 2023). The sharing economy is a term that has no clear and common definition (Martínez-González *et al.*, 2021). However, the growing environmental awareness, the technological development of social commerce platforms and the improvement of communication technologies have all contributed to the emergence of the sharing economy (Kaushal and Prashar, 2022). The sharing economy, driven by sustainability, enables direct sharing of goods and services between consumers via a third-party platform (Wei *et al.*, 2021). It uses technology for resource sharing among individuals, often for monetary gain (Martínez-González *et al.*, 2021). Unlike traditional C2C commerce, sharing commerce allows temporary access to goods or services without transferring ownership (PwC, 2023).

The sharing economy is a sustainability-driven system that enables direct sharing of goods and services between two consumers, similar to C2C commerce using a third-party platform. (Wei *et al.*, 2021). It is a socio-economic system that leverages technology to facilitate the sharing of resources among individuals, often in exchange for monetary compensation (Martínez-González *et al.*, 2021). Unlike traditional C2C commerce, sharing commerce does not involve the transfer of ownership but rather temporary access to goods or services (PwC, 2023). This

form of commerce is enabled by technology platforms that facilitate the matching of supply and demand, as well as payment and rating systems (Moriuchi and Takahashi, 2022). Examples of sharing commerce platforms include Uber, Airbnb and Zipcar (Kaushal and Prashar, 2022). Both sharing commerce and C2C commerce rely on peer-to-peer transactions and third-party platforms (Moriuchi and Takahashi, 2022; Zhang and Wang, 2023).

S-Commerce is a rapidly growing industry that has the potential to promote sustainability in many ways (Wei *et al.*, 2021). For instance, raising awareness of sustainability issues, educating consumers about sustainable products and services and building relationships with consumers around sustainability (Arman and Mark-Herbert, 2022). Additionally, S-Commerce platforms such as Facebook could be used to promote sustainable consumption behaviour in terms of lengthening the life cycle of the products promoted by the circular economy (Arman and Mark-Herbert, 2022). Sustainable consumption practices contribute to the Sustainable Developmental Goals of the United Nations (SDG12), which advocate for the responsible production, consumption and disposal of goods and services to minimise the impact on the environment (Weiland *et al.*, 2021). Facebook Marketplace has been used by a multitude of consumers to resell the products they no longer need to others on Facebook Marketplace, thereby extending the life cycle of these products. However, consumers engage in the exchange of pre-owned goods without knowing that they contribute to the SDG (Arman and Mark-Herbert, 2022). Therefore, there is a need to study the commercialisation of second-hand goods and the sharing economy to understand if the sustainability motives stimulate consumers to purchase second-hand goods (Curtis and Mont, 2020).

Sharing commerce has been studied by different scholars. For instance, Álvarez-García *et al.* (2021) investigated the antecedents of consumers' attitudes and intentions towards the sharing economy, and Moriuchi and Takahashi (2022) studied the role of perceived value, trust and engagement in the sharing economy. Wei *et al.*'s (2021) study highlighted the importance of sharing economies in reducing transportation costs, improving inventory management and increasing order fulfilment. Zhang and Wang (2023) argued that the sharing economy can help improve the efficiency of transportation systems and reduce environmental impacts. Curtis and Mont (2020) revealed that sharing economy models can help reduce resource consumption, waste production and greenhouse gas emissions. The sharing economy has the potential to address several important societal challenges, such as sustainability and resource scarcity (Sarker *et al.*, 2020). Therefore, the sharing economy adoption can enhance consumers'

environmental awareness and the likelihood of them acting sustainably. However, Wei *et al.* (2021) warn that the sharing economy will not be sustainable if not implemented with a sustainability mindset at all stages.

Sharing commerce has been applied in different ways. Wei *et al.* (2021) explored the use of the sharing economy in logistics and suggested that a sharing logistics cooperation mechanism, based on equity investment, offers a viable solution to address the high operational costs and idle transit times in urban e-commerce express delivery services. This strategy leverages shared resources to enhance efficiency and reduce expenses in the delivery process. In car-sharing commerce, for example, a driver could look for passengers who are going in the same direction as his pre-planned destination and split the costs with them (PwC, 2023). PwC (2023) further explained that sharing commerce encompasses various forms of resource sharing facilitated by technology. Peer-to-peer sharing platforms such as Uber, Lyft and Airbnb enable individuals to share resources such as cars and homes. Collaborative consumption allows consumers to pool their buying power for cost efficiency. Crowdfunding and crowdsourcing platforms such as Kickstarter and Indiegogo allow individuals to contribute towards larger goals. Second-hand marketplaces such as eBay and Craigslist enable the direct sale of used goods. On-demand service platforms such as UberEATS and Instacart connect consumers with service providers for immediate delivery of goods or services. Co-working spaces such as WeWork provide shared workspaces for freelancers, start-ups and small businesses.

2.6 OVERVIEW OF THE CURRENT LITERATURE ON S-COMMERCE

To gain insight into the current trends in C2C S-commerce, a brief literature review was conducted. The Scopus database was utilised for this purpose, with the time frame for the search being between 2020 and 2023. A total of 53 articles were retrieved and subsequently analysed. This analysis provided an overview of the current direction of the literature in this field. It highlighted the prevailing trends and thoughts within the academic community.

C2C S-commerce refers to the exchange of goods and services between individual consumers through online platforms (Leung *et al.*, 2022). A similar definition was provided by Zhang *et al.* (2021) emphasising the transaction occurrence on social networking platforms (Zhang *et al.*, 2021). Moreover, Wang *et al.* (2021) defined C2C S-commerce as the exchange of goods and services between individuals through online platforms, where trust is established through social interactions. C2C S-Commerce is a burgeoning field of research that examines how

consumers interact, share information and purchase products or services from each other through online platforms. In exploring the literature on C2C transactions on S-Commerce in the last decade, scholars have explored various topics that shape consumer behaviour and decision making such as trust (Shi *et al.*, 2021; Bugshan and Attar, 2023; Chotigo and Kadono, 2021; Kalinić *et al.*, 2021), customer satisfaction (Kalinić *et al.*, 2021; Gulati *et al.*, Shirazi *et al.*, 2021; Moriuchi and Takahashi, 2023), e-WOM (Anaya-Sánchez, 2020; Al-Haddad, 2022), purchase intention (Alkhalifah, 2022; Lin and Wang, 2022; Rahmanian *et al.*, 2023; S. Zhang and Zhang, 2023), S-Commerce reviews (Zhang, 2022), live-streaming shopping (Meng *et al.*, 2021; Zhai and Chen, 2023; Zhu *et al.*, 2023), impulsive social shopping (Boa and Yang, 2022; Yan *et al.*, 2023; Wu *et al.*, 2023), consumer engagement (Moriuchi and Takahashi, 2023; Diachi *et al.*, 2021), loyalty (Su *et al.*, 2021; Anaya-Sánchez, 2020); swift guanxi (Cheng, 2020), relationship commitment (Chen *et al.*, 2020) and sustainable intention (Rahardja *et al.*, 2021).

Key themes that emerged from the review of the literature were the role of trust in C2C S-Commerce due to the absence of formal regulations or guarantees (Mezger *et al.*, 2020; Moriuchi and Takahashi, 2020), and the effect of social pressure on buyer behaviour in C2C S-Commerce. Social pressure refers to the effect of other consumers' beliefs, recommendations, or actions on one's attitudes or behaviours (Tuncer, 2021). Studies have also examined how e-WOM, S-Commerce reviews, live-streaming shopping, shared narratives and identification influence consumers' purchase intention, information adoption, immersion, and impulsive social shopping(Al Hattab and Hamzeh, 2015; Rahaman *et al.*, 2022; J. Wang and Oh, 2023; H. Zhang *et al.*, 2018; S. Zhang and Zhang, 2023; Wu *et al.*, 2023). These studies highlight the importance of understanding and leveraging the social aspects of C2C S-Commerce to create value for consumers and businesses.

Another emerging theme in the literature is the study of interpersonal relationship building in C2C S-Commerce platforms (Li *et al.*, 2021; Rahaman *et al.*, 2022; Wang and Oh, 2023; Zhang and Zhang, 2023). Concepts such as "swift guanxi" and relationship commitment provide insights into the nuanced ways in which users interact and bond with each other (Cheng *et al.*, 2020; Rahardja *et al.*, 2021). This trend also recognises the importance of social connections in driving C2C commerce, especially in the livestreaming S-Commerce context (Zhai and Chen, 2023; Zhu *et al.*, 2023).

Table 2. 3 The 10 most cited studies in C2C S-Commerce: 2020–2023

Order	Citation	Author(s)	Study	Journal
1	134	Zafar *et al.* (2021)	The study investigates how social media celebrities influence impulse buying and how information sharing affects consumer behaviour in S-Commerce.	Computers in Human Behaviour
2	77	Bugshan and Attar (2020)	The impact of information sharing on S-Commerce consumers.	Technological Forecasting and Social Change
3	52	Leung *et al.* (2020)	How user interactions affect trust development in C2C S-Commerce and how reciprocity plays a central role in this process.	Internet Research
4	47	Shi *et al.* (2021)	The Origins of Trust and Willingness to Use AI-Based Travel Planning Recommendations: A Simplified Model	Journal of Travel Research
5	45	Tuncer (2021)	The use of the SOR framework illustrates how IT affordance and flow experience foster trust, which in turn influences S-Commerce intention.	Technology in Society
6	44	Kalinić (2021)	Empirical analysis of consumer satisfaction in mobile commerce using neural network modelling.	Expert Systems with Application
7	39	Abdelsalam *et al.* (2020)	Understanding Online Impulse Buying Behaviour in S-Commerce: A Systematic Literature Review	IEEE Access
8	33	Ladwein *et al.* (2021)	A sector-based approach to the importance of trust in the relationship among consumers, producers, and retailers in the organic food market.	Journal of Retailing and Consumers
9	32	Goraya *et al.* (2021)	A study on the factors propelling S-Commerce and electronic word-of-mouth intentions: Illuminating the role of S-Commerce in the realm of e-business.	Electronic Market

Order	Citation	Author(s)	Study	Journal
10	30	Chen *et al.* (2021)	The influence of imitation on the purchasing behaviour of S-Commerce consumers in China: The role of uncertainty as a moderating factor.	International Information Management

Research with trust construct Others

Source: Author's own compilation

Additionally, the literature analysis also shows a geographically focused research trend related to C2C S-Commerce, with China, India, the United States of America, Saudi Arabia and Canada being the top five countries in terms of research output. Furthermore, five journals, namely Sustainability Switzerland, Behavioural Sciences, Journal of Retailing and Consumer Services, Sage Open and British Food Journal, have witnessed a sustained publication trend in the field of C2C S-Commerce. These two trends are illustrated in Figures 2.5 and 2.6.

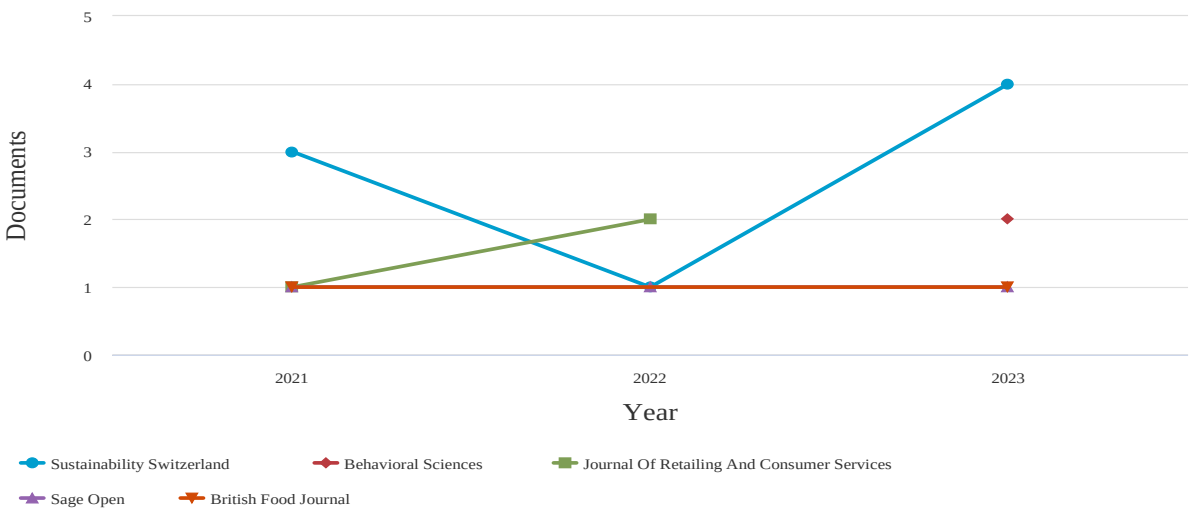


Figure 2. 5 Top Five Journals in C2C S-Commerce: 2020–2023.

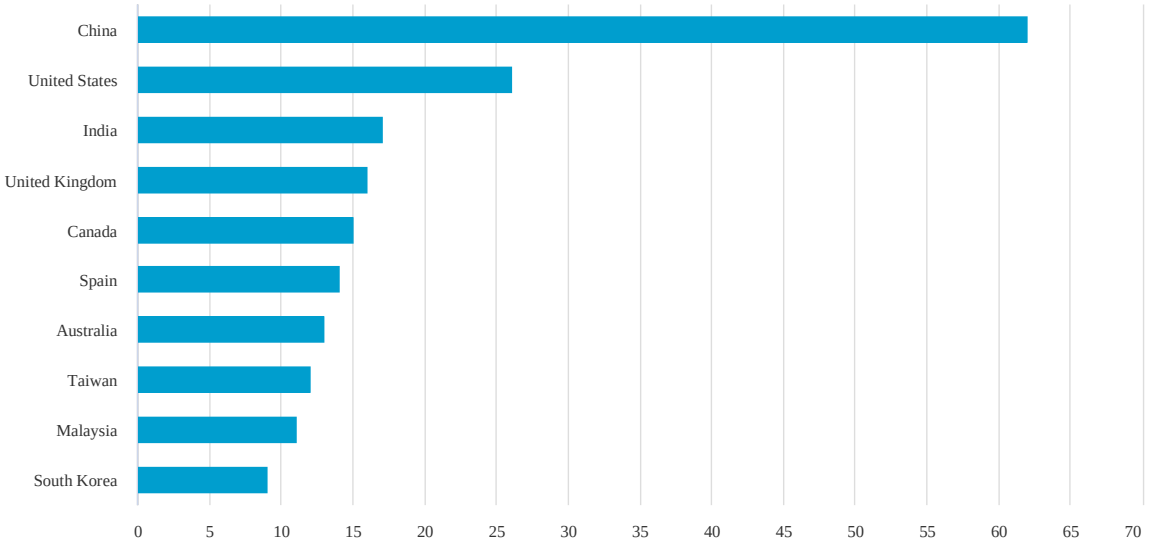


Figure 2. 6 Top Countries in C2C S-Commerce Publication: 2020-2023.

The reviewed literature revealed the 10 authors who have the highest number of publications between 2020 and 2023. This is presented in Figure 2.7. Shi, Si is the first author with three papers and all the other nine authors in the list have two publications.

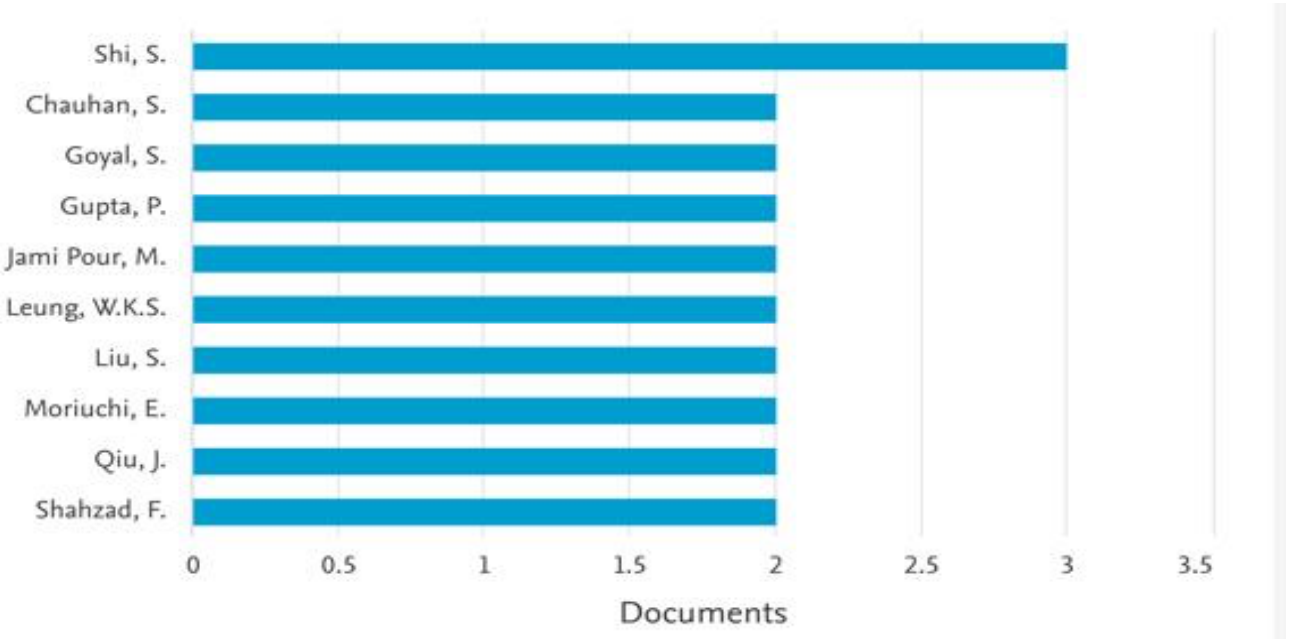


Figure 2. 7 Top 10 authors by publication: 2020–2023.

Another discernible trend in C2C S-Commerce research is the prevalent use of a quantitative approach, particularly through surveys and questionnaires (Al-Haddad *et al.*, 2022; Rahmanian *et al.*, 2023; Wang and Oh, 2023; Zhang and Zhang, 2023). This trend is driven by the need for empirical rigour and data-driven insights in the field. The use of survey questionnaires allows

researchers to collect structured data on user perceptions, behaviours and intentions within S-Commerce platforms (Rahardja *et al.*, 2021; Rahmanian *et al.*, 2023). This methodological approach provides a robust foundation for deriving evidence-based recommendations and strategies in C2C S-Commerce. Therefore, the adoption of a quantitative approach signifies a methodological trend in C2C S-Commerce research.

2.7 CHAPTER SUMMARY

This chapter presented an overview of the global, African and South African e-commerce landscapes. The concept and definition of social commerce were introduced. Various factors that contributed to the evolution and expansion of S-Commerce in South Africa such as increased social media usage, the expansion of social commerce platforms, the introduction of marketplaces on social network platforms, the rise of social commerce influencers, customer reviews and live-streaming shopping were discussed. The South African perspective on social commerce was presented, influenced by the socio-economic and cultural context of the country. The sustainability aspect of social commerce was also explored, relating to the environmental, social and economic impacts of online shopping behaviour and practices. Finally, the current literature on social commerce was reviewed, identifying the main research themes, thoughts and trends in the social commerce literature.

CHAPTER THREE: THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

This chapter presents the conceptual framework and hypothesis formulation that guide the study and the factors that influence the purchase behaviour of second-hand goods on Facebook Marketplace. Building on the literature discussed in the previous chapter, this chapter delves into the theoretical process used to answer the research questions. The chapter is organised in two sections. The first section discusses the three theories employed in this study, namely signalling theory, social network theory and social presence theory. This section also provides the theories' strengths and weaknesses as well as their application to S-Commerce. In the second section, the study's conceptual framework and hypotheses are established, elucidating the relationships between the variables in the model that underpins this study. The chapter concludes with a recapitulation of the key points discussed.

3.1 REVIEW OF THE SELECTED THEORIES

The present study relies on three fundamental theories to elucidate consumer purchasing behaviour within S-Commerce. The signalling theory (Spence, 1973) underscores how sellers use various cues to communicate their trustworthiness, authenticity, and quality. Social network theory (Freeman, 1979) provides the mechanism for understanding how consumers' decision-making processes are influenced by their social ties and the exchange of information within social network platforms used for commercial purposes. Lastly, the social presence theory (Short *et al.*, 1976) concentrates on how consumers' perceptions of sociability and human warmth on social media platforms impact their engagement and purchasing behaviour. Collectively, these theories offer a comprehensive perspective on the impact of S-Commerce relationships on consumer purchase behaviour, with a particular emphasis on the role of social connectivity in decision-making processes.

3.2 SIGNALLING THEORY

Signalling theory (ST) is a framework for explaining how parties in a transaction use signals to communicate unobservable information and reduce information asymmetry (Chowdhury, 2022). Information asymmetry refers to a situation where one party in a transaction has superior information compared to the other. This imbalance can lead to issues such as adverse selection or moral hazard during business transactions or decision-making processes (Ullah, 2020). ST

was introduced by Spence (1973), who applied it to the labour market, where job seekers use signals such as education, skills, and experience to convey their abilities and suitability for a job position to employers. ST suggests that signals are costly to produce and that they can differentiate between high-quality and low-quality parties (Spence, 1973). For instance, a university degree can signal higher competence and productivity than a matriculation certificate. Since its inception, ST has been widely used in various domains, such as finance (Ullah, 2020) and marketing (Kharouf *et al.*, 2020). In marketing, signals can provide information about product quality or vendor reliability that may not be easily observable by consumers. Examples of signals in marketing include product warranty, brand name, advertising expenditure and product price (Erdem *et al.*, 1996, 2005; Fruchter, 2009), as well as information credibility, perceived transparency, and perceived interactivity (Shamim and Islam, 2022). ST helps to understand how signals influence consumer behaviour and decision-making in uncertain situations.

ST comprises four key elements involved in communicating signals. The sender, the signal, the receiver, and the feedback (Kharouf *et al.*, 2020). Therefore, when communicating signals, Meents and Verhagen (2018) explain that the sender of the signal can be the seller of a product on Facebook Marketplace, who shares the information cues to signal his credibility and the trustworthiness of his products. However, signals can also be sent by the buyer, who would like to inform the seller that he has the capacity and freedom to buy the product being sold. In this case, the seller and the buyer can assume both roles intermittently. However, in the current study, only signals generated by the sellers and the platform are analysed. Signals are verbal and non-verbal messages that contain information about each party (Kharouf *et al.*, 2020). The receiver of the signals, who can be the buyer of the products, receives the message and analyses it to make an informed decision. The feedback is the behaviour portrayed by the party that has received the information, such as the buyer. In the case of the buyer, s/he will decide whether to buy the products or not. The interaction between these four elements forms the focus of this theory.

ST is a useful framework for understanding how information asymmetry between two parties in a transaction can be reduced by exchanging signals that convey information cues about each other's hidden qualities and intentions (Guest *et al.*, 2021; Pecot *et al.*, 2018; Siering *et al.*, 2018). Information asymmetry reduces the possibility of the buyer making an informed decision (Ho and Wei, 2016). In S-Commerce context, the buyer faces greater risks than in

other online retail settings as they often deal with unknown sellers who may misrepresent products, charge excessive fees, or fail to deliver (Meents and Verhagen, 2018). The information asymmetry can lead to the risk of moral hazard and adverse selection in S-Commerce, which can result in the buyer facing a suboptimal outcome from the transaction (Al-Adwan *et al.*, 2022). Reducing the information asymmetry creates a balance in the market by allowing both parties to share information that allows them to make informed decisions. Therefore, the central role of the ST in the current study is to understand and explain how the information asymmetry can be reduced, especially in the context of S-Commerce, which operates in a highly uncertain environment (Al-Adwan *et al.*, 2022; Li *et al.*, 2019; Ullah, 2020).

Two key concepts are central to ST: signal clarity and signal consistency (Siering *et al.*, 2018). Signal clarity refers to how the signal sent is perceived by the receiver, and signal consistency refers to how coherently the signals sent through different channels, such as Facebook posts, WhatsApp and Facebook Messenger inquiries convey the same message (Kharouf *et al.*, 2020; Pecot *et al.*, 2018). In addition, signal observability needs to be considered (Guest *et al.*, 2021). Observability refers to how the signal is noticeable to the receiver (Kharouf *et al.*, 2020). A Facebook seller boosts buyer noticeability and consistency by sharing clear product visuals on Facebook Marketplace and providing accurate information through WhatsApp or Messenger, resulting in improved overall quality cues. Besides its characteristics, a signal is effective if it is costly enough to differentiate signallers and credible enough to reflect their true abilities (Kharouf *et al.*, 2020; Spense, 1973). For instance, in selling a second-hand car on Facebook Marketplace, costly signalling involves the seller making upfront investments such as professional detailing, high-quality photographs and detailed descriptions. Credible signalling is demonstrated by providing verifiable information such as maintenance records, repair receipts, or mechanic reports and offering a return policy or warranty (Kanani and Glavee-Geo, 2021). These signals enhance buyer trust and differentiate the sellers.

Anchored in the ST, this study delineates two signal types: seller-generated and platform-generated signals. Seller-generated signals, represented by social media ties and the SPI by the seller, are explicit and can sway buyer decisions (Krukowski *et al.*, 2023; Wasike, 2022). These signals, such as a positive buyer-seller relationship and timely response to queries, bolster trust and influence purchase decisions (Lu *et al.*, 2016). Conversely, platform-generated signals, encompassing the SPW and the SPO, are implicit yet impactful (Siering *et al.*, 2018). Buyers

trust peer information on the platform, influencing their purchase decisions. Channels that offer limited interaction between buyers such as the absence of reviews or chats, can increase consumer uncertainty and reduce platform trust. The effectiveness of these signals' hinges on their clarity and consistency, aligning with Wasike's (2022) findings on source trustworthiness and expertise as credible influence antecedents.

Signalling theory has been applied across various fields such as human resource management (Guest *et al.*, 2021), e-commerce and S-Commerce (Chen *et al.*, 2023; Mavlanova *et al.*, 2012), management research (Taj, 2016), medical crowdfunding (Chen *et al.*, 2022), economics (Li *et al.*, 2019) and finance (Ullah, 2020). Table 3.1 summarises studies that have employed signalling theory between 2019 and 2023. The ST has been instrumental in understanding consumer trust and decision-making processes (Issock Issock *et al.*, 2018; Chowdhury, 2022). Its relevance is particularly pronounced in C2C purchases on Facebook Marketplace, where physical inspection of products and direct evaluation of seller credibility is not possible (Mavlanova *et al.*, 2012; Pee *et al.*, 2018). Signals play a crucial role in reducing perceived risks, building trust, and driving purchase behaviour (Boateng, 2019). They mitigate uncertainty and increase the likelihood of purchases (Meents and Verhagen, 2018). Previous studies (Chen *et al.*, 2022; Fatima *et al.*, 2021; Galvagno *et al.*, 2022; Guest *et al.*, 2021; Kharouf *et al.*, 2020; Krukowski *et al.*, 2023; Wasike, 2022; Zhao *et al.*, 2023; Shamim and Islam, 2022; Wei, 2022) have confirmed the effectiveness of signalling theory in predicting buyer behaviour. Thus, ST is a useful framework for studying the purchase of second-hand goods on Facebook Marketplace, as it explains how buyers rely on signals to reduce uncertainty and increase trust in sellers.

By applying ST, this study seeks to investigate how the factors of social network and social presence theories affect the perception of buyers and influence trust and purchase behaviour in S-Commerce. Table 3.1 presents a summary of studies that have applied signalling theory between 2018-2023 and Table 3.2 presents the strengths and limitations of the same theory.

Table 3. 1 Summary of studies that have applied signalling theory between 2018-2023.

Author and year	Main constructs	Summary of how the ST is implemented	Summary of findings	Country and Context of the Study
Konani and Glavee-Geo (2021)	Uncertainty in online transactions, Count of positive customer reviews, Popularity of the seller, Quality of customer service, Product return policy.	The ST was used to explain how S-Commerce sellers can reduce information asymmetry through signals,	Positive customer reviews, seller popularity, and quality of customer service reduce the uncertainty associated with the seller.	The Republic of Tanzania's S-Commerce users
Al-Adwan *et al.* (2022)	Return Policy Leniency (RPL), Cash on Delivery (COD), S-Commerce constructs (SCCs), Retailer-based signals, Uncertainty,	The ST was used to explain how e-retailers can reduce information asymmetry and uncertainty and build trust online.	RPL, COD and SCCs are key enablers of customer trust,	Jordan's e-Commerce
D. Xu *et al.* (2022)	Blockchain norms, Solidarity, Buyer-supplier trust, Congruence/incongruence, Technology uncertainty,	The ST was used to investigate blockchain norms and solidarity on trust moderated by technology uncertainty.	Trust is highest when blockchain matches or mismatches the norm of solidarity, depending on the level of technology uncertainty,	Chinese Firms in China
Chen *et al.* (2022)	Crowdfunding Indicators related to funding Signals associated with the story Elements related to the donor	The ST was used to examine the antecedents of medical crowdfunding	Optimal funding goal and duration, longer story text and donor identity disclosure increase crowdfunding performance, while using first-person pronouns decreases it.	Chinese's Qingsongchou platform in China
Shamim *et al.* (2022)	Influencers post trust Media Credibility Message credibility. Impulse buying.	Examining how the credibility of the message and media impacts trust in influencers and impulse purchases	Message and media credibility are positively related to digital influencer trust and enhance the urge to buy impulsively.	China and Chinese's Signalling Theory Graphical incorporation

Kharouf *et al.* (2020)	Relationship recovery Relationship violation Firm signals. Trust.	Investigating the relationship between the strength and framing of a firm's signals and relationship repair.	To repair customer trust after a breach, brands should send strong signals that emphasise customer benefits. This is more crucial for integrity issues and less familiar brands.	USA online customer, UK national charity staff and online customers.
Chang *et al.* (2020)	Main route secondary route Purchase intention. Attitude toward post,	Investigate how the completeness and precision of information (main route elements) and the aesthetics and popularity of posts (secondary route elements) affect consumer trust, intention to purchase, focus, and interaction	Information completeness and accuracy positively impact consumer trust and purchase intention, whereas post aesthetics and popularity have positive effects on consumer attention and engagement.	Taiwan Facebook Marketplace users
Chen *et al.* (2023)	Platform-orientated signal User-orientated signal Perceived risk User Engagement Purchase behaviour,	Investigate how platform- and user-orientated signals influence perceived risk, user engagement and purchase behaviour,	Platform- and user-orientated signals influence consumer engagement and participation and purchase behaviour,	China, Xiaohongshu platform users in China

Source: Author's own compilation

Table 3. 2 Signalling theory strengths and limitations

Strengths	Limitations
Broad application Information asymmetry reduction Feedback between parties	Signals authenticity and accuracy assumption Receivers notice and decode signals assumption. Discretionary disclosure of information Negative signals obstruction Signal cost differentiates signallers. Lack of consensus on the theory constructs

Source: Author's own compilation

ST has many advantages that make it suitable for S-Commerce studies. For instance, it reduces information asymmetry through the signals exchanged that are sent, fostering trust in communication (Bafera and Kleinert, 2022). It also considers the feedback between parties, further reducing uncertainty (Connelly *et al.*, 2011). Moreover, the theory's applicability across various fields, including economics, education, finance and S-Commerce, enhances its versatility (Bafera and Kleinert, 2022; Connelly *et al.*, 2011; Taj, 2016).

However, it is important to acknowledge certain limitations. The theory's limitations primarily revolve around its assumptions. It presumes that receivers will notice and analyse signals (Gambetta, 2008), which may not always hold in complex social interactions. The theory also allows for the existence of negative or misleading signals, as it permits each party to decide what information to divulge (Connelly *et al.*, 2011; Taj, 2016). Furthermore, it assumes that negative signals can overshadow positive ones, and it faces challenges in distinguishing between high-quality and low-quality signallers based on the cost of signals (Connelly *et al.*, 2011; Taj, 2016).

Despite its limitations, ST remains a robust theory for establishing the mechanism of information asymmetry reduction, especially in S-Commerce (Guest *et al.*, 2021; Siering *et al.*, 2018). It is an important theory that can serve as a grounding theory that explains how other theories function (Al-Adwan *et al.*, 2022). Moreover, its ability to elucidate the mechanisms of communication and reduce information asymmetry makes it a valuable tool in this field (Li *et al.*, 2019). By focusing on the exchange of signals and feedback, it provides insights into consumer behaviour, trust-building and the dynamics of online interactions. Therefore, signalling theory, with its focus on communication dynamics, is well-suited to the current S-Commerce study, where understanding and interpreting signals can be crucial for success.

3.3 SOCIAL NETWORK THEORY

SNT is usually viewed based on two perspectives: network theory and the theory of networks (Liou and Daly, 2023). Network theory examines how network structures influence the outcomes and behaviour of actors and groups, while the theory of networks examines how network structures are formed by the processes and mechanisms that shape ties between actors (Liou and Daly, 2023). The current study focuses on SNT and examines social network relationships and their influence on the behaviour of social network users (Borgatti and Ofem, 2010). Therefore, in the rest of this dissertation, any reference made to SNT is the study of the

interaction between different parties on S-Commerce platform. Social network theory views these interactions as cooperative exchanges of information that influence decision-making towards shared understanding (Birkel and Muller, 2022).

SNT is a framework for understanding human interactions based on the structure and dynamics of social relationships (Gamper, 2022; Freeman, 1973). SNT emerged from various disciplines, such as sociology, anthropology, and psychology, and has no single founder (Andreas *et al.*, 2022; Cote, 2019; Li *et al.*, 2021). Some of the early contributors to SNT include Barnes (1950), who studied the patterns of social ties and introduced the concept of strong and weak ties. Katz (1957) examined the role of personal influence in mass communication and political behaviour, and Milgram (1967) conducted a famous experiment on the "small world" phenomenon and showed that most people are connected by a few degrees of separation. Granovetter (1973) elaborated on the importance of weak ties for information diffusion and social mobility, and Freeman (1979) developed measures of centrality to quantify the position and power of nodes in a network. A network is a collection of nodes, which can represent individuals, groups, or organisations, connected by ties, which represent various types of relationships, such as friendship, collaboration, or communication (Scott, 2011; Cote, 2019; Liu *et al.*, 2017). These ties form paths that indirectly connect nodes that are not directly linked. The arrangement of these ties creates a unique network structure, and each node holds a specific position within this structure (Borgatti and Halgin, 2011).

Freeman's (1979) early work elucidated the concept of network centrality, which measures how important a person or organisation is in a network based on their connections and interactions with others, through three dimensions: degree centrality, betweenness and closeness. In the context of a social network such as Facebook, where connections between users are non-directional, degree centrality simply refers to the number of friends a user has. This contrasts with platforms such as Twitter and Instagram, where relationships are directional and can be traced through follower-followee dynamics (Lee and Cha, 2022). Degree centrality, as argued by Lee and Cha (2022), is positively associated with knowledge diffusion. Individuals with a high degree of centrality often function as opinion leaders within the network. Betweenness quantifies a node's role as an intermediary along the shortest paths in a network. Social network users with high betweenness centrality serve as bridges within the network. Finally, closeness refers to the average distance between different individuals in the network (Liu *et al.*, 2017). A

high degree of closeness allows individuals to increase their influence as they can easily connect and interact with others (Lee and Cha, 2022; Liu *et al.*, 2017).

In the context of social networks such as Facebook, understanding these three aspects of centrality can shed light on the roles users play in influencing others' purchasing decisions and behaviour changes (Taha and Al-Maskeri, 2021). For instance, a study on Korean virtual goods buyers revealed the significant impact of these centrality measures (Lee and Cha, 2022). The centrality of a network, as defined by Freeman (1979), offers a solid structure for grasping social network dynamics and the roles individuals play within them. This understanding is crucial in various fields, including marketing and behavioural studies. The degree of centrality, betweenness and closeness each offer unique insights into the structure and influence mechanisms within a network. Understanding these dimensions can help predict and explain phenomena such as knowledge diffusion and behaviour change.

In S-Commerce, SNT suggests that users develop relationships through social interactions, information exchange and peer support that influence their behaviour (Li *et al.*, 2022). The main tenet of SNT is the analysis of social interactions among individuals and groups that affect attitudes, behaviours, and outcomes (Freeman, 1979). S-Commerce users leverage the relationships they have developed in the network to generate sales (Wang *et al.*, 2022). These relationships or ties can be expressive or instrumental (Li *et al.*, 2023). Expressive ties are relationships based on emotional closeness, such as those with family or close friends and are guided by the principle of need in social exchange. Instrumental ties are relationships formed to achieve specific goals or benefits and adhere to the principle of equality in social exchange (Li *et al.*, 2023). Expressive ties are similar to friendship and are assumed to be altruistic (Oppen, 2020), while instrumental ties are based on material benefits (Porter *et al.*, 2019). Social network relationships are developed through interactions such as following, liking, or sharing other users' generated content (Xu *et al.*, 2021).

This study employs SNT to analyse the social exchanges and interactions on Facebook Marketplace, a platform facilitating both social engagement and commercial transactions among users (Li *et al.*, 2022). SNT is used for this purpose as it can help explain how social network relationships influence the purchases of second-hand goods by building trust between the buyer and the seller. Previous studies have highlighted the influence of social network ties on trust (Granovetter, 1973; Li *et al.*, 2023; Porter *et al.*, 2019; Wang *et al.*, 2022). Building on

the insights provided by the existing literature, this study assesses the direct influence of expressive and instrumental ties on trust.

SNT has been widely applied to different studies including those on the spread of information, the diffusion of innovation, and the formation of social groups (Krause *et al.*, 2007). Recently, there has been an increased interest in the application of SNT to understand factors that influence social network purchases (Akar and Dalgic, 2018; Birkel and Müller, 2022; Chang, 2021; Flaherty *et al.*, 2012; Kane *et al.*, Wang *et al.*, 2022). One approach involves identifying key influencers and opinion leaders who wield substantial influence due to their extensive connections. Collaborating with such influencers enables businesses to reach wider audiences and promote their products effectively, as demonstrated by Wang *et al.*'s (2022) study on S-Commerce communities. Another application tracks information and influence flows within networks, revealing how buyers make purchase decisions. In this regard, Sung *et al.* (2023) observed that on Twitter, users are more likely to engage with posts from restaurants connected to friends and family, highlighting the significant role of social network connections in shaping buyers' behaviour. Moreover, social network theory sheds light on trust-building mechanisms in online purchases, with Taha and Al-Maskeri's (2021) study indicating that positive reviews enhance buyer trust on platforms such as Facebook Marketplace. Table 3.3 encapsulates a synthesis of studies using the SNT over the past five years, while Table 3.4 provides the inherent strengths and potential limitations of the SNT.

Table 3. 3 Summary of studies that have applied social network theory between 2018-2023.

Author and year	Main constructs	Summary of how the ST is implemented	Summary of findings	Country and context of the study
Zhang (2023)	Social network intervention, hawkers' economy	SNT was employed to understand the role and effectiveness of social work in vending and to formulate specific policy suggestions and insights.	The study found that social work interventions provide small traders with economic aid, skill development and networking opportunities, fostering their personal growth and social integration.	This study was conducted in China among social workers.
Birkel and Muller (2022)	Social Media for Businesses (ESM), Procurement and Supply	Social network theory was used to analyse the effects of ESM on information flow and sharing in the context	The study reveals that enterprise social media (ESM) boosts information transparency, leading to better knowledge creation	Conducted in Germany to analyse the organisations' social media and

Author and year	Main constructs	Summary of how the ST is implemented	Summary of findings	Country and context of the study
	Chain Management (PSM), Theory of Social Networks, and Sharing and Circulation of Information.	of purchase and supply management.	and distribution. It also strengthens the strategic approach of the purchasing and supply management department, while reducing coordination efforts.	their impact on purchasing and supply management.
Chang (2021)	Social presence and social exchange theory, policy direction for tourism development, tourism development attitudes, network contagion model.	How does agreement on tourism development values within an organisation influence attitudes towards tourism development?	The study found that aspects of a social network, such as intelligence, friendship, and advice, differently impact the cognitive, emotional, and behavioural aspects of attitudes towards tourism development.	Conducted among Taiwanese tourists
Sung *et al.* (2023)	CSR activities, communication strategies and consumer responses	Using SNT, content analysis, ANOVA, and sentiment analysis to analyse 2,000 CSR-related tweets and 1,000 replies from 20 U.S. green restaurants.	Environmental and community-related CSR activities are vital. Engagement strategies in CSR communication elicit stronger customer responses and positivity compared to other strategies,	The study was conducted among green restaurants in the United States of America.
Rahman *et al.* (2020)	Social media, e-recruitment, cost efficiency, employee turnover and business productivity.	Social network theory was used to reveal new methods that validate business manipulation in e-recruitment using social media	E-recruitment is advantageous but may be misused in developing nations' hiring processes.	The investigation utilised thirty-seven semi-structured interviews with 21 in Nigeria and 16 in Bangladesh managers and non-mangers interviewees.
Wang *et al.* (2022)	Connections within a social network, the bond between members, the attachment to the community,	The analysis of the influence of network relationships on buying decisions in S-Commerce using SNT	Members' ties within a community enhance their sense of belonging, which positively affects their buying behaviour and mediates the impact of their interpersonal attachments,	The study was conducted in China, using Xiaohongshu, a popular S-Commerce community, as the research

Author and year	Main constructs	Summary of how the ST is implemented	Summary of findings	Country and context of the study
	and the buying behaviour.			
Xing and Cao (2019)	Technology, the dissemination of knowledge and the conduct of businesses within innovation networks	Using SNT, the study analyses how enterprises cooperate or compete in developing and sharing green building technologies.	Key enterprises boost innovation adoption through network ties. Converged strategies spread quickly for optimal decisions. Government support accelerates strategy convergence.	This study was conducted in China among organisations in the green building industry.
Tucker (2019)	SNT, management informal control,	Social network theory was employed to elucidate informal control in organisations and aid in refining control models.	The article defined informal control and confirmed that SNT can be useful in organisations where natural clustering is observed.	The study was conducted in Australia among the management control accounting

Source: Author's own compilation

Table 3. 4 Strengths and limitations of the SNT

Advantages	Limitations
The ability to analyse direct and indirect network connections. Analysis of different individuals' importance in the network An extensive body of empirical evidence from the social sciences elucidates the diffusion of knowledge process. Applicable to different study fields	Does not consider individual internal qualities and characteristics. Does not discriminate between network structures and size. Various instruments were used to theorise the SNT. Assumes that individuals are rational actors and that networks are static.

Source: Author's own compilation.

SNT offers several advantages that make it an effective tool for revealing the inherent motivations behind consumer purchasing behaviour in S-Commerce. It provides a comprehensive analysis of both direct and indirect network connections, thereby shedding light on how these relationships shape the behaviour, attitudes, and outcomes of various actors (Sih *et al.*, 2009). Furthermore, SNT enables the assessment of an individual's significance within

the network, determined by their position, centrality, or brokerage roles (Sih *et al.*, 2009). SNT also assists researchers in understanding the flow of information within the network, identifying key influencers, and quantifying their impact on user behaviour within the social network (Al Hattab and Hamzeh, 2015; Taha and Al-Maskeri, 2021). Moreover, SNT is supported by a substantial body of empirical evidence across diverse social sciences, further affirming its validity and applicability across various research domains such as leadership (Liou and Daly, 2023), tourism (Chang *et al.*, 2021), entrepreneurship (Birkel and Muller, 2022), human resources management (Li *et al.*, 2019; Rahman *et al.*, 2022) and S-Commerce (Wang *et al.*, 2022; Chan, 2022). This robust theoretical framework underscores the pivotal role of social connectivity in shaping consumer decision-making processes.

While the SNT offers valuable insights, it is important to acknowledge its limitations. SNT often overlooks individual attributes and traits, which can significantly influence network behaviour and outcomes (Weyer, 2012). Additionally, as Facebook Marketplace operates online, SNT may not fully capture the nuances between online and offline networks and different network structures and sizes, potentially leading to an oversimplification of complex social phenomena (Zhang, 2023). Furthermore, the use of varying measures to operationalise network concepts can also introduce inconsistencies and ambiguities in the findings (Weyer, 2012). Lastly, SNT's assumption of individuals as rational actors and networks as static entities may not always accurately reflect the complexity and dynamism inherent in social networks such as Facebook Marketplace (Weyer, 2012).

Despite its limitations, SNT remains a robust theory for understanding S-Commerce latent behaviour motivations. In addition, its operationalisation in combination with SPT and ST helps to overcome its limitations and provide a holistic and coherent understanding of S-Commerce purchase behaviour. Wang *et al.* (2023) applied SNT to demonstrate that a community member's network connections, or "out-degree ties" enhance their affiliation with the community and its members, thereby positively affecting their buying behaviour in S-Commerce. The understanding of SNT factors offers a deeper understanding of C2C S-Commerce and practical strategies for leveraging social media (Li *et al.*, 2023). Moreover, the high risk involved in second-hand marketplaces requires a good understanding of how relationships develop and shape purchase behaviour. In this regard, previous studies (e.g., DiMaggio and Lou, 1998; Ho and Wei, 2016) suggested that in social networks, inherent obligations make transactions effective, especially in high-risk situations, as trust within the

network can reduce these risks. Therefore, the use of SNT to understand the factors that influence trust in C2C S-Commerce in this study is justified.

3.4 SOCIAL PRESENCE THEORY

SPT has its roots in social psychology, particularly in the theories of interpersonal communication and symbolic interactionism (Cui *et al.*, 2013). These theories explore how people interact and communicate with each other, forming the basis for understanding social presence in different contexts (Oh *et al.*, 2018). SPT is grounded on two key concepts: intimacy, which refers to the feeling of closeness during interaction with others (Gunawardena, 1995) and immediacy, which describes non-verbal communication cues that enhance interaction and proximity (Yuen *et al.*, 2023). Short *et al.* (1976) were the first to conceptualise SPT. They defined it as the extent to which the other individual in the interaction is noticeable as well as the resulting significance of the interpersonal relationship (Short *et al.*, 1976). Later, Turk *et al.* (2020) defined social presence as the ability of a person to identify with a specific group. Additionally, Kreijns *et al.* (2022) defined social presence as the psychological experience of perceiving other people involved in online interaction as physically "real". SPT suggests that different social media platforms provide different levels of social presence by conveying visual, verbal and non-verbal cues of communication that affect user purchase behaviour on the platform (Venter, 2019; Xu *et al.*, 2021). Nadeem *et al.* (2020) support this idea by arguing that social presence can influence the purchasing behaviour of consumers on social networks.

Since its inception by Short *et al.* (1976), SPT has seen significant evolution, influenced by technological and contextual factors. Three eras of SPT can be distinguished (Oztok and Brett 2011; Cui *et al.*, 2013). Initially, from the 1960s to the 1980s, social presence was viewed as a property of a medium, emphasising its capacity to convey nonverbal information. This was considered the first era of SPT (Oztok and Brett, 2011). The second era, from the 1990s to the 2000s, shifted the focus to individuals, viewing social presence as the perceptions of individuals, influenced by their characteristics and preferences, while still acknowledging the influence of the communication medium (Cui *et al.*, 2013). This change could have been influenced by the growing influence of social presence in communication studies (Cui *et al.,* 2013). The third era, from the 2000s onwards, conceptualised social presence as a facilitating element, focusing on interactive activities and the development of online communities owing to the development of the internet and the emergence of social networks facilitating social

exchange (Leong *et al.*, 2020; Lu *et al.*, 2016; Huang *et al.*, 2023; Michelle *et al.*, 2023). This era emphasised the importance of community context in shaping social presence. Lu *et al.* (2016) suggested a nuanced concept of social presence in three dimensions: the social presence of the web, the social presence of interaction with the seller, and the social presence of others. This review shows how SPT has become a complex and multi-faceted construct for online communication research and practice.

SPW refers to the perception of a vibrant and interactive environment within online platforms, where users feel a sense of connection, community, and engagement (Li *et al.*, 2023). This concept has evolved over time as technology has become more sophisticated and immersive. Li *et al.* (2023) posited that the web interface not only performs practical tasks but also cultivates an emotional bond that enriches the user experience and strengthens social ties between the website and its users. In the context of S-Commerce platforms, the SPW holds paramount significance. Empirical evidence from Huang *et al.* (2023) and Xu *et al.* (2021) underscores the crucial role of the SPW in influencing consumer behaviour. The immersive experience facilitated by the SPW can enhance consumers' trust and contribute to a more positive online shopping experience (Xu *et al.*, 2021; Gefen and Straub, 2004). Moreover, the SPW is pivotal for creating an environment that not only attracts users but also cultivates trust, engagement, and a sense of community, which are essential for S-Commerce dynamics (Lu *et al.*, 2016). Therefore, understanding and harnessing the SPW on S-Commerce platforms is a strategic imperative for both the seller and the buyer.

Moreover, the SPI refers to the collaborative engagement between buyers and sellers through various online S-Commerce features, such as message boards and customer support chats (Leong *et al.*, 2020). This presence is gauged by the buyer's emotional connection and awareness of the seller's feelings (Xu *et al.*, 2021). Communication between the seller and the buyer enriches the buyer's perception of the seller, fostering a personal connection (Leong *et al.*, 2020; Lu *et al.*, 2016). Facebook's features, such as direct chat and interactive communication, facilitate these interactions (Xu *et al.*, 2021). Sellers often employ specific words or emoticons to maintain a positive relationship. For instance, a seller on Facebook Marketplace can use live chat to demonstrate product usage, influencing buyer perception (Lu *et al.*, 2016). Additionally, Li *et al.* (2023) posited that computer-mediated communication tools enhance the transactional experience by conveying social presence, allowing buyers to gauge sellers' attitudes and integrity.

The SPO can be defined as the interaction between consumers on S-Commerce platform (Ye *et al.*, 2020). It is the extent to which members of virtual communities perceive and interact with other social actors (Leong *et al.*, 2020). Social media facilitates interactions through reviews, ratings, referrals, recommendations, and online communities (Chen *et al.*, 2019). These features enable consumers to access information about products and services (Wang *et al.*, 2022). S-Commerce allows buyers to access product information from both sellers and other buyers (Algharabat and Rana, 2021; Liang and Turban, 2011). The information received from other sellers is considered more credible and authentic (Chong *et al.*, 2022). Therefore, social applications can increase the social presence of others by making customers more aware of each other and their common interests, which can result in higher engagement and trust and higher sales (Leong *et al.*, 2020). This presence can shape consumer behaviour and increase the likelihood of consumers purchasing products from a specific seller (Wang *et al.*, 2022; Handarkho, 2020). The interactions between these three social presences provide a holistic understanding of the interactions embedded in S-Commerce environment and their influence on consumer purchase behaviour.

SPT posits that social interactions involving verbal and non-verbal cues are vital for forming and sustaining social relationships (Oh *et al.*, 2018). In S-Commerce, these cues facilitate buyer-seller interactions, fostering trust and positive purchasing decisions (Kreijns *et al.*, 2022). SPT has been employed in different fields, such as consumer behaviour in S-Commerce (Muda and Hamzah, 2021), learning outcomes in a virtual environment (Turk *et al.*, 2022), and stakeholder engagement in the oil and gas sector (Yuen *et al.*, 2023). Scholars have established a link between social presence and consumer purchase behaviour in S-Commerce (Nadeem *et al.*, 2020; Johnson and Hong, 2023). A study at Texas Tech University found that synchronous video-conferencing platforms increase social presence and reduce transactional distance in online courses (Michell *et al.*, 2022). Additionally, Li *et al.* (2023) suggested that social presence enhances the effects of social interaction on customer engagement. Therefore, this study uses SPT to better understand how social presence factors shape buyers' beliefs, behaviours, and perceptions through trust enhancement (Leong *et al.*, 2020). The current research aims to examine how social communication cues on Facebook Marketplace affect both the trust in the seller and the S-Commerce platform. Tables 3.5 and 3.6 summarise studies utilising SPT in the past five years, as well as its strengths and weaknesses, respectively.

Table 3. 5. Summary of studies that have applied social presence theory between 2018–2023

Author and year	Main constructs	Summary of how the SP theory is implemented	Summary of findings	Country and context of the study
Mitchell *et al.* (2021)	Social presence, students' online education, modality change, marketing courses.	SP is applied through a phonetic and interactive approach to analyse students' transition from classroom to online learning.	Using live video-conference tools can support student-focused approaches that can boost social interaction and improve students' interest, involvement and learning perception.	The research was conducted at Southwest University in the United States.
Goot (2022)	Orientation of the source, personification, sense of social presence, and communication via chatbot.	Social presence was used in conjunction with anthropomorphism and source orientation to examine how users perceive their interactions with the customer service chatbot.	The study found that most participants thought they were communicating with something automated but used different terms and cues to describe it. Some participants expressed doubt or liked the humanlike features of the chatbots, while others found them misleading or unnecessary. Users felt like they were talking to someone, but this feeling depended on how the chatbots answered, what data they used and how they looked.	The study was conducted among Dutch consumers in the Netherlands.
Costley (2019)	Social presence, cognitive load, online learning, and interactivity	SPT was used to investigate how students' social and emotional interactions in online learning environments influence their ability to learn and build mental structures.	The level of social presence has a corresponding effect on the germane load.	This study was conducted at the Open Cyber University of Korea in Korea.
Koponen and Rytsy (2019)	E-commerce chat, online buyer-seller online interaction, purchase	SPT was used to examine the relationship between social presence and online commerce e-chat.	Online B2 chat enabled social interaction and relationship building. This relationship-building changed based on the buyer and the relationship stage.	The research was conducted using Finnish B2 online chats with different international buyers.

Author and year	Main constructs	Summary of how the SP theory is implemented	Summary of findings	Country and context of the study
	intention, and B2 sales.			
Qin *et al.* (2021)	Hofstede's cultural dimensions, platform trust, C2C, seller	Social presence theory was applied by Investigating platform trust to understand the effects of masculinity, risk aversion, and future-oriented perspectives on e-commerce sellers' confidence.	The results showed that platform trust decreased with uncertainty avoidance but increased with masculinity and long-term orientation. A strong relationship between the cultural variables was also found.	The research was conducted using data from Taobao, a Chinese C2C platform.
Attar *et al.* (2022)	Social presence, loyalty, trust and food and beverage industry.	The social presence and trust influence loyalty using SPT.	The study found a positive link between the social aspect of interaction, trust in Social Commerce platforms, and customer loyalty.	The research was conducted on e-commerce consumers. The country where the study was conducted is not indicated
Fan *et al.* (2019)	Improvements in social support, presence in social media, swift guanxi, trust, and Social Commerce.	Factors influencing swift guanxi and trust in S-Commerce.	social support and social presence impact swift guanxi, trust, investment returns, and the intention to share socially.	The research was conducted in China using WeChat data. WeChat is one of the leading C2C interaction platforms in China.
Ye *et al.* (2020)	Social presence, telepresence, purchase intention, and peer-to-peer accommodation.	Examined how social presence and telepresence affect customer intention through three emotional factors – trust, enjoyment, and sociability.	The three aspects of social presence (social presence of the Web, other buyers, and sellers) and telepresence affect customers' purchase intentions through different emotional factors,	The research was conducted in China using a peer-to-peer accommodation platform.

Source: Author's own compilation.

Table 3. 6 Strengths and limitations of social presence theory

Strengths	Limitations
Explains people's behaviour influence online. Cross disciplines application Supported by a growing body of empirical research	Social presence can be difficult to measure. Does not account for all factors that may influence people's behaviour in online environments. Difficulty in generalising findings from one study to another

Source: Author's own compilation

SPT has several strengths that make it relevant to S-Commerce studies. SPT has been used to study a variety of phenomena in online marketplace research. For example, scholars have found that social presence can influence customer engagement (Yeboah *et al.*, 2023), purchase intentions (Johnson and Hong, 2023), and satisfaction (Zhang *et al.*, 2022), highlighting its important predicting role in online consumer behaviour. It provides a theoretical framework for grasping people's experiences and interactions in mediated environments. This is important as S-Commerce is a highly mediated form of commerce where buyers and sellers interact through online platforms. Additionally, SPT highlights the importance of social cues and nonverbal communication in online interactions, which is important in building trust and engagement between the seller and the buyer. For example, buyers may be more likely to purchase from a seller who has a positive rating or comment and a profile picture (Feng *et al.*, 2016).

However, there are also some limitations to using SPT. One challenge is that social presence can be difficult to measure. Researchers have used a variety of different methods to measure social presence, such as self-report surveys, behavioural observation and physiological measures (Kreijin *et al.*, 2021; Lowenthal and Dunlap, 2020). However, there is no single measure of social presence that is universally accepted (Oh *et al.*, 2018). Another challenge is that social presence is not the only factor that influences people's behaviour in online marketplaces. Other factors, such as product quality, price and shipping costs, also play a role (Kreijns *et al.*, 2022). Another limitation of SPT is that it is very subjective, as reported by different self-reported data used in research by scholars (e.g., Lowenthal and Dunlap, 2020). Therefore, it is important to consider all these factors when interpreting research findings on social presence in Facebook Marketplace (Hollebeek *et al.*, 2021).

Despite these limitations, SPT remains a valuable tool for understanding how people's interactions on Facebook Marketplace influence their purchase behaviour (Chen and Liao, 2022). By understanding the factors that influence social presence, businesses can develop more effective marketing and sales strategies (Hollebeek *et al.*, 2021). For example, the seller can create social presence by establishing a clear and direct interaction with customers, responding to comments and questions and hosting live events (Hayes *et al.*, 2020a). The seller can also encourage customers to interact with each other by creating online communities and forums (Hayes *et al.*, 2020b). Therefore, this theory remains an important framework and its use in this study is justified.

3.5 HYPOTHESIS DEVELOPMENT

The proposed model integrates ST, SNT and SPT to provide a comprehensive framework that explains how different types of social media ties and presence influence trust in the seller and platform, which in turn affects the consumer purchase behaviour. The model under discussion intertwines the concept of sustainability, acting as a moderator, with the dual dimensions of trust serving as predictors of purchase behaviour. This complex interplay is not merely theoretical but is grounded in empirical testing through several proposed hypotheses.

The current model aims to examine the role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace and provide a comprehensive and holistic understanding of the factors that shape consumer purchase behaviour in S-Commerce context.

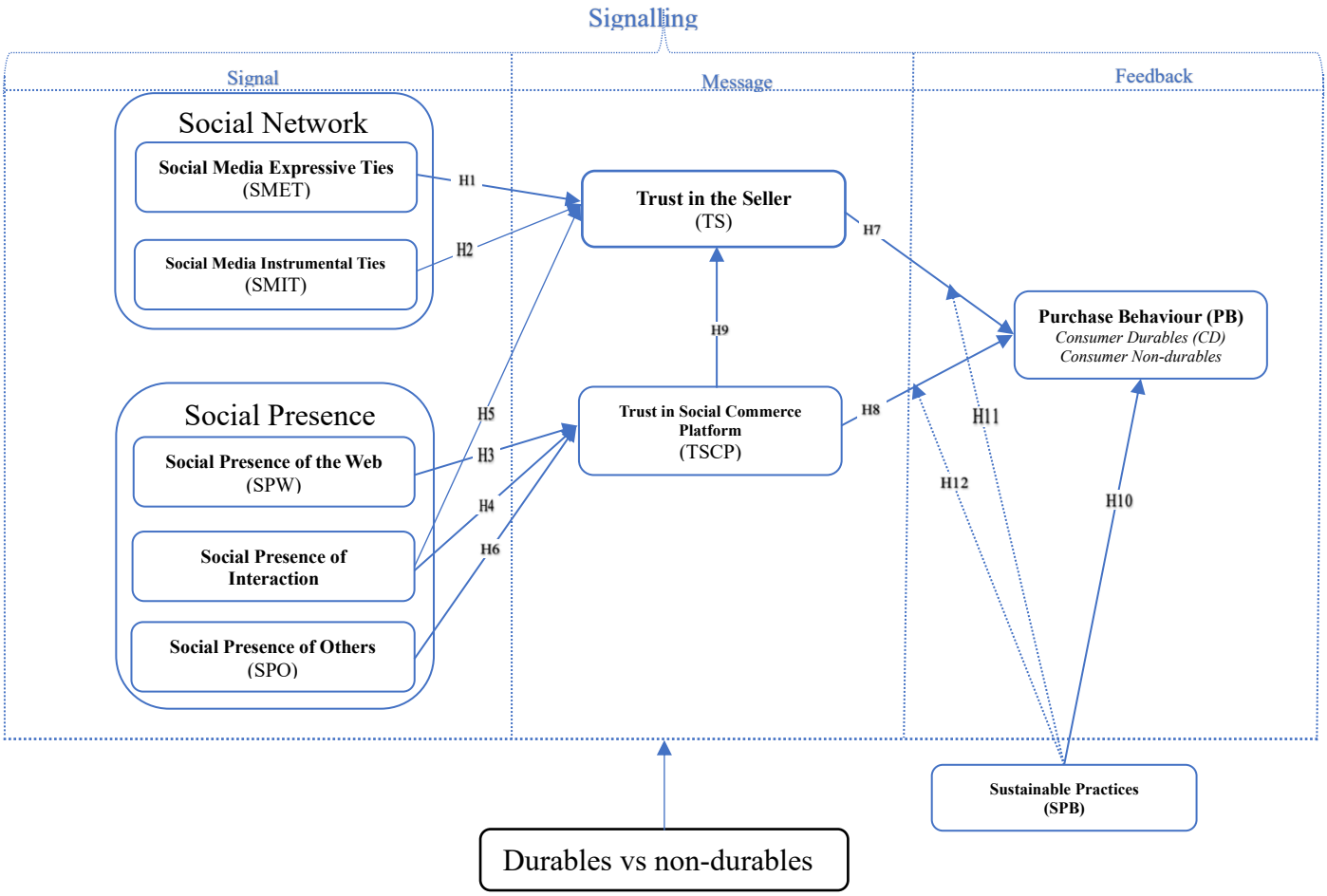


Figure 3. 1 The conceptual model for research with 12 hypotheses.

Source: Author's own compilation

3.5.1 The Influence of Social Media Expressive Ties

Social media expressive ties (SMET) are relationships rooted in emotional closeness and personal sharing, fostering deep connections through affective feelings and intimate interactions (Li *et al.*, 2022). They are essential for building strong, supportive social bonds (Nofal *et al.*, 2022). SMET are relationships that are characterised by a high level of trust and frequent, meaningful exchange (Nofal *et al.*, 2022). SMET refers to relationships that an individual develops in a social network that are similar to friendships or family relationships (Granovetter, 1973). The literature often uses 'expressive ties' and 'strong ties' interchangeably to denote social network connections similar to friendships or hierarchies, or interactions such as communications or transactions (Boulianne, 2022). Additionally, Gilbert and Karahalios

(2009) argue that strong ties are intimate connections with trusted individuals who often share similar backgrounds and social circles. They form a complex web of relationships that reflect shared trust and life experiences. One shapes their social setting and phase of life (Kane *et al.*, 2014). In this study, strong ties are considered social media expressive ties. SMET are relationships defined by significant time investment, emotional depth, intimate sharing and mutual support, which together create a robust and interconnected bond between individuals (Granovetter, 1973). These elements, while distinct, collectively contribute to the tie's strength and are often closely related to the relationship's dynamics (Granovetter, 1973).

Kane *et al.* (2014) argue that SMET forms the web of connections that underpin the structure of a network, enabling the dissemination of information and resources. Strong ties are distinguished by their frequency and depth of interaction, fostering durable and supportive relationships within the network (Wang *et al.*, 2023). These ties, as noted by Nofal *et al.* (2022), are built on trust and consistent engagement, making them pivotal for the exchange of valuable insights. Boulianne (2022) further underscores their reliability, positing that strong ties are instrumental in guiding consumers to make well-informed decisions regarding product quality and efficacy, thereby reducing the perceived risk associated with choices. SMET mirrors the diverse and versatile relationships individuals have with family and friends, encompassing a range of interactions from online connections to extending offline friendships into the digital space (Xu *et al.*, 2021).

However, Oppen (2020) cautioned that monetising friendships on social networks could erode their altruistic essence, potentially leading to negative responses and relationship breakdowns. This view is supported by several scholars (Li *et al.*, 2018, 2022; Wongkitrungrueng *et al.*, 2020). For instance, Li *et al.* (2018) suggested that friendship significantly impacts business dynamics, presenting both benefits and challenges. Friends as business partners may enhance trust and cooperation due to increased loyalty. Additionally, the overlap of personal and professional relationships can lead to role conflicts (Wongkitrungrueng *et al.*, 2020). These conflicts surface when business pursuits conflict with friendship values, causing decision-making dilemmas (Price and Arnould, 1999). This tension is pronounced in S-Commerce, where social connections may transition into business interactions. However, the choice to conduct business with a friend or a well-reviewed stranger often depends on perceived risk and the preservation of friendship (Li *et al.*, 2018). Li *et al.* (2023) suggested that a difference should be acknowledged between friendship interactions and commercial encounters in S-

Commerce, concluding that strong ties, perceived as friendship interactions, have a positive impact on trust in S-Commerce platforms.

While some scholars suggest that social network ties are negatively related to commercial intention in social networks (Li *et al.*, 2018; 2022), several empirical studies recognise the positive influence of strong network ties on trust in S-Commerce sellers (Li *et al.*, 2022; Liu *et al.*, 2023; Mojia-Delgado, 2022; Ting *et al.*, 2023). For example, Wang *et al.* (2023) suggested that strong social network bonds positively influence trust in S-Commerce platform sellers. Additionally, Lo *et al.* (2022) suggested that strong social network bonds can foster trust between the buyer and the seller in S-Commerce. Strong emotional interactions between the buyer and the seller increase trust in the seller (Ting *et al.*, 2023). Liu *et al.* (2023) argued that the interaction between the buyer and the seller in S-Commerce platform increases trust in the seller. Mejía-Delgado (2022) proposed that the interaction between the buyer and seller fosters the bond between the two parties and influences the level of trust in the seller. Ramli *et al.* (2023) argued that trust in the seller can be enhanced by the relationship between the buyer and the seller on S-Commerce platform. Therefore, this study proposes the following hypothesis:

H_1: Social media expressive ties positively influence trust in the Facebook Marketplace seller.

3.5.2 The Influence Of Social Media Instrumental Ties

Social media instrumental ties (SMIT), as defined by Li *et al.* (2023), are relationships formed with specific objectives or benefits in mind, adhering to a principle of balanced exchange where each party contributes and receives equally. These purpose-driven ties are often seen in professional or task-oriented contexts such as collaborations between colleagues or interactions between service providers and clients (Chen *et al.*, 2023) and require minimal time investment and infrequent interactions (Granovetter, 1973). These ties are sometimes referred to as weak ties, secondary ties, or limited interaction relationships (Granovetter, 1973; Li *et al.*, 2023; Leung *et al.*, 2020). These weak ties —connections with individuals who are not closely related—play a crucial role in facilitating cooperation between strangers. They form the backbone of a broader society by extending social and economic exchanges beyond immediate social circles (Sundararajan, 2020). This highlights the importance and versatility of SMIT in various social and economic contexts.

S-Commerce relies heavily on the role of SMIT, or weak ties, as they are the connections between individuals who are not closely related, such as acquaintances, colleagues, or distant

relatives (Li *et al.* 2023). These ties are vital in sociology for linking individual experiences with larger community dynamics, offering access to opportunities, and aiding social integration (Granovetter, 1973; Li *et al.*, 2018). Moreover, weak ties serve as bridges between different social groups, facilitating the flow of information and resources that can benefit both buyers and sellers in online marketplaces (Lin *et al.*, 2009).

Social media instrumental ties enable the sharing of unique information among loosely connected individuals, offering fresh viewpoints not found within tight-knit circles (Ostertag and Ortiz, 2017). This is especially useful when consumers are faced with numerous choices and need guidance from diverse sources. SMIT can also influence consumers' affective involvement or the degree of emotional attachment they have with a product or a seller, which can affect their purchase intention and loyalty (Ma *et al.*, 2020). Furthermore, SMIT can foster a climate of trust and cooperation, reducing the likelihood of one-party exploiting information gaps to the detriment of the other, thereby promoting a more equitable and efficient business environment (Lin *et al.*, 2009).

Research has consistently shown that S-Commerce instrumental ties significantly influence trust (Leung *et al.*, 2022; Porter *et al.*, 2019; Li *et al.*, 2020; Rashid *et al.*, 2023; Dana *et al.*, 2023). For instance, Wang *et al.* (2022) found that SMIT fosters trust, which in turn influences purchase intentions. Similarly, Rashid *et al.* (2022) argued that effective engagement on S-Commerce platforms strengthens trust and relationships. Matook *et al.* (2015) also highlighted the significant influence of user relationships on trust in the seller, which is cultivated through intimacy, information sharing and past experiences. Dana *et al.* (2023) further noted that relationships in S-Commerce forums and communities can influence trust in sellers by providing various sources of information. According to Sun *et al.* (2021), the strength of the relationship between live streamers and customers influences their trust in the streamers and the products they recommend. Lastly, Cheung *et al* (2022) suggested that when individuals are not well-acquainted, S-Commerce platforms can foster trust through interactions and transactions. Over time, this trust can be built and strengthened, impacting the overall user experience and transaction outcomes on the platform. Based on this empirical evidence, this study proposes the following hypothesis:

H_2: Social media instrumental ties positively influence trust in the Facebook Marketplace seller.

3.5.3 The Influence of Social Presence of the Web

In S-Commerce, the buyer discovers products and makes purchases through their interaction with the platform (Leong *et al.*, 2020). SPW is the ability of S-Commerce platform interaction to convey a sense of a warm, sociable, and welcoming environment (Lu *et al.*, 2016). Interacting with an S-Commerce platform can increase trust in the platform, just as face-to-face interactions can increase trust in commercial relationships (Leong *et al.*, 2020). Trust can also be built through features provided by social networking platforms, such as voice calls and smiling emojis in text messages, which may encourage buyers to make purchases (Lu *et al.*, 2016). When the buyer trusts the platform, she/he is likely to use it for commercial purposes and the opposite is also true. The buyer who has less trust in the platform will be reluctant to conduct commercial activities on the platform as he might face negative consequences such as fraud, non-delivery of the products, counterfeiting, or even receiving a product that is different from what has been displayed on the platform advertisement.

Several studies have investigated the link between S-Commerce platform features and trust (Alamoudi *et al.*, 2023; Al-kfairy *et al.*, 2024; Jadil *et al.*, 2022; Malak *et al.*, 2021; Moriuchi and Takahashi, 2022; Srisathan *et al.*, 2024). For instance, Pengnate and Sarathy (2016) found that the website attractiveness and user-friendliness influenced trust in unfamiliar online vendors. Yao *et al.* (2022) suggested that transparency, fairness, and less human influence helped digital labour platforms build trust in remote work platforms. Chemeroy *et al.* (2024) claimed that trust belief in the platform was the key factor for trust in collaborative consumption platforms and that it was affected by the platform's attractiveness and user-friendliness. Zhang *et al.* (2021) suggested that the webpage colour had a differential effect on the two dimensions of trust in the platform, with warm colours inducing higher levels of affect-based trust than cold colours in medical crowdfunding webpages. Mayayise (2023) investigated the antecedents of trust in e-commerce platforms and found that the website's structural assurance and quality significantly influenced trust in the platform. Bjorklund *et al.* (2024) claimed that the platform system design significantly contributed to platform trust in the context of the selling of second-hand household items.

Moreover, Srisathan *et al.* (2024) revealed that S-Commerce buyers' trust in the platform is influenced by platform security, reliability, and user-friendliness. Al-kfairy *et al.* (2024) suggested that the general experience with S-Commerce platform influences buyer trust in it.

Furthermore, Zhao *et al.* (2022) found that structural insurance and blockchain certificates enhanced users' trust in sharing accommodation platforms. Soren and Chakraborty (2024) suggested that video content availability, a feature of over-the-top platforms, positively affected users' trust in the platform. These studies provide empirical evidence that S-Commerce platform features influence trust in the platform. Therefore, this study anticipates the following: H3: Social presence of the web positively influences trust in the Facebook Marketplace platform.

3.5.4 The Influence of Social Presence of Interaction

SPI is crucial for building trust and reducing perceived risk during purchases (Lai *et al.*, 2021). It enables sellers to interact with buyers, providing cues that foster seller trustworthiness (Lu *et al.*, 2016). SPI can be leveraged to inform customers about products and services, facilitate sales, and provide customer service (Leong *et al.*, 2020). For instance, a Facebook seller can use SPI to provide product information and persuade potential buyers. SPI can also influence the level of trust in the products sold and the veracity of the seller's information. Trust, as argued by Leung *et al.* (2020), smooths the buyer-seller relationship in S-Commerce and increases the likelihood of purchase. Empirical investigation by Leung *et al.* (2022) and Lu *et al.* (2016) further corroborate the positive correlation between trust and purchase intention, as well as the influence of SPI on platform trust, respectively.

Previous research suggests that seller-buyer interactions in S-Commerce can influence trust in the seller and S-Commerce platform (Zuang *et al.*, 2023; Ahearne *et al.*, 2020; Ye *et al.*, 2020). For instance, research on Xiaohongshu, a popular social media application in China, by Zhuang *et al.* (2023) suggests that seller interactivity, through different contents, has a positive effect on consumer trust by moderating the effects of content quality and source credibility. Moriuchi and Takahashi (2022) found that the seller-buyer interaction affected the buyer’s trust in the seller. Ahearne *et al.* (2020) argue that trust in the seller can be influenced by buyer transparency communicated through cost, which is one of the strategies for buyer-seller interaction in C2C commerce. The type of support that sellers provide to consumers, whether emotional or informational, affects consumers’ trust in the sellers (Zhao *et al.*, 2022). Sellers can increase buyers’ trust by providing emotional and informational support to consumers (Ye *et al.*, 2020). According to Jr *et al.* (2020), the seller’s reputation facilitates the buyer’s trust in the seller.

Trust is a key factor in S-Commerce, where sellers and buyers interact through social media platforms. Previous research has suggested that the quality and frequency of seller-buyer interactions can influence trust in the seller and in S-Commerce platform (Zhuang *et al.*, 2023; Ahearne *et al.*, 2020; Ye *et al.*, 2020). Zhuang *et al.* (2023) conducted a study on Xiaohongshu, a widely used social networking platform in China, and found that the seller interactivity through different types of content had a positive effect on consumer trust by moderating the effects of content quality and source credibility. Similarly, Moriuchi and Takahashi (2022) discovered that the seller-buyer interaction affected the buyer's trust in the seller on a Japanese S-Commerce platform. Moreover, Ahearne *et al.* (2020) argued that trust in the seller could be influenced by buyer transparency communicated through cost, which was one of the strategies for buyer-seller interaction in C2C commerce. Another factor that affects consumer trust in sellers is the type of support that sellers provide to consumers, whether emotional or informational (Zhao *et al.*, 2022; Ye *et al.*, 2020). Additionally, the seller's reputation was found to facilitate the buyer's trust in the seller, according to Jr *et al.* (2020).

Moreover, a study investigating the development of trust in C2C S-Commerce by Leung *et al.* (2019) suggested that the reciprocity, which is the exchange of favours between the buyer and the seller has an impact on trust development in S-Commerce platforms and trust in the seller as well. Additionally, Cai *et al.* (2023) suggested that seller-buyer interaction through seller-created content can enhance trust by providing informative, readable, and multimedia-rich information about the product features and specifications. Ye *et al.* (2019) posited that trust in the seller can be enhanced by increasing SPW, which can create a sense of human warmth and sociability. Furthermore, Wu *et al.* (2023) proposed a model of trust building that considers both cognitive and emotional aspects of trust in the seller, as well as four sources of trust: recognised familiarity, normality of the situation, platform trust, and social interaction. According to research by Cowan and Ketron (2019), seller-buyer interaction can help develop trust in a virtual environment by using different strategies depending on the level of product involvement. This empirical evidence demonstrates that seller-buyer interactions play an important role in enhancing trust in the seller and trust in S-Commerce platform. Thus, the following hypotheses are proposed:

H_4: The social presence of interaction positively influences the trust in the Facebook Marketplace seller.

H_5: The social presence of interaction positively influences the trust in the Facebook Marketplace platform.

3.5.5 The Influence of Social Presence of Others

Social media can lubricate the interactions between individual consumers through features such as reviews, ratings, referrals, recommendations, and online communities (Chen *et al.*, 2019; Handarkho, 2020; Wang *et al.*, 2022). These interactions provide information about products and services that can influence the user's purchase behaviour (Wang *et al.*, 2022). In S-Commerce, buyers receive support in terms of product information not only from the seller but also from other buyers (Algharabat and Rana, 2021; Liang and Turban, 2011). The information shared between buyers has the potential to influence their behaviour as they are assumed to be genuine due to a lack of incentive for false or distorted information (Chong *et al.*, 2022). Social presence in online communities, which is the degree to which other members are perceived as being present, cared for and responsive, is created through constant participation in online discussions, features for self-presentation and status updates to enhance the discussion. (Lu *et al.*, 2016). In this context, social networking platforms can enhance the social presence of others by making customers more aware of each other and their shared interests, which can lead to increased engagement and trust and boost sales (Leong *et al.*, 2020). For instance, Leong *et al.* (2020) argued that SPO in the form of product reviews, likes, and dislikes in the case of Facebook Marketplace and recommendations can influence purchase intention and behaviour.

Research has highlighted the influence of consumer social interactions on trust in S-Commerce platforms (Chong *et al.*, 2022; Zhuang *et al.*, 2023; Fan *et al.*, 2019; Jang and Kim, 2023; Ting and Ahn, 2023; Huang *et al.*, 2019; Li *et al.*, 2023; Suti and Sari, 2021). For instance, Chong *et al.* (2022) suggest that consumers' social circles influence their trust perceptions about S-Commerce platforms. Similarly, Zhuang *et al.* (2023) found that user-generated content can enhance platform trust. Jang and Kim (2023) argued that trust in the platform is significantly influenced by direct interactions between buyers. Attar *et al.* (2021) and Wang *et al.* (2019) highlighted the role of information exchange and social interaction elements, respectively, in fostering trust on the platform. Ting and Ahn (2023) found that engaging in informational interactions boosts trust in the platform being used. Huang *et al.* (2019) and Li *et al.* (2023) underscored the importance of social support and social interaction in nurturing trust in S-Commerce platform. Lastly, Suti and Sari (2021) suggested that social capital enhances both cognitive and emotional forms of trust. These studies emphasised the pivotal role of the social presence of buyers' interactions in influencing trust in S-Commerce platforms. Therefore, this study proposes the following hypothesis:

H_6*:* The social presence of others positively influences trust in the Facebook Marketplace platform.

3.5.6 The Influence of Trust in the Seller

In C2C S-Commerce, trust in the seller refers to the consumer's conviction that the seller will act ethically, adhere to social norms and refrain from taking advantage of situations for personal gain (Wongkitrungrueng and Assarut, 2020). Trust in the seller can influence consumer purchase behaviour as substantiated by several scholars (Leong *et al.*, 2020; Li *et al.*, 2023; Gong *et al.*, 2023; Rahman *et al*., 2022; Netshirando *et al*., 2021). For instance, Rahman *et al.* (2023) suggest that trust significantly influences purchase behaviour on S-Commerce platform. Additionally, trust in the online seller has the potential to influence purchase behaviour (Netshirando *et al*., 2021). Furthermore, Wu *et al*.(2023) argue that cognitive and emotional trust influence purchase behaviour on social shopping sites.

Moreover, most research in S-Commerce have focused on the purchase intention instead of the purchase behaviour. For instance, in the Secondary market in Japan, Moriuchi and Takahashi (2022) suggested that trust in the seller is a key player in hedonistic product purchases compared to utilitarian products. Additionally, Jang *et al.* (2023) suggested that trust in the seller is a predictor of loyalty in secondary marketplaces in Japan. Isip and Lacap (2021) suggested that trust in the seller influences the purchase intention of social commerce users in Angeles City, Philippines. Wang *et al.* (2022) revealed that trust in the seller has a more significant impact on the purchase intention of consumers in e-commerce than other trust objects. Furthermore, Wu *et al.* (2023) suggested that emotional and cognitive trust in the seller play a key role in determining the purchase intention of S-Commerce consumers. Luo *et al.* (2020) proposed that trust in the seller serves as a predictor of transaction intention. However, based on the empirical evidence from several scholars (Gong *et al.*, 2023; Rahman *et al*., 2022; Netshirando *et al*., 2021) trust influences the purchase behaviour in S-Commerce. Therefore, this study proposes the following hypothesis:

H_7: Trust in the seller positively influences the purchase behaviour of second-hand goods on Facebook Marketplace.

3.5.7 The Influence of Trust in S-Commerce Platform.

In C2C S-Commerce, trust is often defined as a mental condition where individuals are willing to expose themselves to potential risks based on the optimistic anticipation of another party's

intentions or actions (Al-Adwan and Kokash, 2019). Trust has been identified as a key factor in various online relationships by scholars (Leong *et al.*, 2020; Li *et al.*, 2023; Gong *et al.*, 2023; Cheng *et al.*, 2019; Sharma *et al.*, 2020). For instance, Jang *et al.* (2023) provided empirical evidence suggesting that trust in S-Commerce platform has a significant role in determining purchase behaviour and loyalty. This is echoed by Isip and Lacap (2021), who suggested that trust in online marketplaces significantly influences the purchase intention of the platform users. In live commerce, Kim and Kim (2023) posited that trust in the platform plays a crucial function in determining customer loyalty. Similarly, Attar *et al.* (2021) revealed that platform trust played a significant role in S-Commerce loyalty formation.

Moreover, trust in S-Commerce platform is a key determinant of customer purchase behaviour, influencing both purchase intention and commitment (Lai *et al.*, 2021; Wang *et al.*, 2020; Nadeem *et al.*, 2020; Alkhalifah, 2022). This influence extends to buyer trust, which impacts customer loyalty and purchase behaviour, even in the context of online second-hand C2C platforms (Ting and Ahn, 2023; Luo *et al.*, 2020). However, a lack of trust can impede purchases. Therefore, this research proposes to further study the role of trust in S-Commerce platforms, aiming to provide a more nuanced understanding of its impact on consumer purchase behaviour.

Scholars suggest that trust in S-Commerce platforms can also influence trust in the seller (Mejia-Delgado and Parades, 2023; Mayayise, 2024; Alkhalifah, 2021). For instance, Alkhalifah (2021) found that trust in S-Commerce platforms can extend to the sellers on these platforms. Similarly, Wu *et al.* (2023) revealed that both cognitive and emotional trust in a social commerce platform can influence trust in the seller. Hallem *et al.* (2021) further suggested that trust in a platform's distribution system positively impacts trust in the seller. These findings indicate a positive relationship between platform trust and seller trust. Therefore, this relationship will also be investigated in this study to uncover if the trust in Facebook influences trust in the seller of second-hand goods. Hence, this study proposes the following hypotheses:

H_8: Trust in S-Commerce platform positively influences the purchase behaviour of second-hand goods on Facebook Marketplace.

H_9: Trust in S-Commerce platform positively influences trust in the Facebook Marketplace seller.

3.5.8 The Influence of Sustainable Practices

Sustainability is the practice of balancing economic, social and environmental factors for long-term well-being (Kemper and Ballantine, 2019). It implies that emerging economies are essential for global development and can lead the way in ethical consumption and production (Lavuri *et al.*, 2023). As people become more concerned and aware of environmental degradation, sustainable consumption gains more importance for society (Lavuri *et al.*, 2023). Moreover, environmental protection is crucial for a world that faces the threat of crossing planetary boundaries and causing the sixth mass extinction. Therefore, all countries are implementing sustainable strategies based on the UN's SDGs (Arman and Mark-Herbert, 2022). One of the key aspects of sustainability is responsible consumption, which reduces waste and supports sustainable development (SDG 12). It entails reusing materials in a circular economy that prolongs product life. However, the extent to which consumers are willing to reuse materials, such as second-hand goods on Facebook Marketplace, remains unclear (Arman and Mark-Herbert, 2022).

Moreover, several studies (Su *et al.*, 2019; Mohd Suki *et al.*, 2022; Sadeli *et al.*, 2023; Tan *et al.*, 2023) have investigated the impact of sustainability on buying choices in various contexts. For instance, Mohd Suki *et al.* (2022) revealed that consumer environmental values influence the purchase of organic food. Likewise, Sadeli *et al.* (2023) found that consumers' views of sustainability affected their attitudes and buying intentions in the food industry. Moreover, Liobikiene *et al.* (2017) asserted that eco-friendly norms and gender had a significant impact on green purchasing behaviour. Additionally, Choi and Johnson (2019) indicated that a deeper understanding of environmental issues predicted the buying behaviour of green products. Finally, Kumar (2022) identified environmental awareness as a key factor influencing the adoption of electric vehicles in India.

Furthermore, the socio-cultural approach to social marketing can address food waste and other complex issues that require collective action to limit environmental degradation (Sutinen, 2022). This idea was proposed by scholars such as Tan *et al.* (2022), who posited that ethical consumers use sharing economy platforms and social marketing to engage in sustainable resale behaviour, driven by their green consumption values. Christie and Venter De Villiers (2023) built on this idea and proposed a conceptual model that aims to foster behaviour change and a sustainable conscious society and Confetto *et al.* (2023) explored Generation Z's sustainable impact on behaviour through sustainability advocacy antecedents. Islam *et al.* (2023) presented

a sustainable e-commerce system with an environmental-impact rating that can facilitate sustainable consumption and production. These studies highlight the importance of sustainability for purchase behaviour. Based on this, the following hypotheses have been proposed.

H_{10}: The sustainability practices of consumers positively influence the purchase of second-hand goods on Facebook Marketplace:

3.5.9 The Moderation of Sustainable Practices

Sustainability under different concepts has been used as moderation between consumer purchases and their antecedents. For instance, Hussain *et al.* (2020) used green advertising as a moderator between environmental concern, self-image and green purchase behaviour. Additionally, sustainability through environmental concern has been successfully tested by Canio *et al.* (2020) as a moderator between the preference for sustainable retailers, trust in sustainable producers and purchase intention.

Moreover, previous studies have established the moderation of sustainability (Rahman *et al.*, 2023; Kushwah *et al.*, 2019; Li *et al.*, 2023). For instance, Erdiaw-Kwasie *et al.* (2023) posited that knowledge of the circular economy moderates the relationship between organisational factors and the adoption of a circular economy. Expanding on this, Rahman *et al.* (2023) revealed that sustainability strategy influences the relationship between environmental, social and governance with return on assets and Tobin's Q. Adding another dimension, Kushwah *et al.* (2019) hypothesised that the link between knowledge-based values, cost considerations, and ethical buying intentions varies among consumers depending on their degree of environmental awareness. This suggests that consumers' environmental concerns can influence how they perceive and act upon ethical consumption. Similarly, Li *et al.* (2023) suggested that environmental regulation boosts the effect of ecological efficiency in food production on the balance of the Water-Land-Food system. In a related vein, Luvari *et al.* (2023) suggested that emotions related to environmental protection notably have an impact on the relationship between stimulus, organismal and response factors. These empirical studies provide a robust foundation for explaining the influence of sustainability on the relationship between different variables. Hence, in the context of this study, the sustainable practices (SPB) are proposed as a moderator that influences the relationship between the TS, the TSCP and PB, and the following hypotheses are proposed:

H_{11}: The sustainable practices of consumers positively influence the relationship between trust in sellers and the purchase behaviour of second-hand goods on Facebook Marketplace.

H_{12}: The sustainable practices of consumers positively influence the relationship between trust in Facebook Marketplace and the purchase behaviour of second-hand goods.

3.5.10 Product Type as a Moderator

The present study considers two types of second-hand products: consumer durables (CD) and consumer non-durables (CND). CDs are goods that are consumed over a longer period and can be used several times such as television, couch, Camera, etc. while CND are goods that are used for a shorter period and have shorter lifespans such as washing powder, medication, and food (Mounika and Reddy, 2021). The difference between these two types of goods lies in the duration of their utilisation. This differentiation aims to investigate how the type of product influences consumer purchase behaviour on Facebook Marketplace.

Previous studies have provided some insights into this area. For instance, Kumar *et al.* (2022) argued that consumers exhibit rational behaviour when purchasing second-hand durable goods. Talukdar (2020) suggested that consumers spend more time evaluating options to maximise benefits from their durable goods purchases. Similarly, Kim and Rao (2023) found that consumers exhibit distinct behaviours when purchasing durable goods. Srivastava and Sharma (2013) suggested that consumer durable goods have a greater impact on consumer purchasing behaviour than non-durables. Gabor and Cristache (2021) proposed that consumer purchase behaviour varies across different types of consumer products, with durable goods receiving more attention and undergoing a more rigorous purchasing process than non-durable goods. These empirical findings affirm that the type of product influences consumer purchasing behaviour. However, the literature reveals limited evidence on how the type of second-hand goods influences purchasing behaviour in S-Commerce. This gap was the focus of the investigation in this study, and the insights generated are reported in Chapters 5 and 6.

3.5.11 Purchase Behaviour of Second-hand Goods

In the current study, the purchase behaviour studied is related to the decision to purchase second-hand goods on Facebook Marketplace. Previous studies have mostly focused more on the purchase intention than the purchase behaviour (Alkhalifah, 2022; Jadil *et al.*, 2022; Nofal *et al.*, 2022; L. Zhao *et al.*, 2023). For instance, Lawrence and Meivitawanli (2023) investigated

the influence of celebrity trustworthiness on purchase intention, Hammouri *et al.* (2023) examined the antecedents of purchase intention on Jordan social networks users; and Sun *et al.* (2021) revealed that the ties strengths influence the purchase intention in social networks. Alkhalifah (2022) suggested that trust in SCP positively influences purchase intention. Nofal *et al.* (2022) investigated the purchase intention in S-Commerce. Mejía-Delgado (2022) investigated the influence of trust on the purchase intention of Columbia's social network users. Zhao *et al.* (2023) explored the purchase intention of S-Commerce buyers in China, and Jadil *et al.* (2022) investigated the influence of online trust and trusting beliefs on the purchase intent among Moroccan S-Commerce users.

While numerous studies posit that purchase intentions predict actual behaviour (Indiani and Fahik, 2020; Jiang and Kassoh, 2023; Kim and Lee, 2023, 2023; Lee *et al.*, 2022; Oliver *et al.*, 2023; Silva *et al.*, 2019; Witek and Kuźniar, 2024), the focus on behavioural intention has been critiqued due to potential discrepancies between intentions and actual behaviour (Silva *et al.*, 2019; Ahmad *et al.*, 2020). Biases in reported intentions and changes over time can create a gap (Silva *et al.*, 2019). A study by Auger and Devinney (2007) revealed major discrepancies between measured intention and actual behaviour. Furthermore, Peña-García *et al.* (2020) found that online purchase intention had a positive effect in Colombia but a negative one in Spain. This suggests that purchase intention might not always lead to purchase behaviour. Lin and Shi (2022) found that consumer green purchase intention and consumer purchase intention were not predictors of actual behaviour, respectively. These studies highlight the importance of studying actual purchase behaviour. Therefore, this study aimed to fill this gap by examining the actual purchase behaviour of Facebook Marketplace users, and the insights from the empirical analysis are reported in Chapter Five.

3.6 CHAPTER SUMMARY

This chapter outlines the theoretical foundation and the hypotheses development for the study. The first section provides a review of three relevant theories for understanding purchase behaviour in S-Commerce. This section also discusses the theories' strengths, limitations, and applicability to this study. Guided by these theories, the second section presented the hypotheses development reflecting the link between the variables in the model. It also highlighted an important distinguishing element of this study relating to the moderating role of consumers' sustainable practices and their influence on the purchase behaviour of second-hand goods on Facebook Marketplace. Additionally, this second section also discussed the influence

of the product types on purchase behaviour. The current chapter prepares the methodology outlined in the next chapter to explain how the data was collected and analysed to empirically test the hypotheses proposed.

CHAPTER FOUR: RESEARCH METHODOLOGY

Building on the literature discussed in the preceding chapter and the objective of the current study, which is to examine the role of trust and sustainability on the purchase behaviour of second-hand goods on social commerce platforms such as Facebook Marketplace, this chapter details the methodologies and analytical techniques used to collect and interpret the data to achieve the research objective. It encompasses a comprehensive explanation of the research philosophy, approach, strategy, sampling procedure, pilot survey, data collection methods, instruments used, and analytical approaches. The current research is explanatory and guided by Saunders *et al.*'s (2019) research onion, which serves as a blueprint for formulating the research methodology and design represented in Figure 4.1.

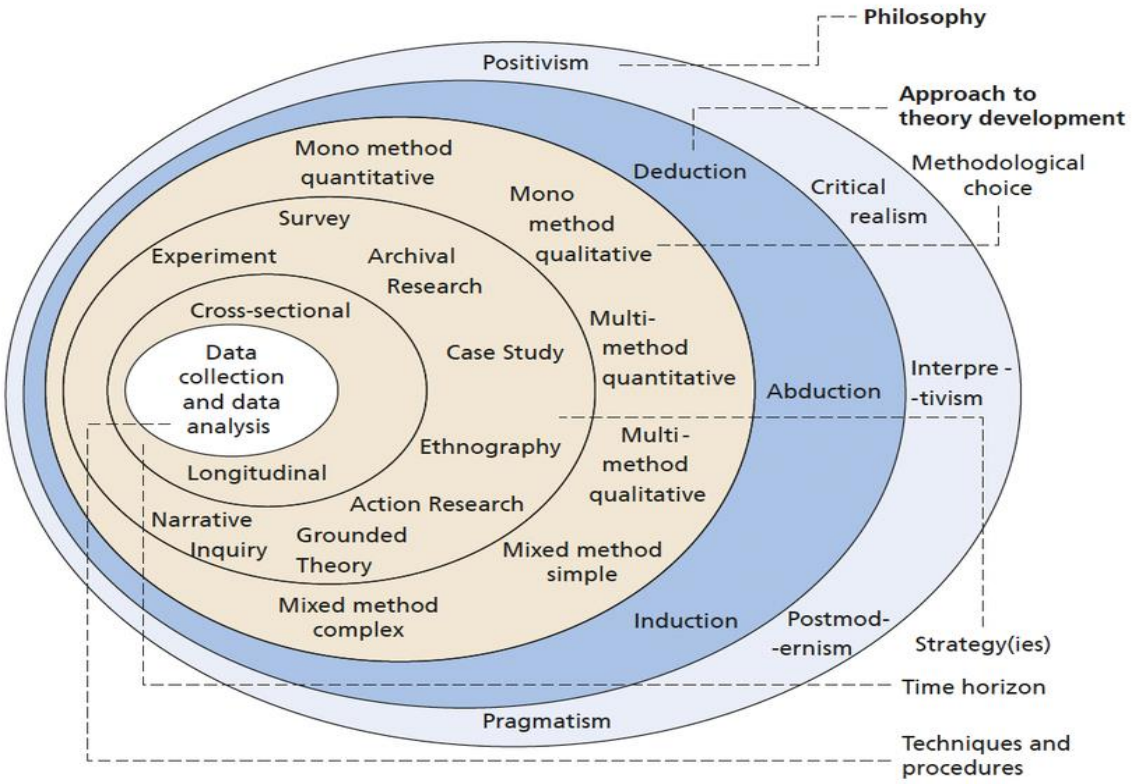


Figure 4. 1 Research onion

Source: Saunders et al. (2019)

4.1 RESEARCH PHILOSOPHY

A research philosophy reflects the principles and values that guide how a researcher creates new knowledge (Sekaran and Bougie, 2019). It is based on beliefs and assumptions that shape the understanding and interpretation of knowledge development (Saunders *et al.*, 2019:130). It validates and aligns the assumptions with the research methodology (Bryman, 2014). Saunders *et al.*'s (2019) research onion identifies five management philosophies: positivism, critical realism, pragmatism, interpretivism and postmodernism. However, Sekaran and Bougie (2019) contend that positivism, constructionism, critical realism and pragmatism are the four main philosophies in business research. Moreover, Bryman and Bell (2014) assert that positivism and interpretivism are the two dominant philosophies in business research.

Interpretivism is a philosophy that prioritises understanding subjective interpretations and meanings in their social context. It involves researchers interpreting elements of the study, such as meanings, contexts and interactions (Saunders *et al.*, 2019). Positivism involves studying observable social phenomena to formulate universal laws and ensure clear and precise knowledge (Bell *et al.*, 2019). It requires a rigorous scientific empiricist approach aimed at producing unbiased pure data and facts devoid of human prejudice or bias (Saunders *et al.*, 2019). Positivists prioritise the robustness and reproducibility of their investigations, the dependability of their observations, and the applicability of their conclusions. In essence, positivists are committed to ensuring the scientific rigour, repeatability and broad relevance of their research, and generating cause-and-effect results (Sekaran and Bougie, 2019), while interpretivism research aims at understanding human behaviour. It looks for explanations for the "why" and "how" of social behaviours, as well as the mechanisms behind events (Bell *et al.*, 2019).

This research adopts a positivist philosophy. The rationale for this choice is that the current research seeks to understand the variables that impact the purchase of second-hand goods on Facebook Marketplaces using social network and social presence theories. A positivist philosophy is used by scholars who aim to understand the social world through the collection and analysis of quantifiable facts to generalise universal social reality (Ragab and Arisha, 2017). The positivist philosophy is also adopted in this research as it seeks to address specific research hypotheses. Scholars such as Handarkho (2020) and Algharabat and Rana (2021) also

adopted positivist philosophy in their studies, examining factors that influence social network adoption and testing hypotheses to confirm their proposed theories.

4.2 RESEARCH APPROACH

A research approach serves as a roadmap for researchers, guiding them to make informed decisions about research design, methodology and constraints. It determines whether a study is focused on theory-building or theory-testing (Saunders *et al.*, 2019). According to Sekaran and Bougie (2019), a research approach involves a set of decisions made by the researcher to either formulate hypotheses that will be tested during the research (test a theory) or collect and analyse data to form ideas. While Sekaran and Bougie (2019) identify three main research approaches, Saunders *et al.* (2019) argue that deductive and inductive approaches are the primary research approaches for knowledge generation in business research. They further propose the abduction approach, which combines the two main approaches (Saunders *et al.*, 2019). These main approaches are elaborated on in the following paragraph.

The deductive research approach, associated with positivist philosophy, formulates a theory and tests it rigorously (Saunders *et al.*, 2019). It is prevalent in the natural sciences, using laws to explain and predict phenomena (Saunders *et al.*, 2019). The process dissects a broad theory into testable hypotheses, which are evaluated through specific observations (Sekaran and Bougie, 2019). This approach examines cause-and-effect relationships, prioritising the generalisability and replicability of findings through quantitative data analysis (Saunders *et al.*, 2019). Conversely, the inductive approach starts with detailed observations, discerning patterns and connections to develop a theory (Ragab and Arisha, 2017). It emphasises the context of events, typically studying a smaller sample size (Saunders *et al.*, 2019). Researchers using this approach work with qualitative data, capturing various perspectives on the phenomena under study. With its roots in the humanities and its focus on subjective interpretations, it aligns closely with interpretivism (Saunders *et al.*, 2019).

The investigation used a deductive research approach, which aligned with its research goals and the underlying positivist philosophy. It also aligns with the research's main aim, which is to test hypotheses and confirm theoretical assumptions. The deductive approach is particularly suited for this purpose as it emphasises structure, quantifiable data, generalisability and the testing of hypotheses (Saunders *et al.*, 2019). This approach is often supported by the positivist

research philosophy, which is the philosophical foundation of this study. Furthermore, the deductive approach has been successfully employed by scholars such as Algharabat and Rana (2021), Han and Li (2021) and Trehan and Sharma (2020) in the e-commerce context. The authors have used this approach to gather quantitative data, test theories through statistical analysis, and conclude. Therefore, the deductive approach is deemed the most appropriate for this study given its objectives, philosophical alignment, and proven success in similar research contexts.

4.3 METHODOLOGICAL CHOICE

The selection of an appropriate research methodology is crucial for effective data collection and analysis. Sekaran and Bougie (2019) emphasise the importance of this choice, which is further illustrated by the research onion suggested by Saunders *et al.* (2019). This framework presents three primary methodological options: quantitative, qualitative and mixed methods. However, French and Gordon (2020) contend that the two principal methodological choices available to researchers are quantitative and qualitative approaches. They advise that the mixed-methods approach is an amalgamation of the principal methodologies.

Quantitative research involves a methodical empirical exploration of observable events using statistical data. According to French and Gordon (2020), this approach focuses on measuring and quantifying variables and their interrelationships. In contrast, qualitative research delves into the intricacies of human experiences, exploring how individuals interpret and construct their realities (Creswell *et al.*, 2018). Du Plooy-Colliers *et al.* (2014) note that qualitative methods prioritise depth over breadth, analysing non-numerical information to gain insights into complex phenomena. While quantitative methods rely on numerical data collection and analysis, qualitative approaches produce rich and descriptive data (Saunders *et al.*, 2019).

Researchers are often faced with the choice between a mono-method, involving a singular data collection technique and/or a multi-method, which incorporates a variety of techniques to gather data (Saunders *et al.*, 2019). To aid in this decision-making process, Table 4.1 provides a summary of the strengths and limitations of both quantitative and qualitative methods. Although the mixed-methods approach, which integrates elements of both quantitative and qualitative research, is not detailed in the table, it represents a synergistic combination of these

two distinct methodologies (Creswell and Clark, 2011). Ultimately, the choice between these methods depends on the study objectives and the data required to address them.

Table 4. 1 Advantages and limitations of quantitative and qualitative methods

	Quantitative	Qualitative
Advantages	Ensured reliability through critical analysis. Quick administration of surveys. Enabled collection of numerical data representing group responses Objectivity and rigour	Perspective of a uniform investigation. Elicit more questions through extensive and unrestricted examination. Comprehension of behaviours influenced by values, beliefs and assumptions.
Limitations	Absence of human perceptions and beliefs. Insufficient resources for large-scale research. Lack of detailed experiential descriptions.	Absence of objectively verifiable outcomes. A high level of skill is required for interviewers. Time-intensive interviewing and categorisation processes.

Source: Adapted from Choy (2014).

In alignment with the research philosophy, approach and objectives of the current study, a mono-method strategy was adopted, leveraging quantitative procedures for data collection and analysis. Quantitative methods, as described by Ragab and Arisha (2017), are employed to gather numerical data and generate findings that can elucidate, predict, or validate a social phenomenon. This method has been widely utilised in S-commerce research (Alkhalifah, 2022; Liu *et al.*, 2021; Riguerra and Noroña, 2021; Ventre *et al.*, 2021), where numerical data is collected from samples. For instance, Ventre *et al.* (2021) applied quantitative methods in their study, using a survey questionnaire to gather numerical data from 800 Mexican Instagram and Facebook users. Similarly, Saepudin *et al.* (2023) employed quantitative methods to collect numerical data in their investigation of eco-friendly hand-crafted fashion purchasing behaviour among both Indonesian and non-Indonesian consumers. Therefore, the above evidence

demonstrates the usefulness and applicability of quantitative methods in various research contexts.

4.6 SURVEY STRATEGY

A survey is a data collection strategy used to gather quantitative data from a sample of individuals, events, or situations to describe, compare, or explain their understanding, viewpoints, behaviour and actions (Saarjeh *et al.*, 2014). Essentially, it provides insights about or from the research subjects to depict, contrast, or interpret their cognition, perspectives and behaviours (Sekaran and Bougie, 2019). This strategy permits the collection of data from a population sample using standardised tools or methods, which can be quantitatively analysed using descriptive and inferential statistical methods (Saunders *et al.*, 2019). It offers a quantitative analysis of a population's attitudes, opinions, or trends by studying a sample to answer descriptive, relational and predictive questions (Creswell and Creswell, 2018). The survey strategy, commonly linked with a deductive research approach, is a favoured strategy in business and management studies. It is frequently used to address questions such as 'what', 'who', 'where', and quantify 'how much' and 'how many' (Saunders *et al.*, 2019). It enables the cost-effective collection of standardised data from a large pool of respondents and makes comparisons easy. Furthermore, surveys are typically regarded as credible sources and are straightforward to interpret (Saunders *et al.*, 2019). The advantages and limitations of the survey strategy are summarised in Table 4.2.

Table 4. 2 Advantages and limitations of the survey strategy

Advantages	Limitations
Allows for collecting data from a large and representative sample of a population. Enables control over the research process and the quality of data. Facilitates data analysis and generalisation of findings. Provides a relatively low-cost and efficient way of gathering data.	May suffer from low response rates or non-response bias. May not capture the complexity or diversity of the phenomena under study. May be influenced by social desirability or demand characteristics. May require a lot of time and effort to design and pilot the instruments and ensure their validity and reliability.

Source: Adapted from Saunders et al. (2019).

The survey strategy has been employed by various researchers (Li, 2019; Li *et al.*, 2023; Ventre *et al.*, 2021; Yang, 2021) to gather numerical data for statistical hypothesis testing in theoretical models. For example, Li *et al.* (2022) utilised this strategy to investigate the correlation between expressive social media ties and consumer purchasing intentions in social commerce. Similarly, Ventre *et al.* (2020) applied a survey strategy to collect quantitative data from a Mexican sample to explore the factors influencing social commerce usage and compare user behaviour on Facebook and Instagram.

4.4 RESEARCH DESIGN

A research design acts as a strategic blueprint that connects research questions with the actual implementation of the research. It provides a roadmap for conducting the research in a manner that effectively achieves the research objectives (Saunders *et al.*, 2019). Essentially, it is a blueprint for generating evidence that aligns with the research question under investigation and meets specific criteria (Bell *et al.*, 2019).

There are four distinct research designs: exploratory, descriptive, explanatory and evaluative. Saunders *et al.* (2019) advise that exploratory design is employed when the research topic is relatively new and aims to gain a fundamental understanding of the subject, while descriptive design is used to outline the characteristics of a specific phenomenon or group. Explanatory research design, on the other hand, is used to elucidate patterns or relationships among phenomena. It often involves hypothesis testing and necessitates a robust data collection process. Evaluative research design assesses the effectiveness of a programme.

Following the current research objective, which seeks to explain the patterns and relationships between trust, sustainability and the purchase behaviour of second-hand goods, this research employs an explanatory design. This design aims to clarify the relationships between variables (Saunders *et al.*, 2019). It is particularly useful for understanding the varying degrees of relationships between variables and indicating the direction of a causal effect of the independent variable on the dependent variable (Du Plooy *et al.*, 2018). Essentially, explanatory research design is used to determine why certain phenomena occur and how different phenomena are related (Du Plooy *et al.*, 2018).

4.5 RESEARCH STRATEGY

A research strategy acts as a detailed roadmap that directs a researcher in tackling the research question effectively. It acts as a conduit, connecting the philosophical foundations of the research with the selected methodology for data collection and analysis (Saunders *et al.,* 2019). This strategy offers direction on how to answer the research questions or fulfil the research objectives (Sekaran and Bougie, 2019). Research strategies can be classified based on the research methods they incorporate and the chosen philosophy (Saunders *et al.,* 2019).

Surveys, experiments and observations are employed to gather and analyse numerical data (Creswell and Creswell, 2018). In contrast, case studies, action research, grounded theory, narrative inquiry and ethnography are utilised to collect qualitative data to delve into and comprehend phenomena in depth (Saunders *et al.*, 2019). Moreover, Saunders *et al.* (2019) suggest that experiments and surveys are the two predominant strategies associated with quantitative research strategies in business studies.

Surveys and experiments are two common data collection strategies used in quantitative research, but they differ in several aspects. A survey involves gathering data from a sample of individuals using standardised tools or methods, such as questionnaires or interviews, to describe, compare, or explain their attitudes, opinions, or behaviours (Saunders *et al.*, 2019; Creswell and Creswell, 2018). An experiment, on the other hand, involves manipulating an independent variable to measure its effect on a dependent variable while controlling other variables that may influence the outcome (Sekaran and Bougie, 2019; Kothari, 2004). Additionally, surveys and experiments are both typically associated with a deductive approach; however, they help to answer different research questions. Surveys aim to answer descriptive, relational and predictive questions, while experiments often seek to answer causal and explanatory questions (Saunders *et al.*, 2019; Creswell and Creswell, 2018). Surveys are suitable for collecting data from a large population, while experiments are more appropriate for testing hypotheses in a controlled setting (Saunders *et al.*, 2019; Sekaran and Bougie, 2019).

Considering the differences between experimental and survey strategies, this study has opted for a survey as its data collection strategy. This choice is in line with the study's objective to gather quantitative data from a sample of Facebook Marketplace buyers. The data will subsequently be analysed to draw inferences about the broader population of social commerce buyers. Furthermore, the survey strategy was chosen due to its compatibility with the positivist

philosophy, deductive approach and quantitative methodology. Importantly, it facilitates data collection in a natural, uninfluenced environment. Consequently, this enables the study to describe, compare and explain the motives of buyers when purchasing second-hand goods on Facebook Marketplace. The following subsection provides more details on the survey strategy.

4.7 TIME HORIZON

The concept of a time horizon, as explained by Sekaran and Bougie (2019), pertains to whether a study captures data at a specific moment, similar to a snapshot, or observes changes over a period of time. According to Bala (2020), research can be classified as cross-sectional or longitudinal. Longitudinal studies, known for their ability to track changes and development, offer a degree of control over the variables under investigation (Bala, 2020). Longitudinal research, as elaborated by Sekaran and Bougie (2019), studies the same sample over time, providing an in-depth view of changes, unlike cross-sectional design, which captures a snapshot at a specific time. Access panels, including online ones, which consist of individuals ready for various surveys, are the two main types of longitudinal studies in business research (Saunders *et al.*, 2019).

Cross-sectional research, as detailed by Saunders *et al.* (2019), entails gathering data from a distinct group at one specific moment. This can be categorised into either single or multiple cross-sectional designs. In a single cross-sectional design, data is collected once from a single sample drawn from the target population, also known as a sample survey research design. Conversely, a design involving multiple cross-sectional studies collects data from multiple sets of participants' samples, each only once, often at different times, allowing for data comparison across different groups or periods. Saunders *et al.* (2019) highlighted that most academic research projects are likely to be cross-sectional, studying a specific phenomenon at a particular time due to time constraints. Cross-sectional studies often use surveys to describe a phenomenon or explain relationships between factors in different settings, and they can also employ qualitative or mixed methods.

Cross-sectional studies have been widely utilised and empirically validated in various fields of research, as evidenced by numerous scholars (Al-Adwan, 2019; Alkhalifah, 2022; Chang *et al.*, 2023; 2022; Etrata *et al.*, 2022; Fan *et al.*, 2022; Fu *et al.*, 2023; Ibrahim *et al.*, 2021; Silva *et al.*, 2019). Al-Abdullatif *et al.* (2023) used a cross-sectional survey of 400 students from four Saudi Arabian universities. In a similar vein, Ibrahim *et al.* (2022) studied the influence of

social media marketing on brand trust, loyalty, and customer return intentions in Northern Cyprus coffee shops, involving 415 undergraduate students using the same time horizon. Furthermore, Al-Adwan and Kokash (2019) utilised a cross-sectional study to examine the relationship between trust in social commerce and customers' buying intentions. These studies underscore the empirical validity and widespread use of cross-sectional studies in contemporary research.

Given the study's objectives, time constraints, and research design, a cross-sectional time horizon was adopted. Data from respondents was collected at a single point in time to investigate the influence of trust and sustainability on the customer-to-customer purchasing behaviour of second-hand goods within the Facebook Marketplace.

4.8 THE SAMPLING PROCESS

The sampling design process is a sequence of steps that assists researchers in choosing a specific group of individuals, events, behaviours, or other elements for study (Du Plooy *et al.*, 2018). Meanwhile, the sampling process refers to the selection of appropriate research subjects capable of yielding rich information to achieve the research objectives (Saunders *et al.*, 2019). Malhotra and Birks (2007) further detailed a seven-step procedure in the sampling process, as illustrated in Figure 4.2. This systematic approach ensures a comprehensive and effective sampling strategy for research studies.

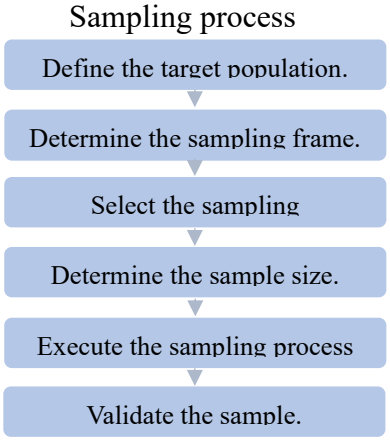


Figure 4. 2 Sampling process

Source: Adapted from Malhotra (2007).

4.8.1 Defining the Target Population

The first step in the sampling process is to determine the population from which the study will be conducted. The population is composed of all cases or elements that a researcher intends to study (Saunders *et al.*, 2019). The authors distinguish between the population and the target population, as displayed in Figure 4.3.

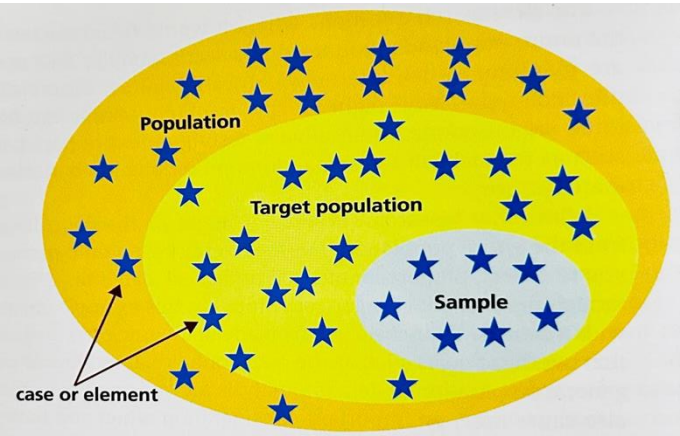


Figure 4. 3 Population, target population, sampling and individual cases.

Source: Saunders et al. (2019:296)

The study's population encompasses all individuals or entities that can provide essential data to address the research question and achieve the objectives. According to Du Plooy *et al.* (2018), it is the total number of potential study units, that Kothari *et al.* (2007) describe as the universe of study units. Depending on the research, this population may be finite or infinite, meaning it could be small enough to examine in its entirety or so vast that a subset, known as the target population, must be selected for practicality (Saunders *et al.*, 2019).

For this study, the focus is on social network users in South Africa, aged between 18 and 65, who have utilised social networks for second-hand goods transactions. Given the immense size of this group, the study narrows down to a specific target population a manageable segment of the main population sharing similar characteristics and from which a sample will be drawn (Sekaran and Bougie, 2019). The target population should ideally represent the broader population to ensure the research's validity. However, differences between the target and entire populations can introduce bias, necessitating careful selection to maintain research integrity (Saunders *et al.*, 2019). Thus, the research has concentrated on Facebook Marketplace users within the 18–65 age range living in South Africa who have engaged with the platform for information or transactions involving durable and non-durable goods. This choice is strategic,

as Facebook is the leading social commerce network in South Africa with 87% of the South African S-Commerce marketspace (Statcounter, 2023; Algharabat and Rana, 2021) and has a designed marketplace (Mofokeng, 2019; Tlapana *et al.*, 2023). Additionally, Tlapana *et al.* (2023) revealed that Facebook is the most used social network, with 94.3% of participants active on the platform followed by YouTube with 79.3%. After identifying the population, the researcher needs to specify the sampling frame, which is discussed in the next section.

4.8.2 The Sampling Frame

A sampling frame is an inclusive list of individuals or objects from a specific population targeted for study (Du Plooy *et al.*, 2018). It serves as the foundation for drawing a sample and should accurately represent the population, encompassing all its members and their characteristics. Saunders *et al.* (2019) further suggest that a sampling frame is essentially a list or set of guidelines that represent the elements of the target population, facilitating their identification for research purposes. The sampling frame's significance in research lies in its substantial influence on the sample's representativeness and precision, thereby impacting the credibility of the research outcomes.

However, in this study, it was not feasible to access the exhaustive list of social network users who have used the platforms to purchase second-hand products in South Africa. This limitation also applied to the exhaustive list of Facebook Marketplace users who have previously purchased second-hand goods. Therefore, the sampling frame for this study could not be obtained.

The sampling frame is usually employed to decide on the suitable sampling technique that should be utilised for selecting the sample (Sekaran and Bougie, 2019). This study will select a sampling technique suitable for selecting samples in the absence of a sampling frame and will be discussed in the next section.

4.8.3 The Sampling Technique

As depicted in Figure 4.4, sampling is the process of selecting a subset from a larger population to extrapolate the characteristics of the entire population. This process is vital in research as it enables the understanding of broader traits (Bhome *et al.*, 2013). The selection of a suitable technique, which is the third step in the sampling process, has a critical role in the selection of the sample (Saunders *et al.*, 2019). A sample, as defined by Sekaran and Bougie (2019), is a

subset of the target population that is under study. In the context of business sciences, as shown in Figure 4.4, two categories of sampling techniques are used predominantly: probability and non-probability sampling techniques.

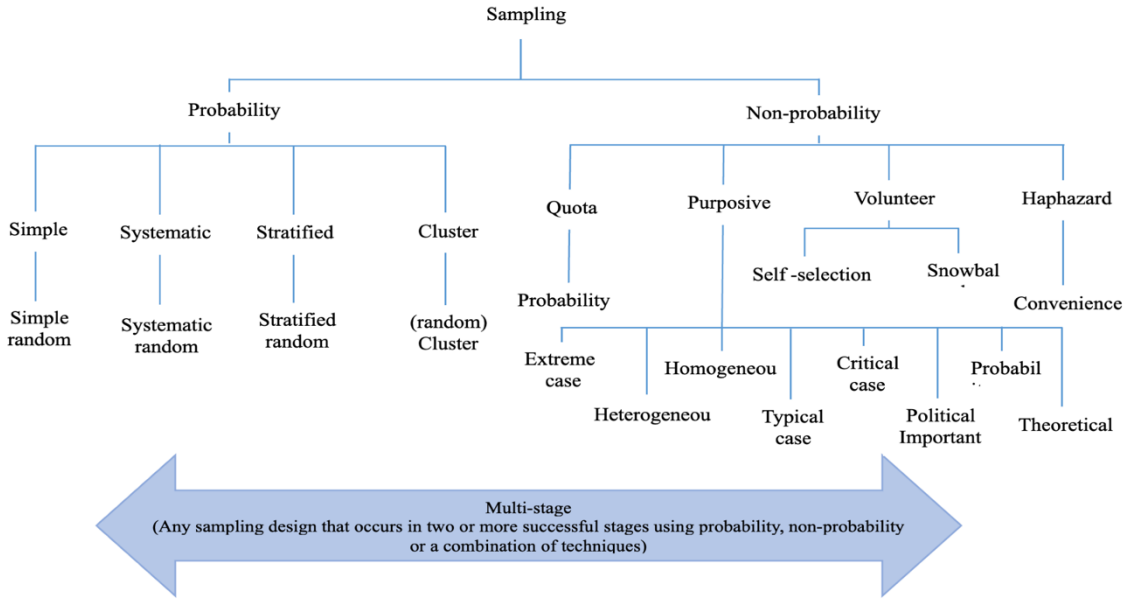


Figure 4. 4 Sampling

Source: Saunders et al. (2019)

Probability sampling, as defined by Saunders *et al.* (2019), is a systematic method of selecting a subset from a larger population for study, enabling researchers to draw statistical conclusions about the entire population based on this sample. This approach is particularly beneficial when dealing with large populations (Du Plooy *et al.*, 2018). For smaller populations, studying the entire group can yield more precise results; however, in business studies, this is not always the case. To effectively implement the probability sampling technique, Saunders *et al.* (2019) advise that four key conditions must be met, such as establishing a suitable sampling frame that aligns with the research objectives and questions, determining an appropriate sample size, selecting a fitting sampling technique and sample, and ensuring that the selected sample accurately represents the target population. These steps are crucial to maintaining the integrity and accuracy of the research findings. Various probability sampling techniques can be selected for a study, including cluster, simple, systematic, and stratified sampling.

In contrast, non-probability sampling is a technique frequently employed in business and management research when it is not feasible or suitable to randomly select a sample from a

sampling frame (Du Plooy *et al.*, 2018). This is a sampling technique in which elements from a population do not have a known chance of being chosen for the study, as it involves a degree of subjective judgement and provides a range of techniques for sample selection (Sekaran and Bougie, 2019). The rise in online questionnaires has led to an increased prevalence of non-probability sampling (Saunders *et al.*, 2019). Depending on the investigation questions, objectives and strategy, non-probability sampling might be necessary (Bhardwaj, 2019). Essentially, non-probability sampling is a method where the sample selection is based on specific characteristics or distinguishing features relevant to the study rather than random selection (O'Gorman and MacIntosh, 2015). Availability or convenience sampling, quota sampling, purposive sampling and volunteer sampling are the four main nonprobability sampling methods (Saunders *et al.*, 2019).

Non-probability sampling can be used when it is challenging to determine or access the entire population, when the research is exploratory, or when the research problem requires an in-depth understanding (Creswell *et al.*, 2014). Additionally, Bryman (2012) explains that results from non-probability sampling may not be generalised to the entire population in the same way as findings from probability sampling. However, it offers an alternative when it is impossible to use probability sampling.

Therefore, the current study opted for non-probability sampling, primarily due to the unavailability of a sampling frame as elaborated in Section 4.8.2, a prerequisite for probability sampling, which in this case was non-existent. Among the various non-probability sampling methods illustrated in Figure 4.4, the subsequent paragraphs will delve into four distinct techniques.

Convenience sampling, as Esteban-Bravo and Vidal-Sanz (2021) elucidate, entails selecting readily accessible or willing participants. It eschews systematic or random selection in favour of availability or volunteerism. On the other hand, Saunders *et al.* (2019) describe quota sampling as a deliberate selection based on traits mirroring the target population demographic. For instance, a gender-balanced population would necessitate an equivalent sample distribution. While this method aims to capture the population's diversity, its efficacy hinges on the precision of quota criteria and data accuracy. Notably, quota sampling demands a sample size comparable to that of random sampling techniques. Purposive sampling emerges as a strategic choice for aligning the sample with specific research criteria, as highlighted by Du

Plooy *et al.* (2018). Sekaran and Bougie (2019) advocate for its efficiency in swiftly accruing pertinent information. Moreover, the volunteer sampling outlined by Saunders *et al.* (2019) relies on participant initiative. It bifurcates into two categories: snowball sampling, which is suitable for elusive populations, and self-selection sampling, which attracts volunteers through outreach. Both variants, however, are susceptible to bias, stemming from the participants' inherent similarities or self-selecting motives.

For this research, purposive sampling was employed because the focus was on a specific group of Facebook users who have been involved in commercial transactions on S-Commerce platform. This technique was judiciously chosen, considering factors such as time constraints, resource limitations, research objectives, sample accessibility and informational needs (Saunders *et al.*, 2019; Du Plooy *et al.*, 2018: 142; Creswell *et al.*, 2014).

4.8.4 The Sample Size

Determining the sample size in non-probability sampling is not a straightforward task, as there is no definitive cut-off. Various authors provide guidelines to aid in estimating the sample size. For instance, Saunders *et al.* (2019) suggest that factors such as time constraints, financial resources, population size, the need for accurate findings, and research objectives guide the choice of sample size. Additionally, Sekaran and Bougie (2019) propose that the sample size is influenced by the significance of the decision, the type of study, the variables to analyse, the exploration required, benchmarks from past studies, occurrence and completion rates in the study population and available resources. Essentially, more significant decisions require more data. Surveymonkey.com, an online survey research support tool, suggests that a sample could be calculated using the below formula.

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p\,(1-p)}{e^2 N}\right)}$$

Where N = population size, e = margin of error (0.05), and z = z-score, the z-score is the number of standard deviations a given proportion is away from the mean. Based on this formula from Surveymonkey.com, with the assumption that the population size can be estimated at 10 000

000 and above, with a 95% confidence level and an error margin of 5%, a sample size of 385 can be used for a given survey.

However, this study considered other scholarly advice for sample size calculation concerning data analysis using SEM in research. Kline (2016) advocates for a large sample size in SEM, suggesting an N:q ratio rule, where N is equal to the number of cases and q is the parameter requiring estimates. The author advises that a maximum ratio of 20:1 and a minimum ratio of 10:1 be considered for a study (Kline, 2016). Similarly, Sekaran and Bougie (2019) recommend a large sample size, particularly for a population with high variability, to ensure precision and enable inference.

Moreover, Sarjeeh *et al.* (2021) suggest a sample size of at least five times the variables used in factor analysis, plus ten cases. Hair *et al.* (2019) and Hair *et al.* (2021) emphasised the importance of having sufficient observations for each estimated parameter, suggesting a 10-time rule for calculating the sample size. Hair *et al.* (2021, 2019) have suggested that the size of the sample for a study should ideally be a minimum of ten times the quantity of scale items present in the model. Considering these recommendations and the variability in sample sizes in previous literature, ranging from 122 by Muda and Hamzah, (2021) to 874 by Handarkho (2020), this study initially determined a sample size of 400 based on Hair *et al.*'s (2019; 2021) advice. However, a total of 404 valid questionnaires were eventually collected and used as the final sample for the study.

4.8.5 Executing the Sampling Process

The execution of the sampling process is the implementation of the sampling design choices regarding the population, sampling unit, sampling frame, sampling technique and sample size (Sekaran and Bougie). A clear specification of how to select the sample from the population is necessary, especially when more than one researcher is involved. For instance, when households are the sampling units, it's crucial to have a well-defined understanding of what makes up a household. Additionally, procedures need to be in place to handle situations involving unoccupied residences and a lack of responses.

This step was implemented by ensuring that the sample was defined as Facebook Marketplace users between the ages of 18 and 65 who have used the platform to purchase second-hand goods and are living in South Africa. Screening questions were included in the first section of the questionnaire to ensure that only the target population was able to participate in the study.

4.8.6 Validating the Sample

Validation of the sample is the process of checking and correcting the sampling frame error by filtering out the respondents who do not belong to the target population (Salking, 2012). In research, respondents can be sorted based on various attributes such as demographics, familiarity, and product usage that align with the target population. This process, known as filtering, can eliminate unsuitable elements from the sampling frame, but it cannot add missing ones. The validation of this process depends on the accuracy of the base statistics that represent the target population's structure. After data collection, it's crucial to compare the structure of the sample with that of the target population to ensure they match. The current study ensured the validity of its sample through a conditional online Google form. This form included three screening questions in Section A:

A1. Are you between the ages of 18 and 65? (Yes/No).

A2. Have you purchased any second-hand goods online in the last 12 months? (Yes/No).

A3. When did you last buy a second-hand product online? (Options: Less than 3 months ago, 3 to 6 months ago, 7 to 10 months ago, 11 to 12 months ago, more than 12 months ago, or never).

Respondents who answered 'No' to either of the first two questions or 'Never' to the third question were not permitted to continue with the questionnaire. Instead, they were directed to the end of the questionnaire and thanked for their participation. For those who completed the questionnaire on paper, the researchers verified their status as Facebook Marketplace buyers and their responses to questions A1, A2 and A3 before allowing them to complete the questionnaire. This vetting process ensured that only consumers who had previously purchased second-hand goods participated in the study.

4.8 DATA COLLECTION INSTRUMENT

The data collection instrument is a crucial aspect of research, and it refers to the instrument used to gather data from the samples (Pandey and Pandey, 2015). Survey research strategy utilises various systematic instruments to collect data from a selected sample, including questionnaires, structured observation and structured interviews. Questionnaires are systematically compiled questions, as described by Pandey and Pandey (2015). They serve to elicit specific data from respondents, offering both advantages and limitations as depicted in Table 4.3. Similarly, structured observation, which is a methodical documentation of relevant behaviours or events within a given context as outlined by Saunders *et al.* (2019), provides

insightful findings while also presenting certain constraints, also summarised in Table 4.3. Moreover, structured interviews, whether conducted in-person or telephonically, adhere to a pre-established question set to yield quantitative data for statistical analysis, aiming to describe, compare, or elucidate pertinent phenomena with their respective pros and cons detailed in Table 4.3.

Table 4. 3 Advantages and limitations of questionnaire, structured observation and interview

	Questionnaire	**Structured Observation**	**Structured Interview**
Advantages	Cost-effective Efficient time wise Broad reach Ideal for certain responses Highly reliable in specific contexts	Ensures data authenticity. Offers on-the-spot data recording. Easy to use and understand. Time-tested data gathering method.	Direct and in-depth inquiry. Provides insights into historical and future contexts. Allows for the discovery of unique attributes. Facilitates mutual motivation. Permits comprehensive observation. Helps understand underlying motivations. Facilitates thorough review of existing information.
Limitations	Limited response range No personal interaction High risk of inaccurate answers Incomplete responses likely Potential for unreadable answers Not applicable for some issues	Not all events are observable. Influenced by the observer's perspective. Time consuming. Involves high costs. The subject's behaviour may change due to the observer's presence. This method is ineffective for behaviours that are hidden or unobservable. The observer needs to be well-trained and experienced.	Risk of receiving inaccurate information. Quality may suffer due to the interviewee's limitations. The interviewer's biases can influence outcomes. Differences in perspectives between interviewer and interviewee may skew results. Research may be biased or incomplete.

Source: Adapted from Pandey and Pandey (2015).

Therefore, the current study uses a survey strategy through a questionnaire that is developed in the following subsection. This choice was guided by the research philosophy, approach, methodological choice and strategy selected in previous sections as well as the current research objective.

4.8.1 Questionnaire

The questionnaire was identified as the most appropriate instrument for gathering data for this study. This choice is supported by Ragab and Arisha (2017), who highlight the prevalence of questionnaires in business research. They attribute this popularity to the questionnaire's ability to amass data from a large and geographically diverse sample while also providing a wide range of options for statistical analysis. Furthermore, Saunders *et al.* (2019) note the convenience of questionnaires, as they can be completed at the respondent's leisure, allowing for the collection of a significant amount of information through various question types. Thus, the use of a questionnaire in this study aligns with established research practices and offers numerous advantages in terms of data collection and analysis.

Questionnaires can be categorised into two types: self-administered and researcher-completed (Saunders *et al.*, 2019). Self-administered questionnaires, also known as surveys, are filled out by respondents independently, without the researcher's assistance. On the other hand, researcher-completed questionnaires, often referred to as interviews, involve the researcher obtaining responses through an interview with the respondent (Leavy, 2017). Sreejeh *et al.* (2014) provide further insight into the distribution methods for self-administered questionnaires. They can be disseminated via traditional methods such as post or email, or through modern channels such as SMS or the internet, including web-based platforms. In contrast, researcher-completed questionnaires are typically conducted either face-to-face or over the telephone, as per Saunders *et al.* (2019). This distinction in administration and distribution methods underscores the flexibility and adaptability of questionnaires as a data collection tool. This study used a self-administered questionnaire as the data collection instrument to allow respondents to complete it independently.

In this study, a dual approach was employed to ensure a higher response rate from a dispersed sample. Web-based surveys were shared with the University of Witwatersrand’s students via email by the registrar's office. The distribution of the questionnaire was requested and approved during the ethics application process. The questionnaire link was also distributed in local South

African Facebook groups by sending the link to the group administrator and requesting permission for the questionnaire link to be posted in the group for members to take part in the research if they are willing to do so. However, it must be noted that the response rate from Facebook groups was very low. This could be measured as each step was implemented in different periods. The researcher also used the WhatsApp contact list on his cell phone to share the questionnaire link. Even though the contact numbers were known, the questionnaire did not record any of respondents' particulars. Additionally, Face-to-face questionnaires were distributed in public parks and churches in Gauteng, this method, enables broad geographical data collection and is cost-effective for large-scale research. The questionnaire instruction page that preceded the consent form, explained to respondents that they would not be required to record any of their particulars ensuring respondent anonymity, and potentially leading to more honest responses.

According to Du Plooy *et al.* (2018), developing a questionnaire requires clear, simple language and instructions. Furthermore, the questionnaire should include an introduction that explains the importance of the study and assures respondents of privacy. Salkind *et al.* (2018) also recommend indicating the estimated completion time, sequencing and grouping questions by topic, limiting the number of questions, and asking for demographic information at the end of the questionnaire. Moreover, the questionnaire should thank respondents for their time and be pre-tested for effectiveness (Du Plooy *et al.*, 2018).

In line with this advice, this study adapted the questionnaire from existing scales that were scientifically tested and proven in previous research (Saunders *et al.* 2019). Social media expressive and instrumental ties were each tested using four items, drawing on the work of Chen and Peng (2008). The social presence web was assessed through five items, while the social presence of interaction with the Seller and social presence of others were each evaluated using four items from Leong *et al.* (2020). Trust in the seller was informed by Zhao *et al.* (2019), and 'trust in the social media platform' was based on the work of Nadeem *et al.* (2020). Both trust dimensions were measured using four items as well. The sustainable practices were evaluated using four items, adapted from Joshi and Rahman (2017). Lastly, the purchase behaviour was measured using three items adapted from Forsythe and Shi (2003). Details on the scale items can be found in Table 4.4. The wording and language of the questions were modified to make them clear and simple. Each question had a clear instruction to guide the respondents. Questions that measured similar behaviours were grouped by topics and

transitions between topics were indicated to the respondents. The questionnaire began with an introduction that stated the aim of the study, the names of the researcher and his supervisor and the contact information of the University of Witwatersrand's ethics office. The questionnaire ended with a "thank-you" note to the respondents for their participation.

The questionnaire consisted of closed-ended questions that were adapted from existing scales based on the theories used in this study (Saunders *et al.*, 2019). The questions were carefully structured to avoid ambiguity and allow respondents to provide clear answers (Creswell and Creswell, 2018). The questionnaire included multiple-choice, dichotomous and rating questions, depending on the topic and the type of response required. Multiple-choice questions offered respondents the choice to select any answer that suited their purchase behaviour, while dichotomous questions provided two choices to the respondents; they needed to select the option that best suited their behaviour. The rating questions used a five-point Likert scale (1 = strongly disagree and 5 = strongly agree) to measure the respondents' degree of agreement with different statements. Questionnaires are commonly used in business studies (Sekaran and Bougie, 2019), and previous social commerce studies have also employed them (Muda and Hamzah, 2021; Wang *et al.*, 2022).

The design of the questionnaire followed the guidelines suggested by Salkind *et al.* (2018). They recommend that the questionnaire be reasonable in length and complexity; avoid overly personal or offensive questions; be goal-oriented and engaging; and be more interesting than other data sources. Moreover, Creswell *et al.* (2014) added that the questionnaire should not overburden the respondent, have a clear purpose and request information that the respondent likely possesses. They should be answerable, straightforward and professionally formatted. They should also have clear instructions, numbered questions and pages, and transitions between topics.

Following these guidelines, this study condensed the questions to achieve an average completion time of 15 minutes, as verified by the piloting. The questions were simple and mostly scale questions that required choosing only one option. The questionnaire consisted of three sections, preceded by an instruction page that provided more information on the survey, the use of the data, and the consent form. The respondents were informed of their rights in writing and had to agree to participate voluntarily and without compensation. They were also

informed that they would not provide any of their particulars, such as email, cell or telephone number, name and identity number at any point in the questionnaire.

The first section measured consumer behaviour related to the purchase of second-hand goods on Facebook Marketplace, including the resources spent. This section also screened out consumers who had never bought any second-hand goods online and were not allowed to continue with the questions. The second section operationalised the constructs of interest, such as social media ties, social presence, trust, purchase behaviour and sustainable practice. It used adapted scales to suit the context and realities of the study. Table 4.4 summarises this section. The third section collected the demographic information of the respondents, such as gender, age, education, marital status and household income. The full questionnaire can be found in Appendix A at the end of this dissertation.

Table 4. 4 Operationalisation of the constructs

Social Network Factors	
Social media Expressive Ties - Adapted from Li *et al.* (2023)	
SMET1	I have developed a personal relationship with the seller in Facebook Marketplace
SMET2	I stay in touch with Facebook Marketplace seller to buy other items in addition to purchasing the item.
SMET3	I use Facebook to have conversations about personal matters with the seller.
SMET4	I consider the seller's interest when buying from them on Facebook Marketplace.
Social Media Instrumental Ties - Adapted from Li *et al.* (2023)	
SMIT1	I use Facebook to communicate with the seller about their products.
SMIT2	I stay in touch with the seller on Facebook Marketplace to receive additional discounts and services, such as pre-and post-sales support.
SMIT3	I contact the seller on Facebook Marketplace when I require their product.
SMIT4	I directly ask the seller on Facebook Marketplace for help, advice or guidance with issues relating to the product.
Social Presence Factors	
Social Presence of Web - Adapted from Leong *et al.* (2020)	
SPW1	The seller’s Facebook page conveys a feeling of human connection.
SPW2	There is a sense of personal connection when visiting the seller’s Facebook page.
SPW3	The seller’s Facebook page is sociable.
SPW4	The seller on Facebook Marketplace creates a welcoming and friendly online environment.

SPW5	SPIS
Social Presence of Interaction with the Seller - Adapted from Leong *et al.* (2020)	
SPI1	I can understand the sellers better when interacting with them on Facebook Messenger.
SPI2	I can imagine how the Facebook Marketplace seller looks like when interacting via Facebook Messenger.
SPI3	The communication with the seller via Facebook Messenger has a human touch.
SPI4	There is a warm feeling when communicating via Facebook Messenger.
Social Presence of Others - Adapted from Leong *et al.* (2020)	
SPO1	Many other buyers show interest in products on Facebook Marketplace.
SPO2	Facebook Marketplace has a large community of buyers sharing product information.
SPO3	A significant number of other buyers have made purchases through Facebook Marketplace.
SPO4	When using Facebook Marketplace, the interaction with other buyers is personal.
Trust	
Trust in Seller - Adapted from Zhao *et al.* (2019)	
TS1	I have great confidence in the sellers on Facebook Marketplace.
TS2	When I face any issues, I am open to discussing and resolving them with the seller.
TS3	I have a close relationship with the seller on Facebook Marketplace.
TS4	I always interact with the seller in a sincere and friendly manner.
Trust in Social Media Platform - Adapted from Nadeem (2020)	
TSCP1	The performance of Facebook Marketplace consistently meets my expectations.
TSCP2	Facebook Marketplace can be considered as reliable platform.
TSCP3	The features offered by Facebook Marketplace are of high quality.
TSCP4	The features provided by Facebook Marketplace are dependable.
Sustainable Practices - Adapted from Joshi and Rahman (2017)	
SPB1	When shopping, I deliberately check products for environmentally harmful ingredients
SPB2	When shopping, I deliberately choose products with environmentally friendly packaging.
SPB3	I will prefer to buy sustainable products even if they are more expensive than others.
SPB4	While purchasing, I see environmental and fair-trade labels before buying the products.

Source: Author's own compilation.

4.9 PILOT TESTING

Pilot studies are small-scale, preliminary studies that test the feasibility and effectiveness of the methods for a main research project (Hiebert *et al.*, 2022). They can save time and resources by identifying and correcting any issues with the research design, data collection, or analysis. They can also align the methods with the theoretical framework and the expected outcomes, enhancing the validity and applicability of the results. Pilot studies are not obstacles but opportunities to improve the research quality. This is especially important for quantitative research, where the researcher can adjust the survey design and methods based on the feedback and data obtained from a smaller sample (O'Gorman and MacIntosh, 2015; Neuman, 2004). Pilot studies serve multiple purposes, such as testing the questionnaire's wording, layout and sequence of the questionnaire, becoming familiar with respondents, verifying fieldwork arrangements, estimating response rates and interview durations, and testing analysis procedures (O'Gorman and MacIntosh, 2015). Therefore, pilot testing is a crucial part of the planning phase for social research.

This study used a pilot test of the measurement instrument with 34 respondents who were buyers on Facebook Marketplace. The data from these respondents were collected using the same data collection instrument and purposefully selected by the researcher. The respondents were recruited by the researcher in Gauteng, mostly in public parks and churches. The sample selected for the pilot testing was diverse to ensure the close similarity of Facebook Marketplace demographics and psychographics. The goal was to evaluate the scale's dependability, determine if the questionnaire was comprehensible, and obtain participant feedback on the phrasing and organisation of the questionnaire.

An evaluation of internal consistency was performed using Cronbach's alpha to determine the coherence of items in measuring an underlying construct. Cronbach's alpha values range from 0 to 1, with 0 meaning no consistency and 1 meaning perfect consistency. A value of 0.70 or higher indicates excellent validity and is the minimum acceptable standard for Cronbach's alpha (Hair *et al.*, 2021). Table 4.5 shows the Cronbach's alpha results. The items of each construct showed strong internal consistency with a Cronbach's alpha > 0.7, which means they measured their constructs effectively. The feedback received from the pilot sample shows that the questions were clear and well-ordered, with only minor spelling errors that were fixed promptly.

Table 4. 5 Assessment of the reliability of the pilot test

Constructs	Cronbach's Alpha
Purchase behaviour	0,793
Social media expressive ties	0,894
Social media instrumental ties	0,842
Social presence of the web	0,952
Social presence of interaction	0,955
Social presence of others	0,910
Trust in the seller	0,841
Trust in social commerce platform	0,949
Sustainable practices	0,944

Source: Author's own compilation.

4.10 FIELDWORK

This study employed a dual-method approach for data collection, utilising both web-based and paper-based questionnaires. The paper-based questionnaires were disseminated in public spaces in Gauteng, such as public parks, churches and communal areas, and at the University of the Witwatersrand, to gather diverse responses. The web-based questionnaire, created using a Google Form, was shared across various digital platforms. Initially, the researcher posted the link to the survey in several second-hand sales Facebook groups. Most of the group requested that the advertisement be sent to the group administrator, who would check it for compliance with group violation terms and conditions. This would take a few hours or a day for the group administrator to approve the post and then make it available in the group. However, the response rate was low, prompting the researcher to share the survey with their contact list via WhatsApp. In this regard, three WhatsApp groups were created by the researcher to increase the survey's response rate. However, less than 100 responses were recorded from the 750 links shared. Consequently, the researcher decided to conduct face-to-face data collection in consultation with the supervisor. Golden Harvest Park in Northriding, Walter Sisulu Natural

Reserve in Roodepoort, The Wilds in Houghton and Zoo Lake in Johannesburg Town were visited more than twice in a space of two months, and some park visitors agreed to fill out the questionnaire after the researcher confirmed they were eligible to participate.

Despite these efforts, the number of respondents did not reach 400, leading the researcher to visit the University of Witwatersrand for face-to-face data collection. This time, the responses recorded in the survey online form reached 490. Students who agreed to fill out the questionnaire were advised not to fill in the survey that will be shared by the university via email to avoid the gathering of data from the same respondents. However, the process continued as the valid responses were still less than 400. Around 16 October 2023, the University of Witwatersrand distributed the questionnaire via email blast to all students; the total number of respondents reached 699. The survey was designed not to collect personal particulars, as explained in Section 4.1, therefore, it was not possible to identify how many students filled out the questionnaire. Six hundred and ninety-nine (699) responses were received at the end of the two-month data collection period. However, 295 of these responses were deemed unusable as the respondents did not meet the research requirements, primarily due to a lack of experience in purchasing second-hand goods online. By the end of October, 404 valid responses were identified from the 699 responses received, marking the beginning of the data analysis phase explained in the next section.

4.11 DATA ANALYSIS

A data analysis process involves extracting meaningful insights from structured information (Patel, 2019). Before analysing quantitative data, some initial steps are required to verify the quality and suitability of the data (Sekaran and Bougie., 2019). These include coding, inputting, and editing the data collected via questionnaires, as well as dealing with outliers, inconsistencies, and missing values (Sekaran and Bougie., 2019). Pallant (2019) outlined seven steps for data analysis, starting with the data preparation and ending with the analysis as shown in Figure 4.5.

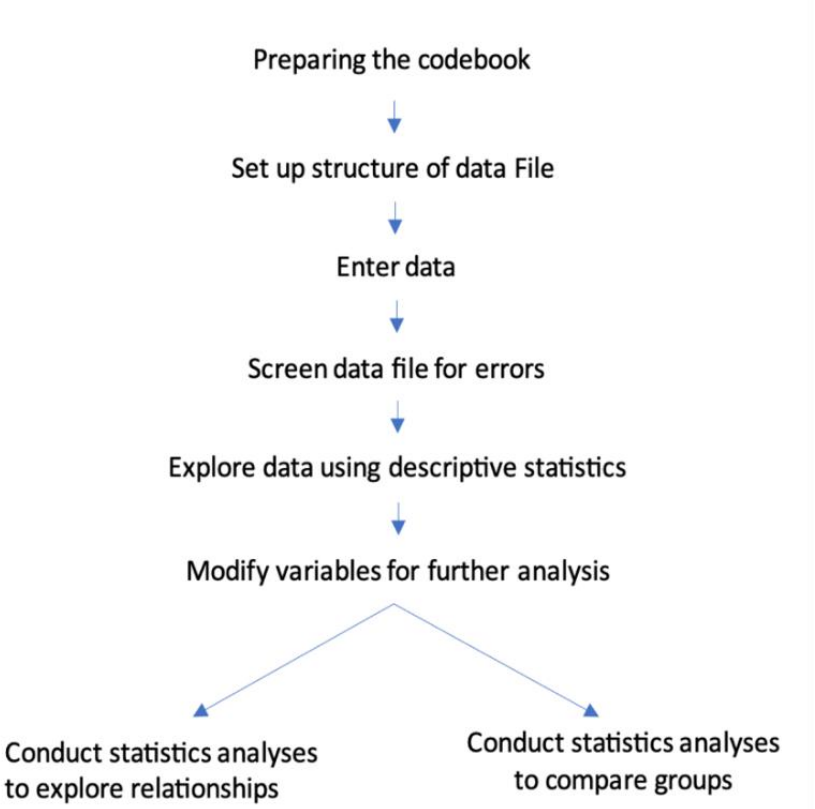


Figure 4. 5 Seven steps for data analysis

Source: Pallant (2019).

Step 1: Preparing the codebook.

The preparation of a codebook entails the definition, labelling and numerical coding of each variable derived from a questionnaire or dataset (Saunders *et al.*, 2019). This information is carefully recorded and preserved for future reference, ensuring the integrity of the data and facilitating analysis (Pallant, 2020). Furthermore, Sekaran and Bougie (2019) posit that data coding is the procedure of assigning numerical values to participants' responses, thereby enhancing the efficiency of database entry.

In this research, data coding was integrated into the question design, with each potential response assigned a numerical code. For instance, a 5-point Likert scale was used, with codes ranging from 1 (strongly disagree) to 5 (strongly agree). Data collected in various formats (paper-based and online) were carefully entered into a Google form by the researcher to ensure accuracy. This data was then extracted in Excel format for analysis. The spreadsheet was used to replace all responses with their corresponding pre-decided codes. Variables already coded in

the questionnaire were also cleaned in this initial step. Statements were removed, leaving only codes to facilitate easy analysis in SPSS and AMOS v29 software, as shown in Table 4.6.

Table 4. 6 Constructs coding

Constructs	Code
Purchase behaviour	PB
Social media expressive ties	SMET
Social media instrumental ties	SMIT
Social presence of the web	SPW
Social presence of interaction	SPI
Social presence of others	SPO
Trust in the seller	TS
Trust in social commerce platform	TSCP
Sustainable practices	SPB

Source: Author's own compilation.

Step 2: Setting up the structure of the data file.

Setting up the structure of the data, as explained by Pallant (2020), refers to configuring display settings, defining variables with their respective codes, and inputting data from participants. Additionally, data can be imported from Excel or similar applications. For this study, the prepared Excel file was imported into IBM SPSS v28 for data preparation and cleaning, ensuring a streamlined process for subsequent analysis. This method facilitates efficient data management and enhances the accuracy of the research findings.

Step 3: Entering data

Data entry requires specifying the scales and modifying the variables as needed (Pallant, 2020). In this step, the imported Excel file was renamed, and the labels were updated in the SPSS file to reflect the codes assigned to different scales. For example, 1 = male and 2 = female, and 1 = strongly disagree and 5 = strongly agree for Likert scale variables. Scales were also aligned in scale view to match the SPSS software language. This step ensured that the data was properly formatted for analysis.

Step 4: Screen the data file for errors.

Data screening for errors entails checking and correcting data before analysis, ensuring that the data values are within the possible range and that any incorrect values are fixed or removed

(Pallant, 2020). Sekaran and Bougie (2019) also emphasise that the data should be edited to eliminate illogical, inconsistent, or illegal data and to handle missing data. This involves examining outliers, resolving discrepancies, verifying codes and deciding how to deal with blank responses. Thorough editing guarantees the integrity of the data and the validity of the study findings.

In this research, the researcher diligently followed this step to verify that there was no missing data. Since the data was mostly collected online and the paper-based responses were also captured into the Google Form, no reportable errors were detected. However, it must be noted that 10 respondents filled out only half of the paper-based questionnaire and these were disregarded before data was captured in the Google form. When a dataset has a small amount of missing data, specifically less than 10% or 15%, it is often acceptable to simply remove the missing data without significantly affecting the final analysis (Lin and Tsai, 2020). However, if the missing rate exceeds 15%, it is crucial to carefully consider how to handle this missing data (Lin and Tsai, 2020).

Step 5: Exploring data using descriptive statistics

Descriptive statistics can summarise the sample, verify the assumptions of the statistical methods, and address the research questions (Pallant, 2020). The sample characteristics can be reported using the data-checking procedures. The researcher should ensure that the data meets the assumptions of the statistical analyses (such as a t-test, ANOVA, or correlation). This can be done by using descriptive statistics such as mean, standard deviation, range, skewness and kurtosis (Pallant, 2020), which enable the researcher to estimate the central tendency and dispersion values (Carpenter and Wilson, 2022). Section 4.12.1 provides more details about the descriptive statistics used in this study and the rationale for the choice of specific descriptive measures.

Step 6: Modify variables for further analysis.

Data transformation is a technique that allows researchers to combine the scores from multiple questions into one score, representing the overall level of a complex concept. This simplifies the data and makes it more suitable for statistical analysis and hypothesis testing (Sekaran and Bougie, 2019; Pallant, 2020). Data transformation may involve creating new variables, summing up scores, converting variables, recoding data, calculating with dates, and transforming skewed variables.

In this step, the variables TS, TSCP, SPB and PB were standardised using the SPSS v28 package and the interaction terms between TS and SPB, TSCP and SPB were created for moderation analysis. The variables consumer durable and consumer non-durable were also created for group data analysis to compare the influence of different independent variables on the dependent variables based on the durability of goods.

Step 7: Conduct analyses to test relationships and compare groups.
This step involves using statistical methods to test how variables relate to and vary across groups and to understand the nature and causes of these patterns (Pallant, 2020). The statistical methods and packages used for the data analysis are developed in Section 4.12.2.

4.11.1 Descriptive Statistics.

Descriptive statistics are statistical methods of summarising and organising data for easy understanding (Saunders *et al.*, 2019). They consist of two main types: measures of central tendency, which show the central dataset values, and measures of dispersion, which show the spread or variability of the data around the central values (Guerreiro *et al.*, 2016; Tuuli and Odibo, 2011). Descriptive statistics help researchers describe the main features of their study population, which provide the basis for further analysis and interpretation of results (Pallant, 2020).

4.11.1.1 Measures of central tendency

Measures of central tendency, such as the mean, median and mode, are statistical tools that summarise a dataset with a single value (Saunders *et al.*, 2020). They indicate the central point or the general trend of the data, which is why they are called central tendencies (Tredoux and Durrheim, 2020). These measures are also known as statistical metrics that represent the centre point or typical value of a dataset (Kolacz *et al.*, 2016) or descriptive metrics that signify the location of the most common or typical values in a dataset (Guerrero and Solis-Lemus, 2020).

The mean is calculated by summing all data points and dividing by the number of data points, whereas the median is the middle value in an ordered dataset, which is more robust to outliers. The mode refers to the value that appears most often in a dataset (Tredoux and Durrheim, 2020). These measures are important for research data reports, as they provide a simple overview of the data, facilitating the data interpretation. They also show the general trend of the data, which can help with further analysis (Tredoux and Durrheim, 2020). The data's

characteristics determine the best measures of central tendency and dispersion that should be used (Guerrero and Solis-Lemus, 2020). Based on the understanding of these central tendency measures, this study uses the mean to describe the characteristics of social commerce buyers' characteristics. The mean can be calculated using the below formula (Manikandan, 2011):

$$\bar{x} = \frac{\text{Sum of all observations}}{\text{Number of observations}} \quad \text{or} \quad \bar{x} = \frac{x_1 + x_2 + x_3 + \cdots\cdots + x_n}{n} = \frac{\sum x}{n}$$

The mean is a useful measure for comparing different groups of data and testing hypotheses. However, the mean can be distorted by extreme values, which can make it misleading. Therefore, the mean should be used with caution and checked against other measures of central tendency and dispersion (Tredoux and Durrheim, 2020). For this reason, some dispersion measures are discussed in the next subsection.

4.11.1.2 Measure of dispersion

Measures of dispersion show how much the data varies around the mean, which is important because two data sets can have the same mean but differ greatly (Pallant, 2020). They enhance measures of central tendency to give a more complete picture of the data (Manikandan, 2011). Three measures of dispersion are mostly used to complement the central tendency measures to describe how the data is spread about the mean: the standard deviation (SD), the range and the variate (Tredoux and Durrheim, 2020).

The standard deviation is a measure that quantifies the amount of dispersion from the average in a set of data values. It's computed by taking the square root of the variance (Saunders *et al.*, 2019), while the range shows the span of the data, calculated by subtracting the minimum value from the maximum value (Tredoux and Durrheim, 2020). The variance represents the average of the squared differences from the mean, computed by adding up the squared deviations and dividing by the total number of data points (Hair *et al.*, 2021).

Among the three measures of dispersion listed, Sekaran and Bougie (2019) suggest that for interval and ratio-scaled data, the mean and standard deviation are frequently used as descriptive statistics. They aid in characterising a normal distribution, where most values are

near the mean and fewer are distant. Additionally, Saunders *et al.* (2019) advise that SD adequately measures dispersion that can be used to describe how the data is spread around the mean. Therefore, in line with the type of data to be analysed, this study follows this advice and uses the mean as the measure of central tendency and the standard deviation as the measure of dispersion. The SD can be calculated using the following formula:

$$SD=\sqrt{\frac{\sum(\chi-\bar{\chi})^2}{n-1}}$$

In addition to the mean and standard deviation as descriptive statistics, Hair *et al.* (2019) and Pallant (2020) propose two additional measures of dispersion that should be calculated to better understand the distribution of the data: skewness and kurtosis. Skewness indicates how symmetrical the distribution is, with positive skewness meaning more low values and negative skewness meaning more high values (Cain *et al.*, 2016), while kurtosis, on the other hand, indicates how peaked or flat the distribution is, with positive kurtosis meaning a narrow peak and negative kurtosis meaning a broad peak (Arnau *et al.*, 2013; Blanca *et al.*, 2013). Both measures are compared to a normal distribution, which has zero skewness and kurtosis (Hair *et al.*, 2019). The values that are far from zero indicate a substantially different distribution from a normal one (Hair *et al.*, 2019).

Moreover, Sekaran and Bougie (2019) provide the following guidelines for researchers regarding descriptive statistics to summarise the characteristics of a single variable, such as the dependent or independent variable in a study: Descriptive statistics should include frequencies, which are the counts of different subcategories of a phenomenon, which can be used to calculate their percentages and cumulative percentages; measures of central tendency, which show the average or typical value of the variable; and measures of dispersion, which show how much the variable varies around the central tendency (Sekaran and Bougie, 2019).

This study applied three categories of descriptive statistics to summarise the sample data collected from Facebook Marketplace buyers. These are frequency (percentage), central tendency (mean), and dispersion (as standard deviation, skewness and kurtosis). These metrics will be used to analyse the sample demographics and measures of constructs.

Chapter Five provides the details of the descriptive statistical analyses conducted, which are reported in two sections. The first section describes the sample's demographic characteristics

using frequencies and percentages, while the second section shows the descriptive results of the variables studied. Using IBM's SPSS v29 software package, descriptive statistics such as mean, standard deviation, skewness and kurtosis are given for each variable.

4.11.2 STRUCTURAL EQUATION MODELLING

The SEM is a multidimensional set of statistical methods that researchers utilise for both observational and experimental studies (Martínez-López *et al.*, 2013; Pallant, 2016). This involves constructing a model that represents how various aspects of a phenomenon are thought to causally connect (Hair *et al.*, 2019). In S-Commerce research, such as studies on Facebook Marketplace, SEM proves particularly useful as it facilitates the examination of complex relationships among constructs (Hair *et al.*, 2021:29). The main SEM methods in practice are PLS-SEM and CB-SEM. CB-SEM tests theories and hypotheses by comparing a proposed model with the observed data covariance matrix. On the other hand, PLS-SEM estimates the model parameters by minimising the error terms of each construct (Hair *et al.*, 2019). SEM surpasses other multivariate techniques due to its ability to study non-quantifiable variables, test unlimited hypotheses, and examine interrelationship constructs. It can analyse numerous variables in complex models, account for measurement errors, and support validity and reliability tests. Its holistic approach makes it ideal for group comparisons and model testing (Gunduz, 2020).

In this research, CB-SEM is employed as a key method to test a theory (Hair *et al.*, 2021; Hair *et al.*, 2019). Furthermore, Emhan *et al.* (2014) argue that SEM is an advanced tool that enables the simultaneous analysis of structural relationships among multiple variables while considering measurement errors. Anderson and Gerbing (1988) and Kline (2016) suggested a two-step method for conducting SEM. The first step involves analysing the measurement model to validate the relationships between constructs and items. The second step involves testing the proposed model to evaluate the significance of the hypothesised relationships. As a result, the current study employs this two-step approach. It begins with the analysis of the measurement model, followed by the structural model to test the significance of hypothesised relationships. This systematic approach ensures a thorough and rigorous examination of the research question at hand. The SEM analysis was conducted using Analysis of Moment Structures (AMOS) version 28. The importance and rationale behind this choice are developed in the following paragraphs.

AMOS is a user-friendly software designed to test hypotheses about the relationships between variables, both latent and manifest (Purwanto *et al.*, 2021). Developed by IBM, AMOS operates by describing the power and importance of the relationship between constructs and how well the hypothetical model fits the real data (Nam *et al.*, 2018). It does not require complex syntax or programming language and allows users to describe and relate variables using simple arrows and icons. Furthermore, AMOS is versatile in handling various data types, such as continuous, categorical, ordinal, or binary data, and can perform different types of analysis, including confirmatory factor analysis (CFA) path analysis and SEM (Abd-el-fattah *et al.*, 2010).

The use of AMOS in quantitative SEM research is motivated by several factors. Firstly, its ease of use, flexibility, integration and visualisation features facilitate the modelling process and the presentation of the results (Puteh and Ong, 2017). Secondly, AMOS allows researchers to draw path diagrams of their models and automatically generate the corresponding syntax and output without writing complex code or equations (Sakaria *et al.*, 2023). Lastly, AMOS has been identified as one of the optimal choices for SEM software for data analysis, especially in postgraduate research, as it allows multiple variable analysis among other advantages (Sakaria *et al.*, 2023). These features make AMOS a practical tool for researchers who want to use SEM with a graphical interface that is easy to use and interpret as well as conduct multiple relationship analyses at the same time. Therefore, AMOS, with its user-friendly graphical interface, serves as a highly efficient tool for researchers. It simplifies the application of SEM, enabling simultaneous analysis of multiple relationships. In essence, AMOS is a practical, easy-to-interpret tool that streamlines complex SEM analyses (Huang *et al.*, 2023; Purwanto *et al.*, 2021; Sakaria *et al.*, 2023).

Moreover, several empirical studies have used AMOS to test their hypotheses and gain new insights into phenomena such as construction waste management (Elizar *et al.*, 2017), entrepreneurship education (Ramadani *et al.*, 2022), sexting behaviour (Adigun *et al.*, 2020), leadership styles (Dartey-Baah and Agbozo, 2020), Massive Open Online Courses (MOOCs) usage (Arkorful *et al.*, 2022), mobile learning quality (Drwish *et al.*, 2023) and online platform acceptance (Hou and Yu, 2023). For instance, using AMOS-SEM, Adigun *et al.* (2020) investigated the effect of psychological factors on the online behaviour of sending or receiving intimate or sexually explicit images (sexting) among deaf adolescents in Nigeria. Dartey-Baah and Agbozo (2020) analysed the effects of transformational and transactional leadership styles on employee engagement as well as the moderating effects of perceived organisational politics

in Ghanaian banks using SPSS AMOS. Arkorful *et al.* (2022) used AMOS-SEM to assess the influence of perceived knowledge of MOOCs on their usage among Ghanaian university students. Drwish *et al.* (2023) proposed a sustainable quality model for mobile learning in post-pandemic higher education and tested it using AMOS. Hou and Yu (2023) explored the factors that affect the use and user acceptance of DingTalk, an online platform for synchronous learning, using an extended UTAUT model and AMOS. These studies demonstrate how AMOS can be used to test complex relationships among variables and indicators in various research domains and contexts.

4.11.2.1 Confirmatory Factor Analysis

In this study, CFA, which is a subset of SEM, was employed as a robust tool to assess the reliability and validity of the constructs (Hair *et al.*, 2019). The first step in this process involved building a model using IBM SPSS AMOS v29, which is crucial in determining if observed variables can be linked to specific unseen variables (Hair *et al.*, 2019), followed by reliability and validity measurement.

Reliability was evaluated, focusing on internal consistency and composite reliability. Internal consistency, as indicated by a high Cronbach's alpha ≥ |0.7|, measures a factor's linkage with others (Pallant, 2020). Composite reliability (CR ≥ 0.7), on the other hand, assesses an item's contribution by examining factor loadings (Hair *et al.*, 2019). Following the assessment of reliability, the study evaluated the validity of the data collection instrument, specifically its convergent and discriminant validity. Convergent validity, with an AVE > 0.5, evaluates a construct's shared items (Hair *et al.*, 2021). Discriminant validity, which identifies construct distinctions, was assessed with a low correlation value compared to the square root of AVE. A stringent test for discriminant validity compares the AVE values for two constructs with their correlation estimate's square, where the variance-extracted estimates should exceed the squared correlation estimate (Hair *et al.*, 2019). These measures used for the assessment of reliability and validity are further elaborated and refined in the subsequent sections of the study.

4.11.2.2 Reliability

Reliability is the degree to which multiple measurements of a variable are consistent and stable over time (Hair *et al.*, 2021). It indicates how well the indicators measure the same concept (Hair *et al.*, 2019). Reliability testing can be done using different methods, such as test-retest,

internal consistency, reliability and alternative forms (Hair *et al.*, 2019). These methods evaluate the level of agreement among the measurements and the sources of error.

One of the most common techniques for assessing internal consistency and reliability is Cronbach's alpha, which measures the correlation among the items of a scale (Hair *et al.*, 2016). Cronbach's alpha is widely used to validate the appropriateness of the constructs of a research instrument (Taber, 2018). The values of Cronbach's alpha range from zero to one; a value of 0.70 or higher is considered good, while a value of 0.5 or lower is considered poor (Hair *et al.*, 2019; Pallant, 2020).

However, Cronbach's alpha is not without limitations and criticism. Some scholars have argued that Cronbach's alpha is based on unrealistic assumptions about measurement error and does not reflect the true reliability of a test score (Barbera *et al.*, 2021; Cheung *et al.*, 2023). They have also suggested that a very high value of alpha may be undesirable, as it may indicate redundancy or narrowness of the items (Taber, 2018). Therefore, Cronbach's alpha should not be used as the sole criterion for evaluating reliability but rather as one of the indicators that provide useful information about the internal consistency of a scale (Taber, 2018; Barbera *et al.*, 2021). Therefore, this study employs composite reliability (CR) as an additional measure to assess the reliability of the utilised scale.

Composite reliability (CR), akin to Cronbach's alpha, is a measure of internal consistency in scale items (Hair *et al.*, 2021). It calculates the total true score variance relative to the total scale score variance. CR is calculated by taking the square of the sum of the standardised factor loadings, and then dividing that by the sum of the squared factor loadings plus the sum of the error variances. Essentially, CR assesses an item's contribution by examining the factors' loading. A CR value of 0.7 or higher signifies good composite reliability, although the thresholds can vary (Hair *et al.*, 2021). This research evaluated the internal consistency and reliability of the scales using Cronbach's alpha, computed in IBM SPSS Statistics v29, following the steps described by Pallant (2020), while using SPSS AMOS v29 software to compute the values that were used in the James Gaskin research toolkit to obtain CR values. The results of the reliability analysis are presented in Chapter Five.

4.11.2.3 Validity: Convergent and discriminate validity

Validity is how accurately a set of items captures the variable it is intended to assess (Hair *et al.*, 2019). Convergent validity and discriminant validity are two subtypes of construct validity that help in evaluating how well a measure reflects a concept (Sekaran and Bougie, 2019).

Convergent validity is about how similar the results are from different tests that are designed to measure the same thing (Hair *et al.*, 2019). A construct is a theoretical concept that may not be directly observable, such as a behaviour or attitude (Creswell *et al.*, 2014). A high correlation between the two methods signifies convergent validity, implying construct validity. Similar scores from both methods suggest they measure the same construct. (Hair *et al.*, 2019)

This study adheres to the convergent validity measures proposed by Hair *et al.* (2021), which posit that a latent construct should explain more than half of its indicators' variance, as determined by the Average Variance Extracted (AVE). For robust convergent validity, the AVE of the constructs should surpass 0.5, ensuring that the latent construct adequately explains its indicators. In addition to this, factor loadings greater than 0.5 are used as an extra measure of convergent validity (Hair *et al.*, 2021). These factor loadings were calculated using the James Gaskin research toolkit using the information extracted from SPSS AMOS. Moreover, the study's convergent validity was further evaluated by examining the inter-item total correlation of individual items within a construct (ElHafeez *et al.*, 2022). These correlations, obtained in SPSS Statistics v29 during scale reliability testing following Pallant's (2020) guidelines, are used to assess the relationships between individual items in a construct, thereby affirming the existence of convergent validity. The results of the AVE, factor loadings and inter-item correlations are presented in Chapter Five, providing a comprehensive overview of the study's convergent validity.

Furthermore, discriminant validity pertains to the degree to which a construct's items are unrelated to items measuring different variables (Hair *et al.*, 2019). It quantifies a construct's uniqueness within a theoretical model (Hair *et al.*, 2021). It is anticipated that the two scales reflecting different constructs should not be highly correlated. If they are, it becomes uncertain whether they are measuring the same construct (Kline, 2016). Hence, discriminant validity signifies the extent of the difference between constructs. This process is vital for ensuring that the model's measures accurately represent the intended constructs, thereby enhancing the model's validity and applicability (Du Plooy *et al.*, 2018). A high correlation with other

constructs might indicate a lack of distinctiveness, suggesting that the construct might not be as unique as intended.

In the current study, discriminant validity was tested using the Fornell and Larcker (1981) criterion calculated using the James Gaskin research toolkit computed with the information extracted from SPSS AMOS. According to this criterion, discriminant validity is confirmed when the square root of the AVE for each construct exceeds the correlations between that construct and all other constructs. This implies that each construct should share more variance with its indicators than with any other construct, ensuring each construct's distinctiveness.

Convergent and discriminant validity collectively contribute to establishing construct validity. In research, they are evaluated together because both must be assessed to demonstrate construct validity. Alone, neither is sufficient, and it is crucial to remember that they are not the same thing (Creswell *et al.*, 2014).

4.12 MODERATION ANALYSIS

Moderation is a situation where the interaction between two constructs is affected by a third element, called the moderator variable. This moderator can change the vigour or even the direction of the relationship between the two variables (Hair *et al.*, 2021).

In research, the investigator predefines moderating relationships. The assessment of these relationships depends on whether the researcher hypothesised that the values of the moderator influence a specific or all model relationships. Moderators can be individual items or constructs made up of several items (Hair *et al.*, 2021). The moderation for this study was tested using an interaction term model, which is suitable for analysing the continuous variable moderation effect on the relationship between the independent and dependent variables (Hair *et al.*, 2021). Hair *et al.* (2019) elaborated a three-step process to test the moderation effect on the interaction term model.

Step 1: Interaction Term Calculation

The first step involves calculating the interaction term between the independent variable and the moderator. This term represents the product of the independent variable and the moderator (interaction term = independent variable x moderator).

Step 2: Estimation of a Moderate Relationship.
The moderated relationship is estimated using three independent variables: the independent variable, the moderator and the interaction term (treatment x moderator).

Step 3: Significance of Moderation

This stage involves the interpretation of the results. The moderation is considered significant if the interaction term's coefficient is statistically significant. This indicates that the independent variable's effect on the outcome variable is dependent on the moderator's level. Using the interaction term model, the path model was used in Amos to test the effect of the moderator SPB on the relationships between TS, TSCP and PB. However, the moderation model requires interaction terms that were calculated following the process below.

When calculating the interaction terms, the issue of collinearity, which is a high degree of correlation between initial constructs, can complicate statistical analysis (Frazier *et al.*, 2004). One proposed solution is mean centring, which is a process that adjusts variables to have a mean of zero. Despite ongoing debates about its necessity, studies suggest that outcomes are virtually identical whether mean centring is applied, or data is retained in its original state (Echambadi and Hess, 2007; Hayes, 2018). Although variations between these techniques are slight, mean centring offers two key benefits: it addresses potential collinearity issues and simplifies result interpretation. Consequently, it is generally advisable to perform mean centring before analysis (Dawson, 2014). In line with this recommendation, the present study mean centres the variables before creating the interaction term. Therefore, the initial step to create the mean centre and the interaction term is performed using IBM SPSS v29 and the moderation effect is then calculated in AMOS with the data imported from SPSS v29. as well.

The key variables for the moderation testing include trust in social commerce platforms (TSCP), sustainable practices (SPB), trust in the seller (TS), and purchase behaviour (PB). The key variables are mean centred using SPSS to form composite variables. Interaction terms are then created between the composite variables TSCP and SPB and TS and SPB, denoted as InterTSCP = TSCPxSPB and InterTS = TSxSPB, respectively. Following the three-step process suggested by Hair *et al.* (2021), the moderation model was built using AMOS with TS, TSCP, SPB, InterTSCP and InterTSCP as the autonomous variables and PB as the contingent variables. Chapter Five details the results of the moderation test.

4.13 MULTI-GROUP ANALYSIS (MGA)

One of the objectives of this research is to examine how the purchase behaviour of consumers differs between durable and non-durable second-hand goods on Facebook Marketplace. Durable goods are those that last for a long time and can be used repeatedly, such as car parts, furniture, appliances, electronics, jewellery, musical instruments, vehicles, clothing, shoes, sporting goods, antiques, arts and crafts, books, films and toys. Non-durable goods are those that are consumed quickly or have a short lifespan, such as food, beverages, personal care products, pharmaceuticals, pet care products, office supplies and tobacco. To compare the purchase behaviour of these two types of goods, a multigroup data analysis (MGA) using chi-square (x^2) group difference analysis was used as suggested by Hair *et al.* (2019).

The X^2 difference is a fundamental measure for comparing two model specifications and determining which one fits the data better (Hair *et al.*, 2019). In this analysis, an initial unconstrained model, such as multi-group confirmatory factor analysis (MCFA), allows for distinct group loadings. Constraints are then introduced between groups for specific comparisons, such as requiring identical parameter estimates across groups. This tests the hypothesis of invariant (equal) relationships across groups. If the constrained model's fit does not significantly worsen compared to the less constrained model, it supports invariance (Hair *et al.*, 2019). The value of the X^2 difference is determined by the degrees of freedom, which correspond to the number of additional constraints introduced when moving from a less restrictive model to a more restrictive one. This process is crucial for conducting x^2 group difference analysis (Hair *et al.*, 2021).

To comprehend group differences, the sample was divided into two sub-samples: consumer durable (CD) (n = 278) and consumer non-durable CND (n = 126), based on the number of consumers who purchased CD and CND. An unconstrained model fit was established for both CD and CND, with the chi-square (X^2) to ensure that they are within acceptable levels (Hair *et al.*, 2021). The X^2 is a crucial measure for testing invariance and inferring disparities among groups (Hair *et al.*, 2019).

To ascertain invariance across the CD and CND sub-samples, a fully constrained model was developed. The X^2 test of difference was employed to compare the fully constrained and unconstrained models across CD and CND (Kautish *et al.*, 2019; Lin *et al.*, 2021). If a

discrepancy exists between the constrained and unconstrained models, each path in the model should then be examined to identify which path(s) has the X^2 difference across CD and CND (Hair *et al.*, 2021).

4.14 ETHICAL CONSIDERATIONS

This investigation adhered to all ethical considerations suggested by the human research ethics committee (non-medical) and was granted ethical clearance by the University of the Witwatersrand with certificate number H23/07/05. The ethical clearance certificate can be found at the end of this dissertation in Appendix B. In addition, this study adhered to the prescribed ethical guidelines by Saunders *et al.* (2019) and Du Plooy *et al.* (2018), ensuring researcher integrity and participant respect and mitigating harm and any threat to participants' health and wellbeing. It also considered the ethical issues in primary data collection suggested by Sekaran and Bougie (2019).

The research ensured the privacy, voluntary participation, informed consent and confidentiality of the respondents. Participants' anonymity was ensured by not requesting them to record any of their particulars. The researcher ensured that the same questionnaire that was uploaded to the online platform was also printed on paper for the face-to-face interview. Respondents were given the questionnaire and they interacted with it without the researcher's involvement. The researcher also ensured responsible data analysis, reporting and compliance with data management laws. After the data analysis, the data was kept in a locked hard drive that only the researcher could have access to as stipulated in the ethics process. The research topic, questions and instrument were meticulously chosen to circumvent any sensitive or discriminatory issues. Respondents were informed of their right to withdraw at any stage of the survey if they wished to do so. The details of the researcher and the supervisor were shared on the introductory page of the questionnaire for transparency and accountability.

The adherence to the ethical procedures as per the ethics certificate enhanced the quality and validity of the research. During this research, only respondents aged between 18 and 65 years old were allowed to take the questionnaire. This was ensured in the online questionnaire by including an age-limit screening question before the first section that measured the purchase behaviour. During face-to-face interviews, the researcher would vet the respondents to ensure that they are within the age threshold required and that they are Facebook Marketplace buyers

before handing over the questionnaire to them. This process ensured the accuracy and reliability of the data and the integrity and credibility of the findings. The researcher avoided bias, misuse of information and distortion of results by reporting the findings as revealed by the data during the analysis process.

4.15 CHAPTER SUMMARY

This chapter explained the methodology used to examine the effects of trust and sustainability on consumer purchase behaviour regarding second-hand goods on Facebook Marketplace. Rooted in the literature review and steered by social network and social presence theories, this research utilised Saunders *et al.*'s (2019) research onion framework to outline the approach. The chapter detailed the research philosophy, approach, strategy and design, encompassing the sampling process, pre-test, data collection methods and analytical techniques. The ethical guidelines that were used in the current research were also explained.

CHAPTER FIVE: DATA ANALYSIS

Building on the methodology outlined in chapter four, this chapter presents and discusses the analysis of the gathered data. The chapter is organised in is divided into five main parts, each focusing on a unique aspect of the study. It begins with an overview of the sample's descriptive indicators represented with frequency and percentages. This is succeeded by the descriptive statistics of the variable measurement, employing mean and standard deviation to better comprehend the data's central tendency and dispersion. The next part introduces normality testing, using skewness, kurtosis, and common method bias. The subsequent part presents the structural equation modelling analysis, split into two parts: the measurement model, which emphasizes the study's reliability and validity, and hypothesis testing. The fifth section reveals the moderation analysis results. The final section explores the multigroup data analysis results to understand how different types of goods affect the purchasing behaviour of S-Commerce buyers. The chapter ends with a summary, highlighting the key points discussed.

5.1 DESCRIPTIVE STATISTICS OF THE SAMPLE

This section outlines the demographic profiles of the participants. The demographic factors encompassed aspects such as sex, age group, level of education, marital status, and income of the household. Table 5.1 summarises the sample demographic profile results derived from 404 valid responses obtained from Facebook Marketplace users who had previously bought second-hand goods.

Table 5. 1 Demographic profile of participants

Characteristics	Frequency	Percentage
Gender		
Male	162	40.1
Female	232	57.4
Prefer not to say	10	2.5
Age		
18-25	183	45.3
26-35	125	30.9
36-45	75	18.6
46-55	16	4.0
56-60	5	1.2

Characteristics	Frequency	Percentage
Prefer not to say	0	0
Marital Status		
Single	194	48.0
Married or Living with a partner.	99	24.5
Living with parents	92	22.8
Divorced or separated	19	4.7
Prefer not to say	0	0
Education Level		
Primary	2	0.5
High School	145	35.9
Diploma	70	17.3
Degree	110	27.2
Postgraduate (Honours, master's and PhD)	77	19.1
Prefer not to say	0	0
Household Income		
Less than R10 000	88	21.8
R10 001 – R25 000	72	17.8
R25 001 – R40 000	148	36.6
R40 001 – R55 000	31	7.7
R55 001 – R60 000	18	4.5
Above R60 000	47	11.6
Prefer not to say	0	0

The sample of Facebook Marketplace buyers of second-hand goods who participated in this study was dominated by females (n = 232; 57.4%). The sample consisted of about 40.1% of male participants (n = 162) while about 2.5% (n = 10) opted not to disclose their gender. This aligns with the data from Wilson and Ndoro's (2023) survey, which analysed the drivers of online shopping cart abandonment among 247 South African online consumers. In their survey, female consumers represented 69.2% of the participants, while males accounted for 30.8%.

The age distribution of the participants showed that the majority of Facebook Marketplace buyers of second-hand goods (n = 308; 76.2%) were young adults between 18 and 35 years old. The second-largest age group (n = 75; 18.6%) consisted of users between 36 and 45 years old, who may have more purchasing power and experience than the younger ones. The

remaining participants (n = 21; 5.2%) were older than 45 years old, with a very small fraction (n = 5; 1.2%) being above 65 years old. This suggests that younger and middle-aged consumers primarily use Facebook Marketplace to buy second-hand goods, whereas older consumers are less inclined to participate in online shopping. The results are in line with Statista's (2023) report, which highlighted that 43.6% of online shoppers in South Africa are between 18 and 64 years and female compared to 42.2% of males in the same age group. The marital status of the participants revealed that most Facebook Marketplace buyers of second-hand goods (n = 286; 70.8%) were single, either living alone or with their parents. The next largest group (n = 99; 24.5%) consisted of those who were married or living with a partner. The smallest group (n = 19; 4.7%) comprised of participants who were divorced or separated.

It has also been noted that the sample was highly educated, with most participants (n = 257; 63.6%) reporting that they had completed either a diploma or a postgraduate degree (including Master and PhD). The largest group (n = 145; 35.9%) had completed at least high school, while the smallest group (n = 2; 0.5%) had only primary education. The educational level of the participants could be attributed to the survey being administered to students at the University of Witwatersrand, who accounted for the majority of participants. As shown in Table 5.1, the majority of participants (n = 220; 54.4%) claimed to earn a total household monthly income between R10.001 and R40.000. The second largest group (n = 88; 21.8%) claimed earning less than R10.000. while the smallest group (n = 18; 4.5%) earned between R55,001 and R60.000. a remarkable representation was for participants who reported earnings above R60.000 (n = 47; 11.6). These results correlate with Statista's (2021) survey, which suggested that 55.08% of Facebook users reported earning a monthly income between R5999 and R39999 in South Africa.

5.2 CENTRAL TENDENCY MEASURES OF VARIABLES AND MEASUREMENT ITEMS

This section elaborates on the measures of central tendency for the variables incorporated in the study. The SMET, SMIT, SPW, SPI, SPO seller (TS), TSCP), SPB, and PB. Employing a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree, facilitates a nuanced assessment of participant perceptions. This structured approach ensures a robust understanding of the interplay between these variables, laying the foundation for the subsequent in-depth analysis and interpretations presented in the following sections. For all

variables, a table is presented with a summary of the results, displaying the mean, standard deviation, skewness and kurtosis, followed by a brief explanation.

5.2.1 Social Media Expressive Ties

This variable assesses how social commerce users' relationships, whether online or offline affect TS. Table 5.2 summarises the results of the descriptive analysis for this variable.

Table 5. 2 social media expressive ties

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
SMET1	I have developed a personal relationship with the seller on Facebook Marketplace	2.13	1.28	0.88	-0.47
SMET2	I stay in touch with Facebook Marketplace seller to buy other items in addition to purchasing the item.	2.23	1.26	0.61	-0.91
SMET3	I use Facebook to have conversations about personal matters with the seller	1.94	1.21	1.152	0.179
Overall social media expressive ties		2.098	1.25	0.879	-0.400

Source: Author's own compilation

Table 5.2 shows the descriptive statistics of SMET. The variable consists of three items. The SMET variable has an average mean of 2.098 and a standard deviation (SD) of 1.25, indicating that the participants have low levels of SMET with the sellers, with moderate variation and a slightly peaked distribution. Looking at how participants rated each item, the results indicate that the mean scores of the items range from 1.94 to 2.42, suggesting that the participants disagree with the statement that was utilised to evaluate the variable. This rating means that participants do not have strong personal relationships with the sellers, do not stay in touch with them for other purposes, and do not keep their interests in mind when buying from them. The standard deviations of the items range from 1.21 to 1.28, implying that there is some diversity in the responses.

5.2.2 Social Media Instrumental Ties

Social media instrumental ties are the social connections that are based on the exchange of resources, information, or benefits between individuals or groups on social media platforms

(Leung *et al.*, 2023). In the current study, these variables measure the influence of these relationships on TSCP. The outcomes of the descriptive statistics are summarised in Table 5.3.

Table 5. 3 Social media instrumental ties

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
SMIT1	I have developed a personal relationship with the seller on Facebook Marketplace	2.79	1.43	0.002	-1.46
SMIT2	I stay in touch with Facebook Marketplace seller to buy other items in addition to purchasing the item.	2.37	1.26	0.55	-1.471
SMIT4	I keep the seller's interests in mind when buying from them on Facebook Marketplace	2.63	1.39	0.22	-1.33
	Overall social media instrumental ties	2.60	1.36	0.054	-1.422

Source: Author's own compilation

The SMIT variable is measured by three (3) items. As shown in Table 5.3, SMIT has an average mean of 2.60 and an SD of 1.36, indicating that the participant has a moderate level of SMIT, with the seller having a moderate variation and a slightly peaked distribution. The rating of items by participants indicates mean scores ranging from 2.37 to 2.79, suggesting that the participants do not agree with the statement that was utilised to evaluate the variable. however, some buyers do agree. This implies that buyers on Facebook Marketplace do not frequently keep in touch with sellers, they only reach out when they require their business or when they encounter an issue with the sold product. The item's standard deviation ranges from 1.26 to 1.43, indicating that there is some diversity in the responses.

5.2.3 Social Presence Of The Web

The social presence of the web is the degree to which a website or an online platform conveys a sense of human warmth, sociability, and personal connection (Lowenthal, 2021). The current study assesses the perceptions of the users about the seller's Facebook page. This variable aims to capture the extent to which the online platform fosters a sense of social connectedness,

personal touch, sociability, and a welcoming environment. The results of the analysis for the variable are presented in Table 5.4.

Table 5. 4 Social presence of the web

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
SPW1	The seller's Facebook page conveys a feeling of human connection	2.55	1.19	0.25	-0.85
SPW2	The seller's Facebook page has a personal touch	2.45	1.15	0.24	-0.90
SPW3	The seller's Facebook page is sociable	2.66	1.17	0.04	-0.90
SPW4	The seller on Facebook Marketplace creates a welcoming and friendly online environment	2.74	1.19	0.017	-0.96
SPW5	The seller's Facebook page has a human sensitivity	2.67	1.18	0.044	-0.89
The overall social presence of the web		2.61	1.18	0.117	-0.90

Source: Author's own compilation

The SPW variable, as illustrated in Table 5.4, is composed of five items. The average mean for the variable is 2.61, with an SD of 1.18, indicating that participants feel a moderate level of social presence on the sellers' Facebook page, with moderate variation in responses. The mean of items ranges from 2.45 to 2.74, suggesting that participants are neutral to slightly positive about the social presence conveyed through the sellers' Facebook pages. This implies that respondents feel a certain degree of human connection, personal touch, and sociability on these Facebook pages, but not strongly so. The standard deviations (SD) for the items, ranging from 1.15 to 1.19, showed a moderate diversity in how participants perceived social presence.

5.2.4 Social Presence Of Interaction

The variable of social presence of the interaction measures the degree to which the buyers perceive the sellers as real, warm, and human when communicating with them via Facebook Messenger. The results of the descriptive statistics are summarised in Table 5.5.

Table 5. 5 Social presence of the interaction

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
SPI1	I can make sense of the Facebook Marketplace seller intention when interacting with them in Facebook messenger	2.78	1.21	-0.04	-1.02
SPI2	I can imagine how the Facebook Marketplace seller looks like when interacting via Facebook messenger	2.63	1.19	0.06	-1.08
SPI3	The communication with the seller via Facebook Messenger has a human touch	2.81	1.18	-0.14	-0.97
SPI4	There is a warm feeling when communicating with the seller on Facebook messenger	2.62	1.16	0.10	-0.88
The overall social presence of the interaction		2.71	1.04	-0.006	-0.987

Source: Author's own compilation

Table 5.5 shows the descriptive statistics of SPI, which are measured by four items. The SPI variable has an average mean of 2.71 and an SD of 1.04, indicating that the participants have a moderate level of SPI with the sellers, with moderate variation and a slightly flat distribution. Examining the ratings of each item, the findings show that the average scores of the items range from 2.62 to 2.81, suggesting that the participants do not agree with the statement that was utilised to evaluate the variable. This rating means that participants do not feel that they can understand, imagine, or connect with the sellers when communicating with them through Facebook Messenger. The standard deviations of the items range from 1.16 to 1.21, implying that there is some diversity in the responses.

5.2.5 Social Presence Of Others

The SPO measures the extent to which the buyers feel a personal, warm, and humanising connection when interacting with another buyer through Facebook.

Table 5. 6 Social presence of others

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
SPO1	When using Facebook Marketplace, the interaction with other buyers is personal	3.18	1.28	-0.32	-0.95
SPO2	When using Facebook Marketplace, the interaction with other buyers is warm	3.27	1.33	-0.48	-0.96
SPO3	When using Facebook Marketplace, the interaction with other buyers is humanising	3.25	1.31	-0.40	-0.94
The overall social presence of others		3.23	1.30	-0.402	-0.95

Source: Author's own compilation

Table 5.6 shows the descriptive statistics of SPO. The variable consists of three items. The variable has an average mean of 3.23 and an SD of 1.30. indicating that the respondents have moderate levels of SPO with other buyers, with some variation and a slightly flat distribution. Examining how respondents rated each item, the findings indicate that the average scores of the items range from 3.18 to 3.27, suggesting that the participants are somewhat neutral with the statement that was utilised to evaluate the variable. This rating means that participants do not feel a strong sense of personal, warm, or humanising interaction with other buyers when using Facebook Marketplace. The standard deviations of the items range from 1.28 to 1.33, implying that there is some diversity in the responses.

5.2.6 Trust In The Seller

Trust in a Facebook Marketplace seller is about confidence in their reliability, openness to dialogue for issue resolution, maintaining close relationships, and sincere, friendly interactions (Leong *et al.*, 2023). The results of the descriptive statistics for TS are summarised in Table 5.7.

Table 5. 7 Trust in the Seller

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
TS1	I trust the Facebook Marketplace seller a lot.	2.49	1.08	0.14	-0.760
TS2	I am open to discussing with the Facebook Marketplace seller if I run into any issues.	2.94	1.25	-0.26	-1.081
TS4	I interact with the Facebook Marketplace seller in a genuine and amicable manner.	3.13	1.30	-0.39	-1.014
Overall Social Trust in the Seller		2.85	1.21	-0.17	-0.951

Source: Author's own compilation

Table 5.7 presents the descriptive statistics of the TS variable, which is composed of three items. The average mean of the variable is 2.85, with an SD of 1.21. This suggests that the participants exhibit a moderate level of trust towards the sellers on the Facebook Marketplace, with a moderate degree of variation and a distribution that is slightly flat. When examining the individual ratings of each item, it is observed that the mean scores range from 2.49 to 3.13. This indicates a neutral to slight agreement among the participants with the statement that was utilised to evaluate the variable. In essence, the participants have a certain level of trust in the sellers, are open to discussing any issues that may arise, and engage in genuine and friendly interactions with them. The standard deviations of the items, ranging from 1.08 to 1.30, suggest a degree of diversity in the responses.

5.2.7 Trust In Social Commerce Platforms

The TSCP measures the extent to which consumers trust Facebook Marketplace as a platform for online transactions. Table 5.8 Summarises the outcomes of the descriptive statistics.

Table 5. 8 Trust in Social Commerce Platform

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
TSCP1	Facebook Marketplace can be always trusted	2.77	1.07	0.003	-0.603
TSCP2	Facebook Marketplace can be counted on to do what is right	2.74	1.05	-0.040	-0.73
TSCP3	Facebook Marketplace has a high integrity	2.73	1.06	-0.05	-0.74
TSCP4	Facebook Marketplace is a competent and knowledgeable platform for online transactions	2.79	1.09	-0.135	-0.71
Overall Social Trust in the Social Commerce Platform		2.76	1.07	-0.056	-0.694

Source: Author's own compilation

As illustrated in Table 5.8, TSCP has an average mean of 2.76 and an SD of 1.07, indicating that the participants have low levels of trust in the Facebook Marketplace, with moderate variation and a slightly platykurtic distribution. When examining how participants rated each item, the results show that the average scores of the items range from 2.73 to 2.79, suggesting that the participants disagree with the statement that was utilised to evaluate the variable. This rating implies that participants do not trust the Facebook Marketplace to be reliable, ethical, honest, or competent in facilitating online transactions. The standard deviations of the items range from 1.05 to 1.09, implying that there is some diversity in the responses.

5.2.8 Purchase Behaviour

This variable measures the extent to which users of Facebook Marketplace have purchased, spent, or browsed second-hand items in the last six months. The summary of the descriptive analyses for this variable is presented in Table 5.9.

Table 5. 9 Purchase Behaviour

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
PB1	I have purchased second-hand items in the last 6 months.	3.51	1.57	-0.61	-1.26
PB2	I have spent my resources on second-hand items in the last 6 months.	3.42	1.47	-0.56	-1.18
PB3	I have browsed through Facebook Marketplace to find second-hand items in the last 6 months.	3.56	1.51	-0.73	-0.97
Overall Purchase Behaviour		3.50	1.37	-0.64	-1.14

Source: Author's own compilation.

Table 5.9 presents the descriptive statistics of the variable PB, which is measured by three items. The variable exhibits an average mean of 3.50 and an SD of 1.37. This indicates a moderate level of purchase behaviour among participants, accompanied by a moderate degree of variation and a distribution that is slightly leptokurtic. A leptokurtic distribution, as described by Cain *et al.* (2017), Chissom (1970) and Ho and Yu (2015), is more peaked with heavier tails than a normal distribution, indicating a higher probability of extreme values. Upon examining the individual item ratings, it is observed that the mean scores span from 3.42 to 3.56. This suggests a tendency among participants to somewhat agree with the statements that constitute the measure of the variable. In essence, this rating implies that over the past six months, participants have engaged in purchasing second-hand items, allocated their resources towards these items, and browsed the Facebook Marketplace in search of them. The range of standard deviations for the items, from 1.47 to 1.57, indicates a degree of diversity in the responses.

5.2.9 Sustainable Practice

The SPB reflects the extent to which the participants prefer buying environmentally friendly goods, such as recyclable, second-hand, or durable products. The descriptive statistics for this variable are summarised in Table 5.10.

Table 5. 10 Sustainable Practice

Measurement items	Statement	Mean	SD	Skewness	Kurtosis
SPB1	I prefer buying goods made from recyclable material	3.07	1.30	-0.04	-1.14
SPB2	I prefer buying second-hand goods on Facebook Marketplace	3.10	1.24	-0.11	-0.98
SPB3	I avoid buying some goods because of environmental concerns	3.12	1.28	-0.14	-1.00
SPB4	I prefer buying goods that I can use over a long period to protect the environment	3.02	1.26	-0.04	-0.99
Overall Social Trust in the Social Commerce Platform		3.08	1.27	-0.081	-1.026

Source: Author's own compilation

Table 5.10 elucidates the descriptive statistics of the SPB variable, which is measured by four items. The variable exhibits an average mean of 3.08 and an SD of 1.27, reflecting a moderate level of sustainable practice among participants. This is accompanied by a moderate degree of variation and a slightly platykurtic distribution, indicating a flatter peak compared to a normal distribution. Upon closer inspection of the individual item ratings, it is evident that the mean scores oscillate between 3.02 and 3.12. This suggests a slight inclination among participants towards agreement with the statements that constitute the measure of the variable. Essentially, this rating implies that over the past six months, participants have demonstrated varied preferences for purchasing goods that are recyclable, second-hand, durable, or environmentally friendly. The standard deviations of the items, span from 1.24 to 1.30. indicate a certain degree of diversity in the responses.

The next section examines structural equation modelling, which starts with a measurement model and concludes with hypothesis testing.

5.3 STRUCTURAL EQUATION MODELLING DATA ANALYSIS.

This research uses component-based structural equation modelling (CB-SEM) as a key data analysis technique to test the proposed theoretical model (Hair *et al.*, 2019). It follows a two-step approach suggested by Anderson and Gerbing (1988) and Kline (2016), which consists of

analysing the measurement model and the structural model. This approach ensures a thorough and rigorous examination of the research question. The SEM analysis was conducted using IBM Statistical Package for Social Science (SPSS) Analysis of Moment Structures (AMOS) version 29.

AMOS was used to conduct the SEM analysis as it is a user-friendly software that can test hypotheses about the relationships between variables, both latent and manifest (Nam *et al.*, 2018; Purwanto *et al.*, 2021). It does not require complex syntax or programming language and can handle various data types and perform different types of analysis (Purwanto *et al.*, 2021; Huang *et al.*, 2023;). It is easy to use, flexible, integrated, and visual, making it one of the optimal choices for SEM software for data analysis (Sakaria *et al.*, 2023). In addition, Amos was selected for this study as it can enable simultaneous analysis of multiple relationships (Huang *et al.*, 2023). Additional motivations for selecting AMOS are elaborated in Chapter Four (see Section 4.12.2).

This study follows Anderson and Gerbing's (1988) and Kline's (2016) two-step SEM measurement method that involves validating variable-item relationships, followed by evaluating the model to measure the significance of hypothesised relationships through a structural model. Prior to conducting SEM, the assumption of normality and common method bias needed to be ascertained.

5.3.1 Normality And Common Method Bias

5.3.1.1 Normality Testing: Skewness and Kurtosis

The normality assumption was confirmed by examining the skewness and kurtosis of the indicators before testing the measurement model. Kline (2016) recommends that the values for skewness and kurtosis should not exceed ±3 and ±10. respectively. Table 5.11 confirms that these criteria were met, thereby satisfying the normality assumption.

Table 5. 11 Normality testing

Variables	Skewness	Kurtosis
SMET	0.875	-0.400
SMIT	0.054	-1,422
SPW	0.117	-0.901
SPI	-0.006	-0.987
SPO	-0.402	-0.951
TS	-0.17	-0.951
TSCP	-0.075	-0.926
SPB	-0.108	-1,368
PB	-0.635	-1,136

Source: Author's own compilation

5.3.1.2 Common method bias

The CMB is a potential issue that arises when both dependent and independent variables are measured within a single survey using an identical response method, such as ordinal scales (Hair *et al.*, 2019). CMB could potentially lead to an artificial amplification of the findings' relationships. In this regard, scholars have suggested some techniques for detection and correction of CMB, such as Harman's one-factor test (Podsakoff and Organ, 1986) and the measured response style technique (Podsakoff and Organ, 1986; Weijters *et al.*, 2010). The current study used Herman's one-factor test to assess the CMB.

Harman's single-factor test is a commonly used statistical technique for defecting CMB. In this approach, all scale items are subjected to an exploratory factor analysis (Podsakoff and Organ, 1986; Jakobsen and Jensen, 2015). The unrotated factor solution is then examined to determine the number of components with eigenvalues exceeding a certain value, which account for the total variance. The underlying assumption is that if CMB is present, a single component will explain more than 50% of the covariance between the items and the criterion variables (Leong *et al.*, 2023; Rodríguez-Ardura and Meseguer-Artola, 2020). The results of the Principal Component Analyses (PCA) used to detect CMB in SPSS v29 indicated that the single factor could explain up to 42.619% of the variance. Given that the variance is below the threshold of 50% (Podsakoff and Organ, 1986), it was concluded that the data collected through the survey

did not have any common method bias that could potentially affect the results. Hence, the structural analyses could be conducted.

5.3.2 Measurement Model: Confirmatory Factor Analysis

The measurement model shows how the variables and the indicators are related (Hair *et al.*, 2019), and uses confirmatory factor analysis (CFA) to assess reliability, convergence validity, and discriminant validity (Hair and Sarstedt, 2019). CFA, as developed further by Hair *et al.* (2019), is a critical tool in research that evaluates how well the observed variables reflect the theoretical latent variables. It provides an analytical method to test a specific, conceptually based theory that explains how various measured variables represent significant variables. By combining CFA fit results with variable validity tests, researchers can assess the quality of their theoretical measurement model (Hair *et al.*, 2019; Hair *et al.*, 2021). This process is essential, as valid conclusions can only be drawn from valid measurements. Thus, CFA plays a pivotal role in verifying the validity of a measurement model in research (Bryan *et al.*, 2017). Therefore, this study uses the CFA to access key indices to measure the reliability and validity of the study (Hair *et al.*, 2019) and the measurement model was designed for AMOS v29.

After drawing the measurement model, it is necessary to assess the fit of the latent variables using scientifically accepted indices, such as the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker-Lewis index (TLI). These indices are based on maximum likelihood estimation with continuous data. According to Xia and Yang (2018), the acceptable values for these indices are 0.05 or less for RMSEA, 0.95 or above for CFI, and 0.90 or higher for TLI. Additionally, Hair *et al.* (2021) recommend disclosing the chi-square value and the ratio of chi-square to degrees of freedom (CMIN/DF). They argue that a ratio less than three (3) indicates a well-fitting model. Table 5.12 summarises the acceptable model fit threshold.

Table 5. 12 Model fit threshold.

Fit Indices	Acceptable Indices value	Fitness
CMIN	< 3	Good
CMIN/DF	< 5	Sometimes permissible
RMSEA	< 0.05	Good
	0.05 to 0.10	Moderate
	> 0.5	Bad
PCLOSE	>0.00	Good
CFI	>0.95	Great
	0.90	Traditional
	0.80	Sometimes permissible
TLI	> 0.90	Good
GFI	>0.80	Good
	> 0.95	Great
AGFI	>0.80	Good

Source: Adapted from Hair et al. (2021) and Xia and Yang (2018).

The initial model proposed in this study did not meet the fitness requirement, as shown by the comparison of the acceptable indices in Table 5.12 and the initial values in Table 5.13. The initial values of CMIN (1768.88), CMIN/DF (3.170), RMSEA (0.073), PCLOSE (.000), TLI (0.889), GFI (0.784), and AGFI (0742) were all outside the recommended ranges, indicating a poor fit between the model and the data. According to Hair *et al.* (2021), an overall fit assessment is necessary to evaluate the statistical and practical significance of a model, as well as to identify the proposed relationships among the variables. The model can be adjusted to improve its fit or explanation before moving to the next step in the data analysis (Hair *et al.*, 2021). Therefore, as observed in the graphic representation of the improved model (see Figure 5.2), the model was improved by correlating the error terms of E9-E10. E11-E18, E11-E13, E11-E14, E28-E29, and E26-E28, based on the theoretical justification and the high values of the modification indices, and deleting the items SMET4, SMIT2, SPO4, and TS3, which had high cross-loadings or low factor loadings, indicating poor convergent validity.

After these modifications, the final values of the fit indices were within the acceptable ranges, as shown by the comparison in Table 5.13. The results indicated that the model fit was improved, and the fitness requirement was met.

Table 5. 13 Model Fit Indices Achieved

Fit Indices	Initial	Final
CMIN	1768.880	934.146
CMIN/DF	3.170	2.219
RMSEA	0.073	0.055
PCLOSE	0.000	0.042
CFI	0.902	0.953
TLI	0.889	0.944
GFI	0.784	0.875
AGFI	0.742	0.843

Source: Author's own compilation

The summary of the model fit test, as shown in Table 5.13, was satisfactory. The improved model CMIN/DF = 2.219 < 3, RSMEA = 0.55 between 0.5 and 10. CFI = 0.953 > 0.95, TLI = 0.944 > 0.80. and AGFI = 0.843 > 0.80 were achieved. Therefore, it was concluded that the model fit was achieved, and the reliability and validity could be checked as well. Figures 5.1 and 5.2 show the graphical representations of the measurement model (initial and improved) that were drawn in SPSS AMOS v29.

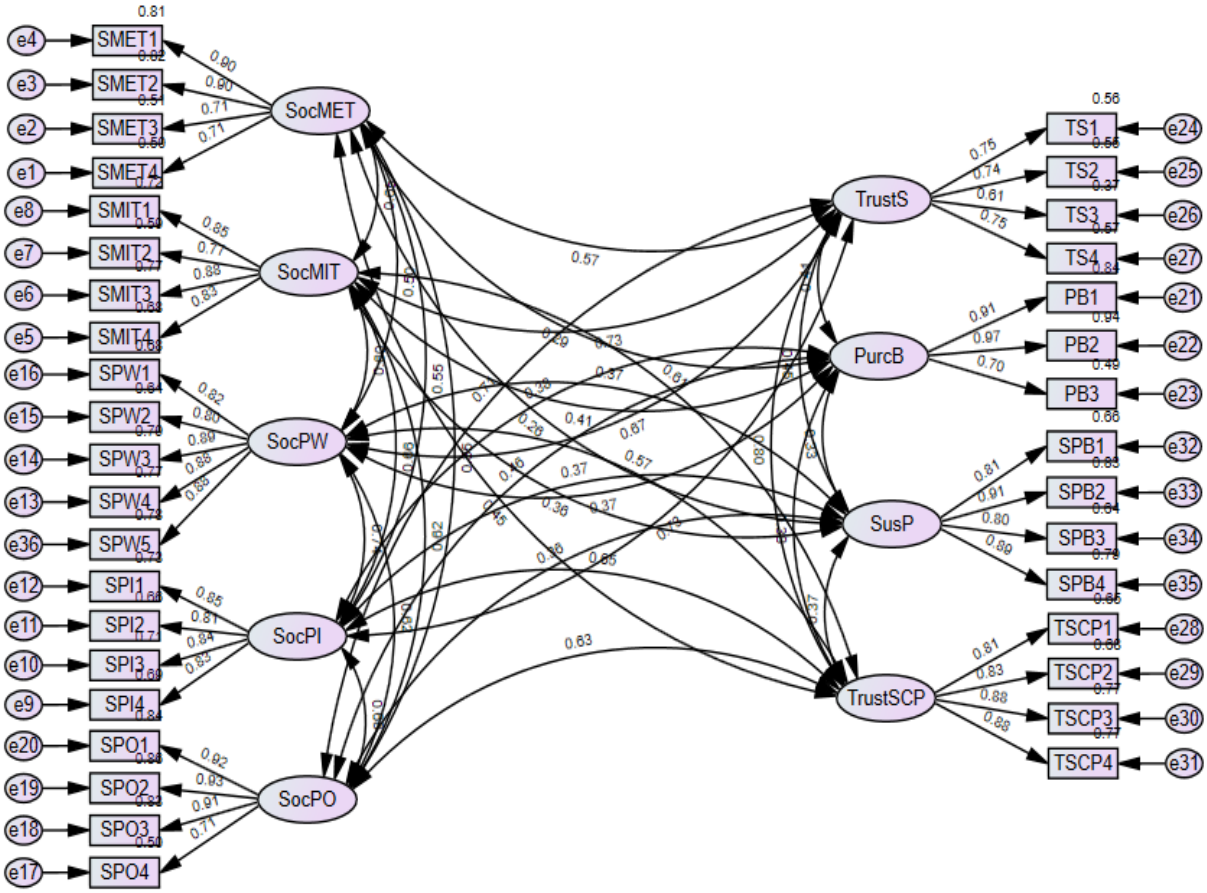


Figure 5.1 Initial Measurement Model

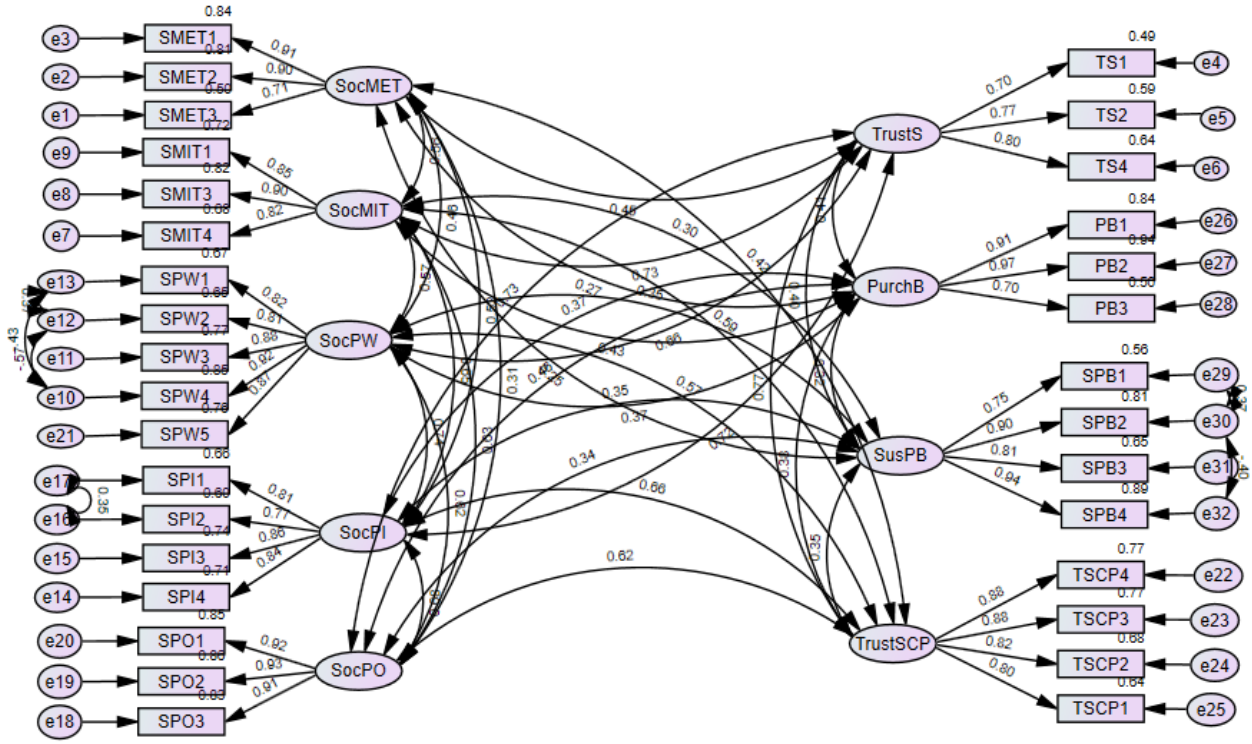


Figure 5.2 Improved measurement model

Now that the model fit indices have been improved to meet the required threshold, the reliability, convergent and discriminant validity which are the essence of this first stage can be assessed (Hair *et al*., 2021).

5.3.2.1 Reliability analysis

Reliability is a key factor in measurement models, as it reflects the internal consistency of the indicators that measure a variable. Saunders *et al.* (2019) suggest that the ideal value of reliability measured by Cronbach's alpha should be 0.7 or higher. Although, Pallant (2020) added that a Cronbach's alpha of 0.7 is acceptable; however, values above 0.8 are preferable. Following this advice, this study assessed the internal consistency reliability using IBM SPSS v29 as advised by Pallant (2020).

In addition to Cronbach's alpha, Hair *et al.* (2021) recommend that for robust internal consistency reliability, both Cronbach's alpha and composite reliability (CR) should be assessed as they delineate the lower and upper bounds of reliability, respectively. They propose a threshold of 0.7 as the minimum for non-exploratory studies and a maximum of 0.95 to prevent item redundancy, which could undermine content validity. The CR can be calculated using the following formula (Hair *et al.*, 2019).

$$CR = \frac{\left(\sum \lambda_i\right)^2}{\left(\sum \lambda_i\right)^2 + \sum \left(1 - \lambda_i^2\right)}$$

In this study, the CR is assessed using AMOS v29 software. The information obtained from AMOS, specifically standardised regression weights for the correlation values, is used in the James Gaskin research toolkit package to calculate the CR. The results of Cronbach's alpha and composite reliability are presented in Table 5.14.

Table 5. 14 Reliability Using Cronbach's Alpha

	Initial number of items (Final number of items retained)	Cronbach's alpha	Composite Reliability (CR)
Purchase behaviour	3(3)	0.891	0.902
Social media expressive ties	4(3)	0.824	0.882
Social media instrumental ties	4(3)	0.890	0.892
Social presence of the web	5(5)	0.931	0.943
Social presence of interaction	4(4)	0.902	0.893
Social presence of others	4(3)	0.943	0.943
Trust in the seller	4(3)	0.799	0.800
Trust in social commerce platform	4(4)	0.909	0.910
Sustainable practices	4(4)	0.913	0.912

Source: Author's own compilation

As depicted in Table 5.14, the variables measured demonstrate a high degree of internal consistency. This is indicated by Cronbach's alpha values, which range from 0.799 for TS to 0.943 for SPO. Similarly, the CR values range from 0.800 for TS to 0.943 for SPW. The variable with the most consistent reliability, based on both Cronbach's alpha and CR, is SPO, with an alpha of 0.943 and a CR of 0.943 as well. This is closely followed by SPW, which has an alpha of 0.931 and a CR of 0.943. The variables related to social media ties and social presence also exhibit strong internal consistency. In addition, TS and TSCP have alpha values of 0.799 and 0.909 and CR of 0.800 and 0.910. respectively. These outcomes suggest that the items within each variable are coherent and reliable indicators of their respective variables, thereby enhancing the credibility of the findings and interpretations derived from this data.

The internal consistency reliability of these results is affirmed as all values surpass the minimum threshold of 0.7 and remain below the maximum limit of 0.95, adhering to the recommendation set by Hair *et al.* (2019) and Hair *et al.* (2021). This reinforces the reliability of the measured variables.

5.3.2.2 Convergent validity

Convergent validity, which assesses the correlation between two measures of the same concept, reflects how well a variable captures the variance of its indicators (Hair *et al.*, 2019). The average variance extracted (AVE), often used to assess convergent validity, signifies the mean proportion of variance that a variable accounts for in its indicators relative to the total variance observed in those indicators. The AVE can be calculated using the below formula (Cheung *et al.*, 2023):

$$AVE = \frac{\sum \lambda_i^2}{\sum \lambda_i^2 + \sum_i \mathrm{var}(\varepsilon_i)}$$

The concept of convergent validity was introduced to describe the scenario in which a latent variable explains over 50% of the variance observed in its indicators (Fornell and Larcker, 1981). They recommended using the AVE for all indicators within a variable to assess its convergent validity. Hair *et al.* (2021:78) also suggest a minimum value of 0.50 for the AVE, which means that the variable accounts for at least half of the variance of its indicators. This criterion ensures a rigorous and comprehensive evaluation of the variable's validity. However, Cheung *et al.* (2023) emphasised the importance of reporting item loadings as an indicator of convergent validity in their review of reliability and validity. Echoing this, Bryan *et al.* (2017) proposed that a factor loading of 0.5 or higher signifies a high correlation with the variable, indicating a significant influence of the factors on the variables.

Complementing these findings, Hair *et al.* (2019) advised that in factor analysis, standardised loading estimates, ideally above 0.7, serve as a measure of convergent validity, reflecting a strong, positive correlation between each item and its latent variable values above 0.5 are acceptable. Based on this guidance, this study used factor loadings and item-total correlations as indicators of convergence validity, as shown in Table 5.15, and the AVE is presented in Table 5.16. Factor loading and item total correlations were obtained in IBM SPSS v29 following Pallant's (2020) guidelines.

Table 5. 15 Convergent validity using factors loading and inter-item total correlation

Measurement items	**Statement**	**Factor Loadings**	**Item-total correlation**
PB1	I have purchased second-hand items in the last 6 months.	0.91	0.828
PB2	I have spent my resources on second-hand items in the last 6 months.	0.97	0.869
PB3	I have browsed through Facebook Marketplace to find second-hand items in the last 6 months.	0.70	0.672
SMET1	I have developed a personal relationship with the seller on Facebook Marketplace	0.91	0.831
SMET2	I stay in touch with Facebook Marketplace seller to buy other items in addition to purchasing the item.	0.90	0.793
SMET3	I use Facebook to have conversations about personal matters with the seller	0.82	0.670
SMIT1	I have developed a personal relationship with the seller on Facebook Marketplace	0.85	0.718
SMIT2	I stay in touch with Facebook Marketplace seller to buy other items in addition to purchasing the item.	0.90	0.706
SMIT4	I keep the seller's interests in mind when buying from them on Facebook Marketplace	0.82	0.718
SPB1	I prefer buying goods made from recyclable material	0.84	0.755
SPB2	I prefer buying second-hand goods in the Facebook Marketplace	0.93	0.860
SPB3	I avoid buying some goods because of environmental concerns	0.78	0.750
SPB4	I prefer buying goods that I can use over a long period to protect the environment	0.85	0.846
SPI1	I can make sense of the Facebook Marketplace seller intention when interacting with them in Facebook messenger	0.81	0.796
SPI2	I can imagine how the Facebook Marketplace seller looks like when interacting via Facebook messenger	0.76	0.779
SPI3	The communication with the seller via Facebook Messenger has a human touch	0.86	0.769

Measurement items	Statement	Factor Loadings	Item-total correlation
SPI4	There is a warm feeling when communicating with the seller on Facebook messenger	0.83	0.778
SPO1	When using Facebook Marketplace, the interaction with other buyers is personal	0.92	0.881
SPO2	When using Facebook Marketplace, the interaction with other buyers is warm	0.93	0.885
SPO3	When using Facebook Marketplace, the interaction with other buyers is humanising	0.91	0.879
SPW1	The seller's Facebook page conveys a feeling of human connection	0.82	0.804
SPW2	The seller's Facebook page has a personal touch	0.81	0.781
SPW3	The seller's Facebook page is sociable	0.88	0.851
SPW4	The seller on Facebook Marketplace creates a welcoming and friendly online environment	0.92	0.811
SPW5	The seller's Facebook page has a human sensitivity	0.87	0.837
TS1	I trust the Facebook Marketplace seller a lot.	0.71	0.593
TS2	I am open to discussing with the Facebook Marketplace seller if I run into any issues.	0.77	0.700
TS4	I interact with the Facebook Marketplace seller in a genuine and amicable manner.	0.80	0.646
TSCP1	Facebook Marketplace can be trusted at all times.	0.80	0.758
TSCP2	Facebook Marketplace can be counted on to do what is right	0.83	0.783
TSCP3	Facebook Marketplace has a high integrity	0.88	0.824
TSCP4	Facebook Marketplace is a competent and knowledgeable platform for online transactions	0.88	0.812

Source: Author's own compilation

Table 5.15 shows that all factor loadings are above 0.5, indicating that all items have acceptable correlations with their respective latent variables (Hair *et al.*, 2019). Most items have factor loadings greater than 0.7, suggesting a strong relationship with their respective variables, which is preferred (Hair *et al.*, 2019). The item-total correlations are also high, ranging from 0.593 to 0.885, indicating that each item is well-correlated with the total score of the remaining items.

This suggests good internal consistency within the set of items (Pallant, 2020). Furthermore, Pallant (2020) advises that an item total correlation below 0.3 indicates that the item is not measuring the same concept measured by other items. Therefore, high factor loadings and item-total correlations suggest that the items are reliable measures of their respective variables and that they are internally consistent. This indicates good variable validity for the measurement model in this study, hence its good convergent validity (Hair *et al.*, 2019; Pallant, 2020).

Table 5. 16 Convergent Validity Using Average Variance Extracted

Variables	**Average Variance Extracted (AVE)**
Social Presence of the Web	0.739
Social media Expressive Ties	0.717
Social media Instrumental ties	0.738
Trust in the Seller	0.593
Trust in Social Commerce Platform	0.717
Purchase Behaviour	0.757
Social Presence of the Others	0.847
Social Presence of Interaction	0.677
Sustainable Practice	0.723

Source: Author's own compilation

The AVE values as shown in Table 5.16 are all above the recommended threshold of 0.50. signifying satisfactory convergent validity. This suggests that the variables capture over half of the variance of their indicators, indicating that the indicators measure the same concept effectively (Hair *et al.*, 2019). The variables with the highest AVE values are the social presence

of others (0.847) and purchase behaviour (0.757), implying that these variables exhibit very strong convergent validity. On the other hand, trust in the seller has the lowest AVE value (0.593), suggesting that this variable has moderate convergent validity. However, this value is still acceptable as it surpasses the 0.50 threshold (Hair *et al.*, 2019). Therefore, the AVE values demonstrate that the measurement model possesses good convergent validity. Thus, the variables in the model are well-defined and accurately measure the intended concepts.

5.3.2.3 Discriminant validity

Discriminant validity measures how distinct a variable is from other variables in the model (Hair *et al.*, 2021). One way to test discriminant validity is to compare the AVE of each variable with the squared correlation between variables. The squared correlation of the AVE represents the shared variance between variables. Fornell and Larcker (1981) proposed that the Average Variance Extracted (AVE) of each variable should exceed the squared correlation between variables, indicating that each variable captures more internal variance than shared variance with other variables. Moreover, this method assumes that each indicator belongs to only one variable and does not cross-load with other variables. This assumption implies that the variables are unidimensional and non-redundant (Gerbing and Anderson, 1988).

However, Henseler *et al.* (2015) critique the Fornell and Larcker (1981) criterion's ability to detect discriminant validity, particularly when item differences are subtle. They propose the Heterotrait-monotrait (HTMT) ratio of correlations, rooted in the multitrait-multimethod matrix, as a superior alternative. This method calculates the mean value of item correlations across different variables (Henseler *et al.*, 2015). Radomir and Moisescu (2020) support this argument, demonstrating HTMT's effectiveness in assessing discriminant validity using data from Romania and the United Kingdom. They suggest that the HTMT overcomes the Fornell-Larcker criterion's focus on within-variable item assessment. Hair *et al.* (2021) further endorse HTMT as the preferred discriminant validity assessment. They clarify that for similar variables, HTMT should be less than 0.90. and for distinct variables, less than 0.85. High HTMT values suggest problems with discriminant validity. Furthermore, Hair *et al.* (2019) advised that the choice between the two measures of discriminant validity depends on the statistical software package used, although the HTMT has been proposed as an alternative. Therefore, this study employs two methods: the Fornell and Larcker (1981) criterion and the Heterotrait-monotrait ratio of correlations (HTMT) proposed by Henseler *et al.* (2015) which was calculated using

partial least squares (PLS) 4. SmartPLS is a software that features a user-friendly interface and is utilised for variance-based structural equation modelling (SEM) through the application of the partial least squares path modelling technique (Henseler *et al.*, 2015; Hair *et al.*, 2021). It has gained recognition for its proficiency in constructing intricate path models and enhancing them with extensive supplementary analyses (Hair *et al.*, 2021). Tables 5.17 and 5.18 summarise the findings of the assessment of discriminant validity.

Table 5. 17: Discriminant validity using the Fornell-Larcker criterion

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
(1) SusPB	**0.850**								
(2) SocMET	0.243	**0.846**							
(3) SocMIT	0.324	0.564	**0.859**						
(4) SocPI	0.365	0.520	0.648	**0.823**					
(5) SocPW	0.352	0.467	0.576	0.739	**0.860**				
(6) SocPO	0.356	0.309	0.629	0.680	0.616	**0.920**			
(7) TrustS	0.419	0.447	0.727	0.716	0.656	0.734	**0.757**		
(8) TrustSCP	0.365	0.422	0.591	0.659	0.571	0.616	0.770	**0.847**	
(9) PurchB	0.335	0.273	0.428	0.371	0.372	0.460	0.410	0.379	**0.870**

Source: Author's own compilation

Note: The diagonal values in bold are the square roots of AVE.

In line with the criterion proposed by Fornell and Larcker (1981), the presence of discriminant validity is confirmed when the square root of each variable's AVE surpasses the correlations involving that particular variable and all other variables. This is a key measure in ensuring the distinctiveness of each construct in a study. In Table 5.17, this criterion is met for all variables, as the diagonal values in bold are higher than the off-diagonal values in the corresponding rows and columns except for trust in the seller (TrustS), which has a lower AVE than the metric of trust in social commerce platforms. This could be justified as these two trusts are highly correlated as they measure similar concepts (Hair *et al.*, 2021). In addition, the HTMT is also employed to further assess the discriminant validity and overcome this shortfall (Henseler *et al.*, 2015), as advised by Shao *et al.* (2022) and Hair *et al.* (2021).

The current study used the HTMT as an additional measure to validate the Fornell and Larcker (1981) criterion for assessing discriminant validity. As evidenced by the data in Table 5.18, all HTMT values were found to be below the conservative threshold of 0.85. This threshold, as suggested by Hair *et al.* (2021) and Henseler *et al.* (2015), is considered conservative, and the values below it, indicate a strong discriminant validity. Consequently, these results assert that the discriminant validity of this study has been firmly established. The rigorous application of both the HTMT and the Fornell and Larcker criterion has resulted in a robust validation of the study's discriminant validity. This, in turn, sets a solid foundation for the subsequent stages of the research, which is the structural model analysis (Cheung *et al.*, 2023; Henseler *et al.*, 2015; Roemer *et al.*, 2021; Rönkkö and Cho, 2022; Voorhees *et al.*, 2016).

With the reliability and validity thus established, the study is now poised to proceed to the next phase. This involves the application of the structural equation model, which represents the second step in the SEM analysis. The primary objective of this step is to test the hypothesis.

Table 5. 18 Discriminant validity using Heterotrait-Monotrait (HTMT)

	PB	SMET	SMIT	SPB	SPI	SPO	SPW	TS	TSCP
PB									
SMET	0.329								
SMIT	0.485	0.701							
SPB	0.348	0.284	0.380						
SPI	0.412	0.579	0.671	0.370					
SPO	0.522	0.401	0.630	0.365	0.719				
SPW	0.388	0.551	0.601	0.369	0.735	0.653			
TS	0.453	0.628	0.748	0.475	0.736	0.733	0.685		
TSCP	0.435	0.477	0.618	0.362	0.650	0.660	0.565	0.808	

Source: Author's own compilation

5.3.3 Structural Model Analysis

The structural model analysis was conducted utilising the method of maximum likelihood estimation. The results from the structural model exhibited acceptable indices of model fit: X^2 = 1174.281, DF = 557, X^2/DF = 2.108, AGFI = 0.833, PCLOSE = 0.166, CFI = 0.944, TLI = 0.937. RMSEA = 0.052. This suggests that the model aligns well with the data. The summary

of the results is presented in Table 5.19, and the graphical representation is shown in Figure 5.3.

Table 5. 19 Model Fit Threshold

Fit Indices	Values
CMIN	1174.281
CMIN/DF	2.108
RMSEA	0.052
PCLOSE	0.166
CFI	0.944
TLI	0.937
GFI	0.861
AGFI	0.833

Source: Author's own compilation.

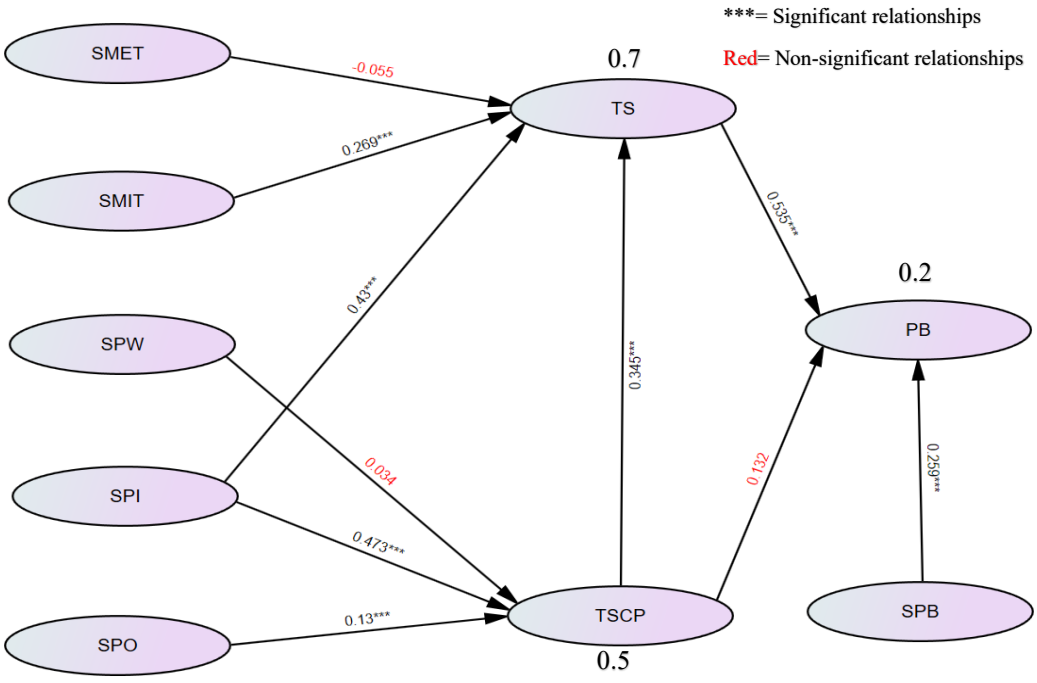


Figure 5.3 Graphical model representation

5.3.3.1 Hypothesis Testing

Table 5.20 presents the outcomes of the hypothesis testing using the SPSS AMOS v29. The last column in this table indicates whether the hypothesis was supported by empirical evidence or not.

Table 5. 20 Testing of the structural model relationships

Hypothesis	Relationships	Path Estimate (β)	*t*-value.	*p*-value	Results
H1	SMET ----> TS	-0.055	-1.686	0.092	Not supported
H2	SMIT ----> TS	0.269	6.283	***	Supported
H3	SPW ----> TSCP	0.034	0.700	0.484	Not supported
H4	SPI ---->. TS	0.430	8.043	***	Supported
H5	SPI ----> TSCP	0.473	6.492	***	Supported
H6	SPO ----> TSCP	0.13	3.009	0.003	Supported
H7	TS ----> PB	0.535	3.272	***	Supported
H8	TSCP ----> PB	0.132	0.979	0.328	Not supported
H9	TSCP ----> TS	0.345	7.220	***	Supported
H10	SPB ----> PB	0.259	3.841	***	Supported

Source: Author's own compilation

Note: SMET = social media expressive ties. SMIT = social media instrumental ties. SPW = social presence of the web. SPI = social presence of interactions. SPO = social presence of others. TS = trust in the seller. TSCP = trust in social commerce platforms. SPB = sustainable practices. PB = purchase behaviour. ***= significant at the 0.001 level.

Hypothesis 1 (H_1): social media expressive ties have a positive influence on trust in the Facebook Marketplace seller.

The analysis indicates that social media expressive ties have a negative but non-significant influence on trust in the Facebook Marketplace seller (β = -0.055, p = 0.092); therefore, H_1 is rejected.

Hypothesis 2 (H_2): social media instrumental ties have a positive influence on trust in the Facebook Marketplace seller.

The analysis indicates that social media instrumental ties have a positive and significant influence on trust in the Facebook Marketplace seller (β = 0.269, $p<0.001$), thus supporting H_2.

Hypothesis 3 (H_3): Social presence of the web has a positive influence on trust in the Facebook Marketplace platform.
The analysis indicates that the social presence of the web has a positive but non-significant influence on the social commerce platform (β = 0.034, p = 0.484), therefore, H_3 is rejected.

Hypotheses 4 and 5 (H_4 and H_5): SPI positively influences trust in the seller and trust in the Facebook Marketplace platform.
The analyses indicate that the social presence of interaction has a positive and significant influence on both the TS (β = 0.43, $p < 0.001$) and the TSCP (β = 0.473, $p < 0.001$), therefore, H_4 and H_5 are supported.

Hypothesis 6 (H_6): The social presence of others has a positive influence on trust in the Facebook Marketplace platform.
The analyses indicate that the social presence of others has a positive and significant influence on trust on the Facebook Marketplace platform (β = 0.13, p = 0.003), therefore, H_6 is supported.

Hypothesis 7 (H_7): TS positively influence PB of second-hand goods on the Facebook Marketplace platform.
The analyses indicate that TS has a positive and significant influence on the PB of second-hand goods on the Facebook Marketplace platform (β = 0.535, $p < 0.001$), thus, H_7 is supported.

Hypotheses 8 and 9 (H_8 and H_9): TSCP positively influences the PB of second-hand goods and trust in the seller.
The analyses of the results indicate that TSCP has a positive but non-significant influence on the purchase behaviour of second-hand goods in the Facebook Marketplace (β = 0.132, p = 0.328), while positively and significantly influencing trust in the Facebook Marketplace seller (β = 0.345, $p < 0.001$), therefore, H_8 is rejected and H_9 is supported.

Hypothesis 10 (H_{10}): Sustainable practices of consumers have a positive influence on the PB of second-hand goods on the Facebook Marketplace platform.

The analyses indicate that sustainable practices have a positive and significant influence on the purchase of second-hand goods on Facebook Marketplace ($\beta = 0.259$, $p < 0.001$), thus H_{10} is supported.

5.4 MODERATION ANALYSIS

A moderator is a variable or construct that affects how strong or what kind of relationship two other constructs in a model have (Hair *et al.*, 2021). One of the objectives of this study was to test how consumers' sustainable practices affect the relationship between trust in social commerce platforms (e.g., the Facebook Marketplace) and purchase behaviour, and trust in the seller and purchase behaviour. For this purpose, the moderator was calculated using the following formula (Hair *et al.*, 2021):

$$Y = \beta0 + \beta1X + \beta2M + \beta3(X * M) + \varepsilon$$

Y represents the dependent variable.
X represents the independent variable.
M represents the moderating variable.
β0 represents the intercept.
β1 represents the coefficient for the independent variable X.
β2 represents the coefficient for the moderating variable M.
β3 represents the coefficient for the interaction between X and M.
ε represents the error term.
Figures 5.4 and 5.5 describe the conceptual and mathematical graphical representations of the model.

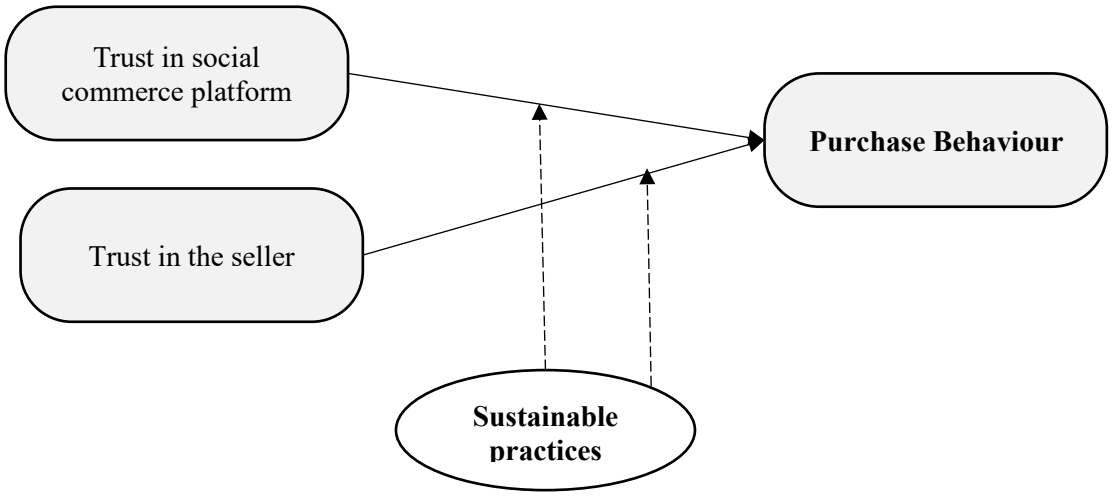


Figure 5.4 Graphical representation of the moderation model

To test the moderation, this study follows multiple steps described below.

Step 1: Mean Centring

To test for moderation, the variables of interest—TSCP, SPB, TS and PB— were centred using SPSS to create a composite of the variables. Mean centring is crucial as it addresses potential collinearity issues and simplifies result interpretation (Frazier *et al.*, 2004; Dawson, 2014). Despite slight variations, outcomes are similar whether you apply mean centring or not (Echambadi and Hess, 2007; Hayes, 2018), but it is advisable to perform mean centring before analysis.

Step 2: Interaction Term

The interaction terms between TSCP and SPB, TS and SPB were created with the mean centred TSCP and SPB, TS and SPB. InterTSCP = TSCP x SPB and InterTS = TS x SBP.

Step 3: Moderation Model

The moderation model was drawn in AMOS v29 to test the effects of SPB on the relationship between TS and PB and TSCP and PB. The graphical representation of the final model is displayed in Figure 5.4 above and the mathematical model of the moderation is presented in Figure 5.5 below

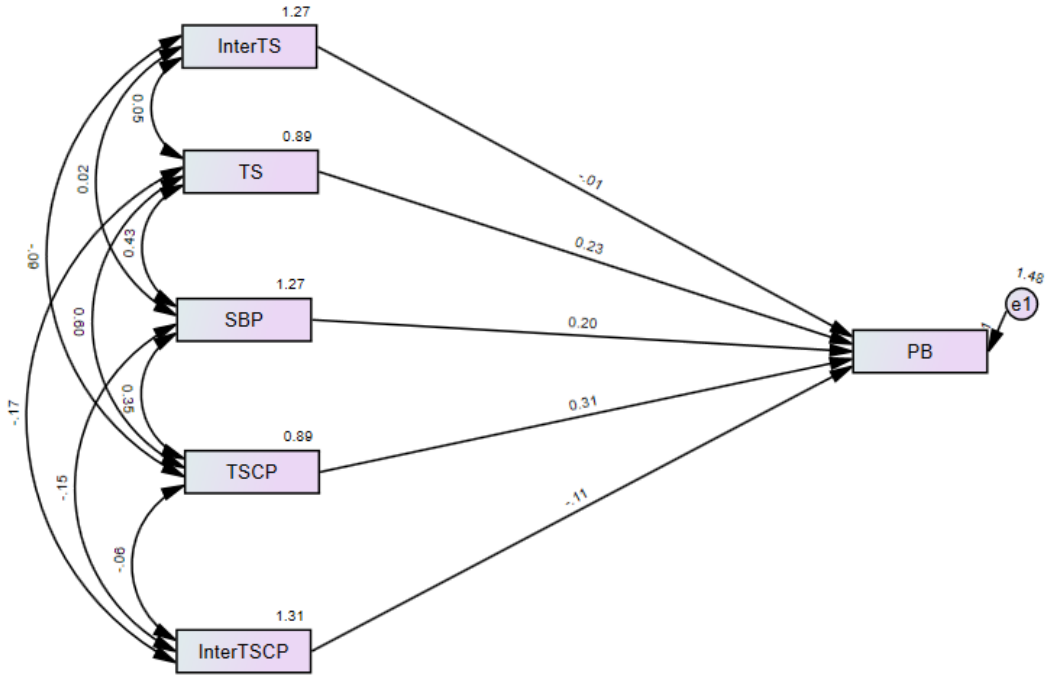


Figure 5.5 SEM Moderation Mathematical Model

Based on this mathematical model, the moderation analysis was conducted in AMOS v29. Table 5.21 summarises the findings of the moderation analysis.

Table 5. 21 Moderation results

Relationships			Estimate (β)	*t*-value	*p*-value	Decision
SBP	---->	PB	.204	3.463	***	
TSCP	---->	PB	.313	3.518	***	
InterTSCP	---->	PB	-.112	-2.091	.036	Supported
InterTS	---->	PB	-.011	-0.207	.836	Not Supported
TS	---->	PB	.227	2.462	.014	

Source: Author's own compilation.

This study assessed the moderating effect of the SPB on the relationship between TS and PB, and TSCP and PB of second-hand goods on Facebook Marketplace. In the context of moderation analysis, the key aspect to consider is the significance of the interaction term. If

the impact of this term on the outcome variable is significant, it implies that the moderator variable significantly influences the relationship between the variables under study (Hair *et al.*, 2021). As illustrated in Table 5.21, the moderation of the relationship between TS and PB, which was tested with the interaction InterTS was not significant (β = -0.11; t = -0.207; p = 0.836). However, the moderation of the relationship between TSCP and PB was significant with the following results (β = - 0.113, t = -2.091, p = 0.036), thus H_{11} was supported and H_{12} was rejected. The results indicate that the SPB has a negative and substantial effect on the relationship between TSCP and PB of second-hand goods on the Facebook Marketplace. Consumer sustainability practices notably weaken the trust-purchase link for second-hand items on Facebook Marketplace. The effect of the moderation is presented in Figure 5.6.

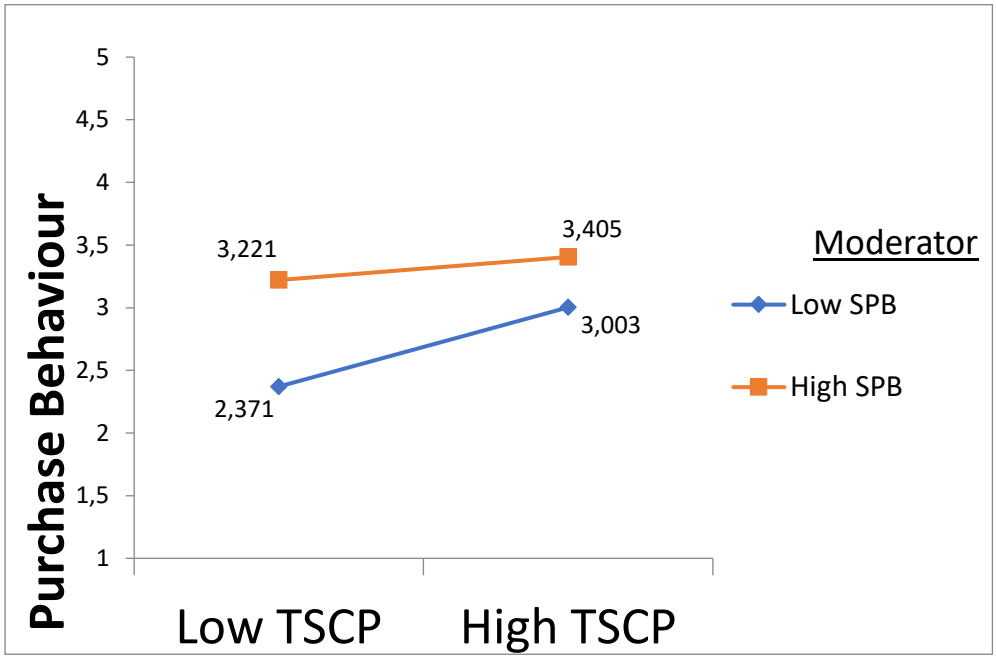


Figure 5.6 Moderation effect

The moderating effects are depicted in Figure 5.6 through a simple slope analysis. The figure reveals that when SPB is low, TSCP has a more pronounced impact on PB. Conversely, as SPB increases, the influence of TSCP on PB diminishes. This suggests that for consumers with high SPB, sustainable practices negatively affect the relationship between TSCP and the buying behaviour of second-hand goods.

5.5 MULTIGROUP ANALYSIS (MGA) USING STRUCTURAL EQUATION MODELLING

The MGA is conducted to test the change in behaviour between two or more groups of consumers. MGA with x^2 group difference method provides a detailed understanding of how consumer behaviour varies across different types of goods (Hair *et al.*, 2019). The MGA was conducted on IBM AMOS using the multigroup option.

The analysis focused on consumer durable (CD) and consumer non-durable (CND) goods purchased by consumers, as presented in Tables 5.22 and 5.23. In the two tables, the list of goods in green represents the most purchased second-hand goods on Facebook Marketplace.

Table 5. 22 Consumer durables goods

	Consumer durables	
	Products	Purchase Frequencies
1	Electronics	91
2	Women's clothing and shoes	60
3	Furniture	48
4	Books, films and music	48
5	Jewellery and Watches	43
6	Car Parts	37
7	Appliances	35
8	Men clothing and shoes	31
9	Toys and Games	29
10	Luggage and Bags	24
11	Sporting Goods	21
12	Baby items	19
13	Musical instruments	18
14	Patio and garden	16
15	Vehicles	16
16	DIY and tools	13
17	Art and Craft	10
18	Antiques and collectible	8

Source: Author's own compilation

Table 5. 23 Consumer non-durable goods

	Consumer non-durables	
	Products	Purchase Frequencies
1	Personal care products	44
2	Household cleaning products	42
3	Food and beverages	37
4	Office Supplies	34
5	Pharmaceuticals	21
6	Tobacco and tobacco-related products	18
7	Pet care products	11

Source: Author's own compilation

From Tables 5.22 and 23, it is evident that among the CDs, electronics (91) emerged as the most purchased products, followed by women's clothing and shoes (60), furniture (48), books, film and music (48) and jewellery and watches (43), while the most purchased CND are personal care products (44), household and cleaning products (42), foods and beverages (37), office supplies (34) and pharmaceuticals (21). The above two tables also reveal that consumer durables were the most purchased products, as can be seen from the purchase frequency. After the compilation of the above list and the categorisation of the consumer-purchased goods in groups, a multigroup analysis was conducted to ascertain the moderating effect of the types of goods on the PB of second-hand goods.

For the MGA analysis, the sample was divided into two sub-samples: CD (n = 278) and consumer CND (n = 126), based on the number of consumers who purchased each type of goods (Hair *et al.*, 2021). An unconstrained structural multigroup with both CD and CND fit was checked to establish causality: x^2 = 1948.975, d*f* = 1114, *p* = .000. x^2/d*f* = 1.750. This indicates that the values are within the acceptable threshold as recommended by Hair *et al.* (2021). When examining group difference models, a variety of model fit indices are available. However, the chi-square difference stands out as the primary metric for comparison. Its value can be assessed for statistical significance, providing a robust measure for model comparison (Hair *et al.*, 2019). To assess invariance across CD and CND sub-samples, a x^2 test was used. This involved comparing a fully constrained model to an unconstrained one across both durable and non-durable consumer goods. This method allows for a robust analysis of the differences between these groups (Kaushin *et al.*, 2019; Putnick and Bornstein, 2016; Webber and Smokowski, 2018). The constrained model presented the following results: x^2 = 1987.359; d*f*

= 1137, p = .000. The analysis revealed a difference between the two groups, as model invariance was not confirmed (Δx^2 = 38.384; Δdf = 23; p = 0.023). As the analyses didn't support full metric invariance, partial metric invariance (PMI) was employed by relaxing the most restrictive invariance. This approach allows for a more nuanced understanding of the data (Putnick and Bornstein, 2016).

Therefore, the structural paths were systematically constrained to identify the specific paths where the groups differed. This process affirmed that the hypothesised paths were indeed comparable across both consumer groups (Hair *et al.*, 2019; Kaushin *et al.*, 2019). The relationship between SPO and TSCP (Δx^2 = 6.877, Δdf = 1, $p<0.05$) indicates a significant difference across CD and CND goods. This suggests that the type of goods (CD or CND) can significantly influence the relationship between SPO and TSCP. Similarly, the relationship between SPI and TSCP (Δx^2 = 6.411, Δdf = 1, $p<0.05$) also indicates a significant difference. This suggests that the relationship between SPI and TSCP is also influenced by the type of goods sought on Facebook Marketplace (CD or CND). The results suggest that both CD and CND goods play significant roles in the relationships between SPI, SPO and TSCP; however, their effects differ. CD significantly and positively affect the SPI-TSCP relationship but negatively affect the SPO-TSCP relationship at the same time. On the other hand, CND goods have a positive effect on both relationships, but its effect is weaker in the SPO-TSCP relationship. The results of the MGA present the path-by-path analyses across the two groups and determine the difference between groups in Table 5.24.

Table 5. 24 Group comparison analyses.

Path			x^2	Δx^2	Consumer Durables		Consumer non-durables		Δp
					Estimate	p	Estimate	p	
Base Model			1662.71						
SocMET	-- >	TrustS	1662.85	0.14	-0.059	0.31	-0.026	0.671	0.388
SocMIT	-- >	TrustS	1663.65	0.94	0.262	***	0.184	***	-0.983
SocPW	-- >	TrustSCP	1671.13	8.62	-0.016	0.813	0.366	***	3.053***
SocPI	-- >	TrustSCP	1663.22	0.51	0.414	***	0.284	0.061	-0.736
SocPO	-- >	TrustSCP	1663.94	1.23	0.261	***	0.14	0.1	-1.183
SocPI	-- >	TrustS	1662.71	0	0.198	0.005	0.195	0.031	-0.026
TrustS	-- >	PurchB	1662.95	0.24	0.523	0.003	0.299	0.428	-0.537
TrustSCP	-- >	TrustS	1662.74	0.03	0.334	***	0.352	***	0.191
TrustSCP	-- >	PurchB	1663.46	0.75	0.006	0.961	0.302	0.277	0.964
SusPB	-- >	PurchB	1662.84	0.14	0.243	0.001	0.303	0.021	0.4

Source: Author's own compilation

Note: SMET = social media expressive ties. SMIT = social media instrumental ties. SPW = social presence of the web. SPI = social presence of interactions. SPO = social presence of others, TS = trust in the seller. TSCP = trust in social commerce platforms. SPB = sustainable practices. PB = purchase behaviour.

5.6 CHAPTER SUMMARY

This chapter presented the findings of the data analysis for the study, which consisted of five sections. First, the descriptive analysis of the demographic profile of the participants, including gender, age, education, marital status and household income was discussed. Second, the descriptive statistics of the measurement instruments, such as the mean and standard deviation were provided and discussed. Third, the results of the SEM analyses using SPSS v29 and AMOS v29 packages, which included the measurement model, and the structural model were elaborated. The measurement model assessed the normality of the data, the reliability, convergent and discriminant validity of the variables, and the structural model examined the model fit and tested the hypotheses. Fourth, the moderation analysis using a three-step process: mean centring, interaction term, and moderation model development was discussed. Fifth, the

findings of the MGA testing the variation in PB related to CD vs CND were presented. The chapter aimed to provide a comprehensive and coherent summary of the data analysis and the findings of the research, setting the scene for the discussion of findings, implications and recommendations that will be carried out in the next chapter.

CHAPTER SIX: DISCUSSION OF FINDINGS, IMPLICATIONS AND CONCLUSIONS

This chapter builds on the previous chapter, which reviewed the results obtained from various statistical analyses. The focus will be on the four main sections. The chapter is organised in four sections. The first section reviews the objectives of the study. The second section provides a discussion with a focus on the demographics, central tendency measures, and hypotheses of the current study. This section will also correlate the current study results to existing findings from prior studies for each hypothesis. In the third part, the theoretical implications resulting from the study findings will be provided, focusing on three subsections: the implications, limitations and recommendations for future research. The fourth section discusses the results of the moderation analysis, and the final section provides the implications, limitations and direction for future use, as well as the concluding remarks.

Review of the objectives of the research

The current study addressed the following objective.

- The primary aim was to examine the role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace.

This study addressed the subsequent secondary objectives.

- To investigate the influence of social presence and social network factors on TS and TSCP.
- To investigate the relationship between trust in the Facebook Marketplace platform and trust in the seller.
- To examine the effect of TS and TSCP on the PB.
- To investigate the influence of sustainability on the PB on the Facebook Marketplace platform.
- To examine whether product type (CD and CND) influences purchase behaviour on the Facebook Marketplace platform.

6.1 DISCUSSION OF FINDINGS

6.1.1 Discussion of the Demographic Profile of Participants

The analysis of the demographic characteristics of participants provides a preview of South African buyers on Facebook Marketplace. The buyer base in this sample is dominated by females (57.4%), a finding that is consistent with previous studies by Mofokeng *et al.* (2021) on e-commerce in South Africa and Wilson and Ndoro's (2023) online shopping platforms in South Africa as well. This suggests that female consumers engage more in online marketplaces than their male counterparts. The research indicates that the majority (76.2%) of Facebook Marketplace users in South Africa are young adults aged 18 - 35. This aligns with Dana *et al.*'s (2023) study on S-Commerce, which also reported a higher female response rate, suggesting a similar demographic trend and suggesting that most Facebook Marketplace consumers are young. This youthful demographic is primarily single (70.8%), which could shape their purchasing behaviours and preferences on the platform. Similar findings on participants' profiles were reported by Alkhalifah *et al.* (2023). Additionally, the data reveals that a substantial proportion (63.6%) of Facebook Marketplace users in South Africa have attained at least an undergraduate degree. This suggests a predominantly educated user demographic, which may shape the nature of products pursued on the platform. This observation aligns with the online consumer behaviour trends identified in prior research (Alkhalifah *et al.*, 2022; Liu *et al.*, 2023), further substantiating the potential influence of educational attainment on marketplace preferences.

Furthermore, the income distribution data indicates that the majority of Facebook Marketplace users in South Africa have a combined household income ranging from R10.001 to R40.000 per month. This demographic trend suggests that the platform is predominantly utilised by a substantial segment of the working class. This finding is consistent with the results of a study conducted by Ligaraba *et al.* (2023), which also identified a majority of online shoppers as belonging to a financially stable consumer group. This correlation further underscores the appeal and accessibility of online marketplaces among economically active populations. Therefore, the typical Facebook Marketplace persona in South Africa can be described as a young, single, educated individual with a moderate income.

6.1.2 Discussion of the Central Tendency Measures of Variables

6.1.2.1 Social Media Expressive Ties

Social media expressive ties imply a perceived close relationship between buyers and sellers that can greatly impact trust in the seller (Li *et al.*, 2023). This claim was investigated to uncover the extent of the relationship buyers develop with sellers. The analysis of the results revealed that participants have a lower level of social media expressive ties, as indicated by the average mean of 2.26 and the standard deviation of 1.28. This implies that the interactions between South African Facebook Marketplace buyers and sellers do not go beyond transactional encounters. These results contradict the SNT, which suggests that social media expressive ties influence the trust buyers place in the seller. These results are also inconsistent with previous studies by Li *et al*. (2023) and Li *et al*. (2018) conducted in China using data from WeChat, a popular Chinese social network. The reason for this inconsistency could be the result of the nature of the social network itself and how it functions. WeChat, which is similar to WhatsApp, allows buyers to connect with sellers whose cell phone numbers they already have or who have been verified by other network users during the account setup process, which implies a prior relationship has been established, contrary to the Facebook Marketplace, where buyers and sellers meet mostly online without prior encounters (Montag *et al.*, 2018). Therefore, this study reveals new insight that sheds light on the purchasing behaviour of Facebook social commerce users.

6.1.2.2 Social Media Instrumental Ties

Social media instrumental ties refer to transactionally motivated relationships developed between the buyer and the seller (Li *et al.*, 2023). This was tested with insight shared by the buyers during the survey, and the analysis of the results indicated that the buyer has a moderate level of social media expressive ties, as indicated by the average mean of 2.67 and the standard deviation of 1.36. A moderate level of SMIT among participants means that buyers somehow were neutral to statements measuring the level of relationship they developed with sellers on Facebook Marketplace. These results are inconsistent with the findings of previous studies by Wang *et al.* (2023) and Li *et al.* (2023) on Chinese WeChat, which revealed that buyers had high social media instrumental ties with the seller.

This implies that in social commerce, buyers develop mutually beneficial relationships with sellers that go beyond mere transactional encounters. However, the nature of the relationship is maintained by its instrumental value. The difference in the level of agreement with previous studies' statements measuring this variable (e.g., Wang *et al.*, 2023; Li *et al.*, 2023) could be due to the studies' administration, such as the social commerce platform used and environmental differences between countries.

6.1.2.3 Social Presence of the Web

The social presence of the web refers to the ability of the S-Commerce platform to convey a sense of a warm, welcoming and sociable environment. The analysis of the results indicated an average mean of 2.61 and an SD of 1.18, denoting a moderate level of social presence on the Facebook Marketplace. This suggests that the Facebook page for marketplace sellers presented a moderate sense of social connectedness, personal touch, sociability and a welcoming environment (Lowenthal, 2021). This result is in line with the SPT, which suggests that website quality and functionality convey a sense of social presence. The results are also coherent with previous findings by Sheik *et al.* (2018) and Al-Adwan and Kokash (2022), who also found that buyers on S-Commerce had a moderate level of social presence on the web. These findings imply that South African Facebook Marketplace users perceive the Facebook page of sellers as moderately warm, welcoming and sociable. For instance, Jang and Kim (2023) revealed that S-Commerce functionality enhances trust in the platform. Additionally, Zhang *et al.* (2021) suggested that in social medical crowdfunding, the platform quality influences the relationship between the donors and the platform.

6.1.2,4 Social presence of interaction

Social presence of interaction refers to the interaction between the buyer and the seller. The participants in this study presented a moderate level of SPI with the seller, represented by an overall arithmetic mean of 2.71 and an SD of 1.04. This result implies that some participants agreed with statements measuring the variable and others did not. The results suggest that in general, South African Facebook Marketplace buyers are neutral about how the quality and frequency of their interaction with the seller influence the level of connection they develop with them. These results support the claim of SPT, which suggests that S-Commerce users develop relationships with sellers. These findings are coherent with a previous study by Al-Adwan and Kokash (2022) conducted in Jordan, which revealed that consumers had a moderate

level of SPI. This result suggests that South African Facebook Marketplace buyers develop a moderate level of relationship with the seller.

6.1.2.5 Social Presence of Others

Social presence of others is defined as the interactions between buyers or groups of buyers through different interaction channels offered by social media, such as reviews, ratings, recommendations, likes and comments (Leong *et al.*, 2020). The social presence of others was measured through survey responses, and the analysis of the findings revealed that Facebook Marketplace buyers in South Africa had a moderate level of social presence with others. This can be seen in the overall variable mean of 3.23 and the SD of 1.29. The findings indicate that participants in the study perceived the interaction between buyers as moderately conveying a social presence. The findings support the study by Lai *et al.* (2021), who also found that the interactions between buyers provided a moderate level of social presence. Thus, the findings prove that South African Facebook Marketplace buyers' interactions conveyed a sense of social presence.

6.1.2.6 Trust in the seller

Trust in the seller indicates the confidence that a buyer has in the seller's benevolence, competence and integrity. This concept was measured, and the analysis of the results revealed that buyers on Facebook Marketplace have moderate trust in the seller. This is explained by the overall variable arithmetic mean of 2.85 and the standard deviation of 1.21. The results imply that, on average, participants neither strongly trust nor distrust the seller. They are somewhat neutral. In other words, South African Facebook Marketplace users moderately trust the buyer. The findings are incoherent with previous studies (Moriuchi and Takahashi *et al.*, 2022; Jang and Kim, 2023). These studies found that S-Commerce buyers had a higher level of trust in S-Commerce sellers. Nevertheless, the results of the current study imply that South African Facebook Marketplace buyers are neutral towards trust in the seller.

6.1.2.1 Trust in social commerce platform

The results of the analysis measuring the level of trust in Facebook Marketplace indicated that the buyers have a moderate level of TSCP. This was portrayed in their responses to this duty, measured by an average mean of 2.76 and an SD of 1.07. This implies that the buyers are

neutral about their trust in social commerce platforms. These results are incoherent with previous studies (Hansen *et al.*, 2018; Lin *et al.*, 2019; Cheng *et al.*, 2019; Jadil *et al.*, 2022; Kim and Kim, 2023). These studies revealed that consumers had a high level of TSCP. However, a study by Leung *et al.* (2019) found similar results to the current study, revealing a moderate TSCP. The trust level in this study is moderate, while Lin *et al.* (2019) reported high trust. The difference could be attributed to the platforms studied. Lin *et al.* (2019) tested their model on Amazon in the US, which is a leading and regulated S-Commerce platform. In contrast, the current study tested the model on Facebook Marketplace, which is an unregulated platform. Hence, users may exhibit higher trust in Amazon than in Facebook Marketplace.

6.1.2.8 Sustainable practices

The analysis of the results of the sustainable practices of consumers reveals that on Facebook Marketplace, consumers' proclivity to sustainability is moderate, with an average mean of 3.08 and an SD of 1.27. This implies that some consumers have a medium level of sustainable practices and others have a high level of sustainable practices. These results are in line with Arman and Mark-Herbert's (2022) findings from Bangladeshi and Swedish Facebook users. In this study, the authors revealed that consumers displayed moderately sustainable consumption behaviour in their daily lives by buying second-hand goods on the Facebook Marketplace. The findings of this study show that consumers on S-Commerce platform engage in sustainable behaviour in purchasing, consuming and disposing of goods. Specifically, Facebook Marketplace users prefer selling the goods they no longer need to other consumers to reduce the impact new product production might have on the environment and extend the life of the current products. Therefore, it is implied that in South Africa, Facebook Marketplace buyers have a certain level of sustainability practices.

6.1.2.9 Purchase behaviour

In the current study, the purchase behaviour measured the consumer's decision to buy second-hand goods on Facebook Marketplace. The analysis of the results of this examination revealed an average mean of 3.5 and an SD of 1.37, implying that most participants in the study have moderately sustainable purchase behaviour. However, some participants tend to agree with the statements measuring the purchase behaviour of second-hand goods, leaning towards a high purchasing behaviour of second-hand goods (mean = 3.56, SD = 1.51). These results support the findings of Arman and Mark-Herbert's (2022) study on Bangladeshi and Swedish Facebook

users. In this study, the authors suggested that Facebook Marketplace users displayed sustainable consumption practices in their everyday practices of buying, using, and reselling second-hand items that not only benefit numerous users but also revitalise idle products, marking a significant step towards a circular economy.

6.1.3 Discussion of the Hypotheses Testing Results

This research was carried out among individuals in South Africa who have engaged in the purchase of second-hand goods via the Facebook Marketplace. The participants, ranging in age from 18 to 65, were selected from various public locations in Gauteng, as well as online platforms. The online recruitment was facilitated through emails disseminated by the Registrar's Office at the University of the Witwatersrand and local Facebook groups dedicated to buyers. These participants all had prior experience with transactions on the Facebook Marketplace.

6.1.3.1 The influence of social media expressive ties on trust in the seller

The analysis of the outcomes revealed that while social media expressive ties negatively impact trust in Facebook Marketplace sellers, the influence is not significant (β = -0.055, p = 0.092), leading to the rejection of H1. The findings show that among South African Facebook Marketplace users, the relationship with the seller does not influence trust in the seller. These findings are incoherent with the study by Li *et al.* (2023), who tested the influence of social media ties on trust using WeChat in China. In their study, Li *et al.* (2023) revealed a positive and significant relationship between social media expressive ties and trust in the seller.

The disparity between WeChat and Facebook Marketplace results could be attributed to their distinct structures. WeChat secures transactions by verifying and authenticating users during account creation, fostering trust within the network. Conversely, Facebook Marketplace allows unverified account creation, lacking accountability for fair transactions, which diminishes trust between buyers and sellers. Additionally, WeChat's integrated payment option, trusted by consumers, contrasts with Facebook's lack of this service in South Africa (Montag *et al.*, 2018). Therefore, this impedes the development of trust in the seller.

6.1.3.2 The influence of social media Instrumental ties on trust in the seller.

The analysis of the results confirmed a significant and positive impact of social media ties and seller trust in the Facebook Marketplace (β = 0.269, p<0.001), thus validating H_2. The finding

implies that South African Facebook Marketplace users' trust in the seller of second-hand goods is influenced by their business-motivated relationship developed on Facebook. The finding supports the suggestion under the SNT and the empirical investigations from scholars (Li *et al.*, 2023; Zhai and Chen, 2023). These studies empirically tested and confirmed the effectiveness of social media business-oriented relations (instrumental ties) influence on trust in the seller on social commerce platforms. For instance, the empirical evidence from Li *et al.* (2023) confirmed that the social media instrumental ties of WeChat users have a positive influence on trust in the seller. Therefore, this study confirms the suggestion that buyer-seller instrumental ties developed on S-Commerce platforms influence trust in the seller when purchasing second-hand goods. Therefore, this study affirmed that consumers trust sellers with whom they have established social media ties on the platform. This relationship is important in S-Commerce sales for second-hand goods where a buyer-seller relationship can be established with individuals the buyer has never met before.

6.1.3.3 The influence of the social presence of the web on trust in Facebook Marketplace.

The results of the current study indicate that the SPW has a positive but non-significant influence on TSCP ($\beta = 0.034$, $p = 0.484$), rejecting H3. This evidence implies that trust in the Facebook Marketplace platform for second-hand goods purchase behaviour is not influenced by the website's ability to convey social presence. The results of this study are incoherent with the suggestions of SPT and previous studies (Alamoudi *et al.*, 2023; Al-kfairy *et al.*, 2024; Soren and Chakraborty, 2024). These studies found a positive and significant influence of the SPW on TSCP. Moreover, previous studies (e.g., Leong *et al.*, 2020; Srilatha *et al.*, 2024) have found similar results to the current study. For example, Leong *et al.* (2020) revealed that S-Commerce platform features do not influence the website users trust for commercial purposes. Nevertheless, the current study's results imply that South African Facebook Marketplace users are not influenced by the platform's social presence.

A possible reason for the incoherence between the findings from this study and previous research could be that the context of this study affects how users perceive S-Commerce. In other domains, such as digital cameras, clothing, and aesthetic quality, strong proof exists about the relationship between the SPW and TSCP. However, the prevalence of online fraud, scams, and phishing may undermine users' trust in S-Commerce (Leong *et al.*, 2020).

6.1.3.4 The influence of social presence of interaction on trust in the Facebook Marketplace Platform and the seller.

SPI implies that the quality and frequency of communication between the buyer and seller influence trust in the seller and trust in the social commerce platform. These claims were supported by the empirical investigation of this study, which revealed that the SPI positively and significantly influences TSCP (β = 0.473, $p < 0.001$) and TS (β = 0.43, $p < 0.001$). Therefore, in the current study, H_4 and H_5 were supported. This is in line with the SPT, which suggests an influence of SPI, TS and TSCP. These results imply that South African Facebook Marketplace buyers' trust in Facebook Marketplace is influenced by the quality and frequency of their interactions with the seller. These findings are also in line with previous studies (e.g., Cai *et al.*, 2023; Jadil *et al.*, 2022; Leong *et al.*, 2020; Leung *et al.*, 2020; Wu *et al.*, 2023). These studies revealed that social interaction with the seller positively influences trust in Facebook Marketplace and the seller. These results established that South African Facebook Marketplace buyers' trust in the vendor is influenced by their interaction with the seller.

6.1.3.5 The influence of social presence of others on trust in Facebook Marketplace

The social presence of others is the interaction between buyers through different connections, such as product reviews, likes, referrals, recommendations, and online communities, which influence their trust in the social commerce platform used (Wang *et al.*, 2022). The results of the empirical investigation in this study reveal that the social presence of others has a positive and significant influence on trust in Facebook Marketplace (β = 0.13, p = 0.003). This finding supports H6. This implies that the interaction between South African buyers on Facebook through comments, likes, recommendations, communities and referrals influences their trust in the Facebook Marketplace platform. This empirical evidence supports the SPT claim and the findings of Leong *et al.* (2020), who empirically tested the relationship between social presence and trust in social commerce platforms using data from Facebook and Instagram and advised that interactions with other buyers on social commerce platforms influence trust in that specific platform. This is an interesting finding, as facilitating the interactions between buyers increases the possibility of them trusting the platform.

6.1.3.6 The Influence of Trust in the Seller on the Purchase Behaviour of second-hand Goods

In C2C S-Commerce, trust in the seller, which is the buyer's belief that the seller will act ethically and refrain from using the interactions for subjective advantage, influences the purchase behaviour of second-hand goods on Facebook Marketplace (Wongkitrungrueng and Assarut, 2020). The analysis of the results of testing this relationship revealed that trust in the seller has a positive and significant influence on the purchase behaviour of second-hand goods on Facebook Marketplace ($\beta = 0.535$, $p < 0.001$), supporting H7. The findings suggest that the level of trust a buyer has in a seller on Facebook Marketplace impacts their decision to buy second-hand goods. This result was expected in line with online trust mechanisms and previous studies (e.g., Netshirando *et al.*, 2021; Ting and Ahn, 2023; Yeon *et al.*, 2019). These studies have found a positive influence of trust on the purchase behaviour of buyers on social commerce platforms. This implies that Facebook Marketplace buyers' decision to purchase second-hand goods in South Africa is influenced by the level of their trust in the seller. This finding aligns with previous studies (Tuncer, 2021; Wu *et al.*, 2023) that have also emphasised the importance of trust in the seller about purchase behaviour on S-Commerce. Therefore, building TS on S-Commerce increases the likelihood of users purchasing second-hand goods from the seller.

6.1.3.7 The influence of TSCP on purchase behaviour and trust in the seller

This trust has the potential to influence the buyer's purchase behaviour and trust in the seller. This claim was investigated, and the analysis of the results revealed interesting insights. It revealed that trust in Facebook Marketplace does not influence purchase behaviour of second-hand goods ($\beta = 0.132$, $p = 0.328$), while positively and significantly influencing trust in the Facebook Marketplace seller ($\beta = 0.345$, $p < 0.001$). Therefore, H8 has been rejected and H9 supported. These findings imply that in South Africa, Facebook Marketplace users' decision to purchase second-hand goods is not influenced by their trust in social commerce platforms. However, the results also indicated that when users of Facebook Marketplace trust the platform, they are more likely to trust the seller. The results of H_8 are incoherent with the outcomes of prior research (Attar *et al.*, 2023; Lin and Wang, 2022; Ting and Ahn, 2023) that suggested that TSCP positively affects the PB of S-Commerce buyers. Moreover, the findings of H_9 support the results of Alkhalifah (2022), suggesting that TSCP influences TS. From these findings, it

can be concluded that trust in the Facebook Marketplace platform does not influence purchase behaviour, however, it influences trust in the seller.

6.1.3.8 The influence of sustainable practices on purchase behaviour

Sustainable practices, which involve the prioritisation of sustainability in consumer behaviour by increasing awareness of sustainable practices, seeking sustainably produced goods, and reducing material consumption for a resource-efficient lifestyle (Ma *et al.*, 2019), impact the PB of second-hand goods on social commerce platforms. This claim was tested, and the analysis of the results revealed that consumers' sustainable practices have a positive and significant influence on their purchase behaviour of second-hand goods on Facebook Marketplace ($\beta = 0.259$, $p < 0.001$). This finding implies that South African Facebook Marketplace users' sustainable proclivity influences their decision to purchase second-hand goods. Therefore, H10 was supported. These findings support previous findings by Su *et al.* (2019), suggesting that sustainable consciousness, environmental protection, and health-related characteristics of Generation Z in the USA played a significant role in their purchase of organic foods. Additionally, Parguel *et al.* (2017) suggested that consumer sustainable consciousness has a positive influence on their purchase behaviour of second-hand goods. These findings confirm the theoretical proposition for this study, suggesting that consumers' sustainable purchase behaviour on Facebook Marketplace is influenced by their sustainable practices, specifically their inclination towards the protection of the environment through sustainable consumption behaviour. This finding shed light on the importance of social commerce in contributing to the protection of the environment by facilitating the sale of second-hand goods between buyers.

6.1.3.9 The moderation of sustainable practices

The results indicate that sustainable practices moderate the relationship between TSCP and the PB of second-hand goods on Facebook Marketplace. Trust in social commerce platforms positively affects purchase behaviour, but this effect is reduced by the level of sustainable practices. This means that consumers who value sustainability more are less swayed by the platform's trustworthiness and more by their principles and choices. This finding aligns with previous studies by Rahman *et al.* (2023) and Li *et al.* (2023), which suggested that sustainable practice and environmental regulation moderated the relationships between management commitment, ecological efficiency, and firm performance. Therefore, the current study findings

confirm that sustainable practices of consumers moderate the influence of trust in social commerce platforms on the purchase behaviour of second-hand goods.

6.1.3.10 The Moderation of product types: durable and non-durable goods

The results of the moderation analysis suggest that product types have a moderating influence on the relationship between TS and PB on Facebook Marketplace. Specifically, the results show that trust has a stronger effect on purchase behaviour for durable goods than for non-durable goods. This implies that consumers who buy durable goods are more influenced by their trust in the seller and the platform than consumers who buy non-durable goods. The results support previous findings by Davis *et al.* (2021) and Zhao *et al.* (2021), found that product factors moderated the relationship between advertising, convenience, and user behaviour. These studies suggest that product types are a key factor that affects consumer behaviour and trust on social commerce platforms. This implies that the products sought in the marketplace have a significant influence on the purchase behaviour of consumers. Concerning second-hand goods, the product types moderate the relationship between the SPI, SPO and TSCP. This moderation is enhanced when consumers purchase durable goods compared to non-durables. Therefore, this study confirms the moderation of the product types in the relationship between SPI, SPO and TSCP.

6.2 CONNECTING RESEARCH OBJECTIVES TO FINDINGS

The current study was conducted in South Africa among Facebook Marketplace buyers of second-hand goods. The study recruited buyers who had previously used Facebook Marketplace for transactional purposes from Gauteng's various public places, through the University of the Witwatersrand's email distribution, and through local Facebook groups of buyers. The respondents were aged between 18 and 65 years old.

This section summarises the results of the data analysis in relation to the specific objectives of this study. It evaluates whether the study has met its aims and addressed the research questions.

- The main objective of this study was to investigate the role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace in South Africa. The investigation was guided by signalling, social network and social presence theories.

Concerning the overarching objective of the current research, the structural model analysis revealed two main factors: TS and SPB, which positively and directly influence the PB of second-hand goods on Facebook Marketplace in South Africa. This implies that consumers TS and the SPB influence purchase behaviour of S-Commerce buyers in South Africa. The direct influence of trust in the seller on the purchase behaviour of second-hand goods on Facebook Marketplace was expected, as this factor has proven its efficiency in influencing the purchase behaviour in other online markets. This suggests that for South African Facebook Marketplace users, trust in the seller plays a crucial role in shaping their decision-making journey. In addition, more consumers are becoming aware of the pressing need to act sustainably and incorporate this practice into their purchasing decisions. This led to the prediction that the sustainable practices of consumers would influence their purchase behaviour. This suggestion was then confirmed through the data analysis. This objective was met, and the empirical findings revealed a significant influence of trust in the seller and sustainability on the purchase behaviour of second-hand goods on Facebook Marketplace.

The secondary objectives of the current study that helped to achieve its primary aim are discussed below.

- To investigate the drivers of trust in the seller.

The current study hypothesised that the TS is negatively influenced by SMET but positively influenced by SMIT, SPI with the seller, and TSCP.

The structural modelling data analysis indicated that social media expressive ties have a non-significant influence on trust in the seller on Facebook Marketplace. This could be attributed to the nature of Facebook Marketplace as an open and non-regulated marketplace. In addition, this could be due to the impersonal nature of online transactions, where trust is often built on factors such as seller reputation, transaction history, and customer reviews rather than personal connections.

On the other hand, the positive influence of SMIT, SPI and TSCP has been confirmed. Firstly, the utilitarian aspects of social media connections were found to significantly influence trust in the seller. This implies that users who have benefit-motivated interactions with sellers on social media, such as asking questions about products or discussing transaction details, are more likely to trust those sellers on Facebook Marketplace. Additionally, the positive influence of

SPI and TSCP suggests that users who have positive interactions with sellers and who trust the Facebook Marketplace platform are more likely to trust individual sellers. This underlines the importance of maintaining a high level of interaction and engagement on the platform, as well as the need for Facebook Marketplace to continually build and maintain user trust in the platform. Therefore, the objective of testing the factors that influence TS on Facebook Marketplace was achieved and it was revealed that SMIT, SPI and TSCP are the main antecedents of TS on the Facebook Marketplace platform.

- To investigate the antecedents of trust in social commerce platforms.

The outcomes of the structural model analysis revealed that SPI and SPO are the main antecedents of the TSCP. The third hypothesised factor, which was the SPW, does not influence the TSCP. The results imply that the interaction between the seller and the buyer, as well as the interactions between the buyer and other buyers, are important factors that influence how a buyer trusts Facebook Marketplace. These findings suggest that trust in the platform is influenced by the quality and frequency of the information shared between the seller, the buyer, and other buyers on Facebook Marketplace. The findings show that customers value the interactions on the platform compared to the appearance and characteristics of Facebook Marketplace. Social presence and interactions, and other users on the platform provide a form of social proof, reassuring potential buyers about the credibility and reliability of the platform and its sellers. This underscores the importance of fostering a vibrant and interactive user community on social commerce platforms like Facebook Marketplace. These findings provide valuable insights for the operators of such Facebook Marketplaces, who can focus on enhancing these aspects to build user trust and promote transaction activity. This study achieved this objective and concluded that SPI and SPO are the main factors that influence TS on Facebook Marketplace.

- To examine the role of sustainability in consumer purchase behaviour of second-hand goods on Facebook Marketplace.

The findings revealed that consumers' sustainable practices positively and significantly influence the PB of second-hand goods on Facebook Marketplace.

In examining the role of sustainability in consumer purchase behaviour on Facebook Marketplace, the results of the empirical examination reveal its pivotal role in shaping consumer PB, particularly in the context of social commerce platforms like Facebook

Marketplace. It was found that consumers who are conscious of sustainability are more likely to purchase second-hand goods. This behaviour is indicative of a shift in consumer attitudes, where economic considerations are complemented by a commitment to sustainable practices. The PB of second-hand goods is a tangible manifestation of this commitment, as it promotes the reuse of items, thereby reducing waste and contributing to environmental conservation. This trend is particularly evident on platforms such as Facebook Marketplace, which facilitates the commercial transactions of second-hand goods. Ultimately, the study reaffirms the growing significance of sustainability in shaping consumer behaviour, signalling a shift towards more conscious consumption patterns. Therefore, this study concluded that consumer sustainable practices influence their purchase behaviour of second-hand goods on Facebook Marketplace.

- To examine if there is a difference in consumer purchase behaviour depending on the type of products (CD and CND) sought on Facebook Marketplace S-Commerce.

The analysis of the empirical evidence suggests that a difference exists. Consumers would prefer buying more durable goods compared to non-durable goods and when they do, they are influenced more by their interactions with the seller and other buyers. The analysis reveals a distinct preference among consumers on Facebook Marketplace for durable goods over non-durable ones. This preference could be attributed to the perceived long-term value and utility that durable goods offer. Durable goods, by their very nature, are designed to last and provide ongoing value, which aligns with the sustainability mindset of many modern consumers. This preference for durability underscores a shift in consumer behaviour on social commerce platforms, where quality and longevity are becoming increasingly important purchase considerations. Furthermore, the analysis also highlights the significant role of seller interaction with the buyer and buyer interactions with other buyers in influencing trust, particularly when it comes to durable goods. Consumers seem to place a high value on their interactions with sellers and other buyers on Facebook Marketplace. This is an interesting insight for C2C sellers who would like to generate either extra income or would like to use the platform as their primary business channel to understand the influence of the type of goods on the purchase behaviour of Facebook Marketplace users. Therefore, this study concluded that the type of goods sought on the platform influences the purchase decision.

- To investigate the link between TS and TSCP

This relationship was investigated, and trust in Facebook Marketplace positively and significantly influenced trust in the seller. The findings revealed a significant and positive relationship, indicating that a user's trust in Facebook Marketplace can extend to their trust in individual sellers. This suggests that the credibility and reliability of the platform play a crucial role in shaping users' trust in sellers. This relationship is particularly important in the context of social commerce, where transactions are facilitated through social media platforms. In such settings, the platform's reputation can significantly impact users' perceptions of individual sellers. Therefore, maintaining a trustworthy platform is essential for fostering trust in sellers and promoting successful transactions.

The current study highlights the importance of TSCP, such as Facebook Marketplace. It suggests that efforts to enhance the platform's trustworthiness could have a significant impact on users' trust in sellers, thereby influencing the purchase behaviour of second-hand goods on Facebook Marketplace. This finding provides valuable insights for Facebook Marketplace sellers and Facebook platform administrators and underscores the need for strategies that foster platform trust.

6.3 IMPLICATIONS OF THE STUDY

6.3.1 Theoretical Implications and Contributions

The current study offers various theoretical contributions, expanding the existing knowledge on the understanding of C2C S-Commerce and the PB of second-hand goods, the influence of sustainable practices of consumers, and the role of trust in second-hand goods purchase behaviour in social commerce. This study specifically adds to the existing knowledge of the antecedents of the PB of second-hand goods on Facebook Marketplace.

The first contribution of the current study consisted of theory integration. The conceptual model combined three theories, namely signalling theory, social network theory and social presence theory, generating new insights into the factors influencing the purchase behaviour of second-hand goods on Facebook Marketplace. Signalling theory was used as a base theory to explain the mechanism through which SNT and SPT operate and provide theoretical grounding for the impact of trust on purchases. While both SNT and SPT have been independently applied to

understand consumer behaviour in previous research (Handarkho, 2020; Liu *et al.*, 2017), their combined influence on trust in the context of C2C S-Commerce has not yet been explored. Hence, this study provides new insights into the existing literature by elucidating the factors that contribute to enhancing trust in C2C S-Commerce. The interplay between these three theories is a new insight into how social interactions and perceived social presence impact trust development in S-Commerce.

The second significant contribution to the existing body of literature is an in-depth exploration of the concept of trust. In a C2C S-Commerce environment, trust plays a significant role in customers' decisions to purchase products. Due to uncertainty, a lack of familiarity between the buyer and the seller and a lack of verification standards for second-hand goods, trust remains a prominent determinant of customer purchase decisions. In this regard, previous studies have investigated trust and the influence it has on purchase behaviour considering trust as a single-dimension concept (Attar *et al.*, 2023; Leung *et al.*, 2020; Luo *et al.*, 2020; Srilatha *et al.*, 2024; Wu *et al.*, 2023; Zhao *et al.*, 2019). Therefore, there was a need to consider two dimensions of trust. This study closed this gap by investigating trust in the seller and trust in social commerce platforms. The current study then examined the combined influence of these dimensions of trust on the purchase behaviour of second-hand goods on Facebook Marketplace. This study provided a new insight that generated a new understanding of the purchase behaviour antecedents on Facebook Marketplace.

The third distinctive contribution of this study lies in the examination of actual purchase behaviour among Facebook Marketplace users, a departure from previous studies that focused primarily on purchase intentions. In a C2C S-commerce environment, the purchase behaviour remained less explored as most previous studies have focused on the purchase intentions of users (Al-Haddad *et al.*, 2022, 2022; Bhattacharya *et al.*, 2022; Chen *et al.*, 2022; Doong, 2022; Herzallah *et al.*, 2022; Karakurt, 2021; Ma *et al.*, 2021; Malik *et al.*, 2023; Qin *et al.*, 2022; Wang *et al.*, 2023). In addition, the purchase intention cannot guarantee the actual purchase behaviour. Hence, it was crucial to examine purchase behaviour based on customer experience. This approach offered fresh insights into the dynamics of C2C buying behaviour in S-Commerce.

The examination of two types of goods, consumer durables and consumer non-durable, constituted the fourth contribution of this study, further enriching the scope of the research. In

purchasing second-hand goods in C2C S-Commerce, the type of goods influences the purchase decision. This study examined how consumer purchase behaviour varies across the two types of goods. This is an important insight for individuals who decide to resell the goods they do not need anymore, or who would like to generate some income from their existing goods.

The fifth important contribution of this investigation is the examination of the impact of the SPB on the PB. The current world environmental crisis related to global warming, natural resource depletion and the preservation of the earth's limited natural resources for future generations inspired this study to investigate S-Commerce buyers' sustainable proclivity influence on their purchase behaviour. This examination generated new insight into the resale of second-hand goods, their contribution to the environment, and the influence of consumer sustainable practices on purchase behaviour. By generating this insight, this study contributed to the knowledge of C2C S-Commerce and how this can be used as a means of stimulating sustainable consumption among social commerce users. Most importantly, this study contributes to existing knowledge on sustainability by providing empirically tested proof of the influence of sustainability on S-Commerce users' purchase behaviour of second-hand goods. This finding has the potential to greatly impact the sustainability agenda in a positive direction.

6.3.2 Practical Implications and Recommendations

- *Practical implications related to the development of trust.*

Understanding the development of trust in the marketplace is crucial for stimulating and comprehending C2C S-Commerce. This study's investigation into trust in sellers and social commerce platforms offers valuable insights for practitioners (SADC CNGO, 2011; Yu and Huang, 2021). The C2C marketplace can aid in poverty eradication by enabling private sellers with limited income to generate revenue from selling second-hand goods they no longer need. This process, which occurs without intermediaries, not only increases their benefits but also contributes to societal poverty alleviation. Therefore, understanding how trust is developed can help sellers capitalise on the findings of this study and use second-hand goods marketplaces such as Facebook Marketplace more efficiently. The study revealed three antecedents for TS and two for TSCP, providing important insights for sellers to better understand their operating market.

This study reveals that SMIT, SPW and TS are the main antecedents of trust in the seller. Firstly, the seller should also understand that business transactions are generated from interactions with users who are not very familiar with or are not close friends on the platform. This is an interesting insight that will shape the interaction behaviour between the seller and other social network users. Additionally, to enhance trust, the seller should actively maintain their social interaction presence. This can be achieved by developing frank and open communication with the buyer when they inquire about products sold. The seller's social presence will help the seller form an image of the buyer, thereby understanding what kind of individual the seller is and if s/he can be trusted.

- Practical implications related to the purchase behaviour of second-hand goods.

The purchase behaviour of second-hand goods in this study was influenced by trust in the seller and the sustainable practices of consumers. This implies that government agencies, the United Nations Office for Sustainable Development (UNOSD), and other local and international NGOs promoting sustainability to protect the environment could use the findings of this study by encouraging consumers to think about and incorporate sustainable practices into their daily behaviour, which will influence the purchase of second-hand goods and contribute to the promotion of sustainability.

In addition, Meta-platform, the American organisation that owns the Facebook social network, could also enhance trust in the Facebook Marketplace by creating a verification process linked to individual identities to ensure that no scam or fraud occurs without the seller fearing prosecution. This will enhance trust in the seller, which is an antecedent of the purchase behaviour. Therefore, enhancing trust in the Facebook Marketplace platform influences purchase behaviour indirectly through trust in the seller.

In addition, the second-hand goods market contributes to the circular economy by extending the lifespan of existing products and reducing the impact of manufacturing new goods on the environment. Hence, a thorough investigation into the sale of second-hand goods via social commerce platforms will catalyse the growth of the circular economy. This, in turn, plays a pivotal role in the collective efforts to combat the pressing issues of climate change and global warming. This approach not only promotes sustainable consumption and waste reduction but also contributes to the broader environmental agenda, which is part of the UN SDG Goal 12.

- *Enhancing trust in the seller and the platform*

To increase the likelihood of purchasing of second-hand goods on Facebook Marketplace, the seller should focus on building instrumental ties and enhancing the SPI to foster trust in the seller. This could involve the seller maintaining consistent communication with the buyer through voice or video calls as the buyer wishes, providing clear and detailed product information when posting photos and videos of the items to sell on Facebook Marketplace, and engaging with customers on a personal level through direct chat. For this, the seller needs to keep in mind responsiveness to buyer queries and should ensure that the buyer develops trust in the seller.

To enhance the SPI and SPO on S-Commerce platform, the seller needs to stay alert to consumer requests and be available to provide additional information when the buyer needs it. In addition, the design of the Facebook page on which the seller posts his second-hand goods needs to be well designed with the appropriate colour and font. As consumers interact with others via reviews, recommendations and communities in social commerce, Facebook Marketplace must develop a rating system for the seller. The rating is directed at selling in second-hand marketplaces, which might be a regular activity. Therefore, this will enable buyers to review the ratings of those who post second-hand goods, offering insight into the quality of their past sales. Rating a product in the context of a second-hand goods platform might not help, as the next time a seller posts other goods, the previous rating will become void as it was directed at the specific goods. However, the importance of rating the customer is to show the seller's trustworthiness level based on previous business transactions on the platform. This is an important aspect of the platform, as buyers cannot rate products currently on Facebook and also may not comment on the specific product. The lack of ratings, reviews and recommendations directly through Facebook Marketplace diminishes the possibility of developing trust in the platform and denies buyers the possibility of interacting with other buyers as they do not have a way of communicating their impressions about a specific seller.

To foster trust, Facebook Marketplace must boost its credibility, which will in turn directly increase trust in both the platform itself and the sellers who use it. Facebook could do this by implementing stringent seller verification processes when opting to sell on the platform. Identity verification should be mandatory to ensure that buyers are protected, as they will know

exactly who they are transacting with. Facebook can also ensure that in-app payments are functional and secure. In different countries, the option of paying directly through Facebook exists; however, in South Africa, this method is not effective. Finally, Facebook should implement clear and prompt responses to user complaints related to second-hand goods purchased on the platform. To facilitate efficient handling of complaints, communication about posted goods could be centralised on Facebook Messenger. This would ensure that the complaint handling department has access to all relevant information needed to address any potential issues that may arise. This will enhance users' trust as they know that the seller's failure to fulfil his part will result in a case being opened through the complaint handling department.

- *Promoting sustainable practices*

This study empirically confirmed that the sustainable practices of consumers influence their purchase behaviour on Facebook Marketplace. Therefore, all parties promoting sustainability should encourage Facebook Marketplace users to increase their awareness of sustainability issues. To do this, government departments, local and international NGOs, the UNOSD, and all other individuals promoting sustainability could use Facebook Marketplace to launch campaigns stimulating Facebook users to incorporate sustainable practices into their buying behaviour. This will result in consumers increasing their awareness of planetary issues such as the protection of the environment, global warming and natural resource depletion. This will increase the likelihood of Facebook Marketplace users purchasing second-hand products as part of their sustainable practices.

6.4 CONCLUSION

6.4.1 Study Limitations.

The study has several limitations that should be acknowledged. Firstly, the data collection method employed was a self-reported survey. The use of other techniques such as observation or experiment could provide different insights. This limitation is further compounded by the fact that both online and offline data collection methods were used. Relying on a single method could potentially uncover different insights. Secondly, the study was quantitative. Exploring different research methods such as qualitative or case studies could provide further insight into the phenomena studied. Thirdly, the study used a survey strategy. Employing a different strategy, such as an experiment, could generate different insights into the role of trust and sustainability of the purchase behaviour of second-hand goods on Facebook marketplace.

The current study also had limitations in terms of its scope. It focused on South African S-Commerce users, excluding users in different emerging countries. Different cultural backgrounds could yield different results. Furthermore, the study focused on Facebook buyers. Expanding the scope to include other S-Commerce platforms such as Pinterest or Instagram could provide a broader understanding of S-Commerce dynamics. The study also focused solely on buyers' perspectives on C2C S-Commerce. Including both buyer and seller perspectives could provide new insights.

In terms of data collection, the study employed a questionnaire. Using ethnography, for example, could enrich the S-Commerce field with different insights. Lastly, the sample size of the study was 404. A larger sample size could enrich the C2C S-Commerce field with different insights. These limitations provide avenues for future research to build upon this study and some of them are discussed in the next section.

6.4.2 Directions for Future Research

The directions for future research can be aligned with the limitations of the current study as follows:

Firstly, the current study employed a self-reported survey for data collection. Future research could incorporate diverse research designs such as observations or experiments to broaden the understanding of purchase behaviour. This could also address the limitation of using both online and offline data collection methods by focusing on a single, more comprehensive method. Secondly, the study was quantitative. Future studies could explore different research methods such as qualitative or case studies to provide further insight into the phenomena studied. This could also involve employing a different strategy, such as an experiment, to generate different insights into the role of trust and sustainability of the purchase behaviour of second-hand goods on Facebook marketplace. Thirdly, the current study focused on South African S-Commerce users. Extending the study beyond South Africa to include S-Commerce users from different cultural backgrounds and emerging countries could offer a more global perspective. This could also involve investigating cultural influences on the purchase behaviour of second-hand goods on S-Commerce platforms.

Fourthly, the study focused on Facebook buyers. Investigating the impact of the current model on various S-Commerce platforms, such as Instagram and Pinterest, could reveal platform-specific dynamics that affect purchase behaviour differently.

Fifthly, the study focused solely on buyers' perspectives on C2C S-Commerce. Considering both buyer and seller perspectives in future S-Commerce studies could provide insights into how each party perceives trust differently. Lastly, in terms of data collection, the study employed a questionnaire and had a sample size of 404. Future research could use ethnography to enrich the S-Commerce field with different insights and consider a larger sample size to enrich the C2C S-Commerce field with different insights. These directions could collectively lead to a more comprehensive understanding of S-Commerce dynamics and address the limitations of the current study.

In summary, the rapid growth of social commerce has given rise to S-Commerce. This has changed the way consumers live, buy, and consume different products and services. The comparison between S-commerce and traditional e-commerce revealed that S-commerce presents many opportunities for buyers and sellers to interact and generate income from their social connections. However, Facebook Marketplace presents certain challenges related to trust between the marketplace users that need to be addressed by users, communities, and policymakers. For developing countries such as South Africa and the African continent, Facebook's S-commerce is a developing marketplace that could be exploited by individual sellers by bypassing traditional intermediaries to generate more income. In addition, the platform, with its large audience and majority of young users, could also be used as a sustainability promotion channel to stimulate users to exchange used goods, thereby lengthening their lifespan and reducing the impact of new goods production on the environment. All stakeholders, such as marketers, policymakers and Facebook users, need to take cognisance of the antecedents of trust in the platform and collaborate on how to design measures that will facilitate its development to increase the likelihood of consumers trusting the platform and using it for goods purchases.

The current study reviewed literature, designed and implemented a quantitative study, and analysed the data with statistically robust techniques and tools to understand the antecedents of the purchase behaviour of C2C Facebook Marketplace in South Africa. Trust in the seller appeared to be the main contributor to the purchase behaviour of second-hand goods on Facebook Marketplace. Additionally, the investigation into sustainable practices by consumers

revealed that South African Facebook Marketplace buyers' proclivity to sustainable practices impacts their purchase behaviour. This study revealed an interesting insight related to trust issues. Facebook Marketplace users' trust in the platform influences trust in the seller as well, which, in turn, influences the purchase behaviour of second-hand goods. Furthermore, this study revealed that social network relationships and social presence factors influence trust in the seller and trust in S-Commerce platform. These insights should be utilised by buyers to maximise their marketing strategies on the platform.

This chapter presented the findings based on demographics, central tendency measures, hypothesis testing and implications. It described the study's limitations and explored different avenues for future research resulting from these limitations.

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APPENDICES

APPENDIX A : COVER LETTER AND QUESTIONNAIRE

QUESTIONNAIRE

Title: The role of trust and sustainability on customer - to - Customer purchase behaviour of second-hand goods on Facebook Marketplace

Dear Sir / Madam,

My name is Ngandu Robert Buasha and I am a student in Master of Commerce in Marketing at the University of Witwatersrand, Johannesburg. As part of my studies, I have to undertake a research project, and I am investigating "The role of trust and sustainability on customer-to-customer purchase behaviour of second-hand goods on Facebook Marketplace" with Dr. Issock Issock Paul as supervisor. The aim of this research is to examine the factors that influence the purchase of second-hand goods on Facebook Marketplace.

As part of this research, you are invited to take an online survey that will take about 15 minutes. There are no personal costs or direct benefits for participating in this 15-minute online survey for research purposes. Participation is voluntary, and you may withdraw at any time without any negative consequences. The survey is anonymous, and your information will remain confidential.

Please contact us using the information below, should you have any questions regarding this study at any time during or after the questionnaire survey is completed. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to

contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecmedical.researchoffice@wits.ac.za

Thank you for your time and cooperation in advance!

Yours sincerely,
N Robert

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CONSENT FORM

Title: The role of trust and sustainability on customer -to -Customer purchase behaviour of second-hand goods on Facebook Marketplace

Researcher: Ngandu Robert Buasha

I agree to participate in in this research project. the research has been explained to me and I understand the terms and extend of my participation. I agree to the following:

I understand that my participation will remain anonymous Yes ☐ No ☐

I understand my right to withdraw from participation at any time without facing any consequences Yes ☐ No ☐

I understand that the information I provide will be used in a anonymous format for academic purposes Yes ☐ No ☐

…… (signature)
…… (name of participant)
…… (date)

…… (signature)

…… (name of researcher/person seeking consent)
…… (date)

Date: 2023/……./…….

Questionnaire

ID

Consumer Durables (CD)

Consumer Non-Durables (CND)

Important Definitions

1. ***Second hand goods***: Products that have been previously owned by someone else.
2. ***Consumer durable goods*****:** Goods that have a long lifespan or that can be used several times before it is destroyed. Examples of consumer durable goods include appliances, furnitures and some electronics
3. ***Consumer non-durable goods*****:** They are goods that have a shorter lifespan and cannot be used over a long period. Example: Over the counter medicine such as aspirin, Dishwashing liquid, bathing soap etc.…

Note: *Email addresses, personal details and cell phone numbers are not required when answering this online questionnaire.*

Screening Questions

(*Please tick the relevant answers below*)

A.1 Are you between the age of 18 and 65?

Yes. ☐ No ☐

A.2.Have you purchased any second-hand goods (see definition above) online in the last 12 months?s

Yes ☐ No ☐

A.3. When did you last bought a second-hand product online?

……

Section A: Purchase Behaviour (*Tick the appropriate box*)

A.1. In the list of durable and non-durable goods below, select the one you have purchased on Facebook Marketplace in the past **six months**?

(More than one option can be selected)

Durable Good	
1. Car Parts	
2. Appliances	
3. Electronics	
4. Furnitures	
5. DIY & tools	
5. Jewellery and Watches	
6. Luggage and Bags	
7. Musical instruments	
8. Patio & garden	
9. Vehicles	
10. Sporting Goods	
11. Antiques and collectible	
12. Art and Craft	
13. Baby items	
14. Books, film & music	
15. Men clothing & shoes	
16. 6. Women clothing & shoes	
17. 8. Toys & games	
Other (*Please specify*) ……	

Consumer Non-Durable Goods	
Food and beverages: Milk, bread, fruits, vegetables, canned goods, soft drinks, snacks, breakfast cereals, bottled water, coffee, tea, and packaged desserts.	
Personal care products: Soap, shampoo, toothpaste, deodorant, body lotion, razors, shaving cream, cosmetics, diapers, feminine hygiene products, and laundry detergent.	
Household cleaning products: Dishwashing liquid, surface cleaners, disinfectants, laundry detergent, fabric softener, air fresheners, and toilet paper.	
Pharmaceuticals: Over-the-counter medicines, vitamins, cough syrup, pain relievers, cold and flu remedies, and allergy medications.	
Pet care products: Pet food, pet treats, cat litter, pet shampoo, and flea/tick treatments.	
Office supplies: Paper, pens, pencils, markers, staplers, notepads, glue, and tape.	
Tobacco and tobacco-related products: Cigarettes, cigars, chewing tobacco, and rolling papers.	
Others (Please Specify)	

A.2. In the list of items selected in question A1 above, list 3 items you have recently purchased (in the last 6 months)

1. …….
2. ……..….
3. ……..….

A.3. Approximately, how much money have you spent on the three second-hand items mentioned in A.2 above?

Item 1: _R_____

Item 2:_R_____

Item 3:_R_____

A.6 Indicate your level of agreement with the statements below.

Purchase Behaviour		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PB1	I have purchased second-hand items in the last 6 months.	1	2	3	4	5
PB2	I have spent my resources on second-hand items in the last 6 months.	1	2	3	4	5
PB3	I have browsed through Facebook Marketplace to find second-hand items in the last 6 months.	1	2	3	4	5

Section B: Social network & Social Presence Factors, Trust and Sustainability

(*tick the appropriate box*)

Social Network Factors		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Social Media Expressive Ties						
SMET1	I have developed a personal relationship with the seller in Facebook Marketplace	1	2	3	4	5
SMET2	I stay in touch with Facebook Marketplace seller to buy other items in addition to purchasing the item.	1	2	3	4	5
SMET3	I use Facebook to have conversations about personal matters with the seller	1	2	3	4	5
SMET4	I consider seller's interest when buying from them on Facebook Marketplace	1	2	3	4	5
Social Media Instrumental Ties						
SMIT1	I use Facebook to communicate with the seller about their products	1	2	3	4	5
SMIT2	I stay in touch with the seller on Facebook Marketplace to receive additional discounts and services, such as pre- and post-sales support	1	2	3	4	5
SMIT3	I contact the seller on Facebook Marketplace when I require their product.	1	2	3	4	5
SMIT4	I directly ask the seller on Facebook Marketplace for help, advice or guidance with issues relating to the product	1	2	3	4	5
Social Presence Factors		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Social Presence of Web						
SPW1	The seller's Facebook page conveys a feeling of human connection	1	2	3	4	5

SPW2	There is a sense of personal connection when visiting the seller's Facebook page	1	2	3	4	5
SPW3	The seller's Facebook page is sociable	1	2	3	4	5
SPW4	The seller on Facebook Marketplace creates a welcoming and friendly online environment	1	2	3	4	5
SPW5	SPIS	1	2	3	4	5
Social Presence of Interaction with the Seller						
SPI1	I can understand the sellers better when interacting with them on Facebook messenger	1	2	3	4	5
SPI2	I can imagine how the Facebook Marketplace seller look like when interacting with via Facebook messenger	1	2	3	4	5
SPI3	The communication with the seller via Facebook messenger has a human touch	1	2	3	4	5
SPI4	There is a warm feeling when communicating via Facebook messenger	1	2	3	4	5
Social Presence of Others						
SPO1	Many other buyers show interest in products on Facebook Marketplace	1	2	3	4	5
SPO2	Facebook Marketplace has a large community of buyers sharing product information	1	2	3	4	5
SPO3	A significant number of other buyers have made purchases through Facebook Marketplace	1	2	3	4	5
SPO4	When using Facebook Marketplace, the interaction with other buyers is personal	1	2	3	4	5
Trust		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Trust in Seller						
TS1	I have great confidence in the sellers on Facebook Marketplace	1	2	3	4	5
TS2	When I face any issues, I am open to discussing and resolving them with the seller	1	2	3	4	5
TS3	I have a close relationship with the seller on Facebook Marketplace	1	2	3	4	5
TS4	I interact with the seller in a sincere and friendly manner.	1	2	3	4	5
Trust in Social Media Platform						
TSCP1	The performance of Facebook Marketplace consistently meets my expectations	1	2	3	4	5
TSCP2	Facebook Marketplace can be considered as reliable platforms	1	2	3	4	5
TSCP3	The features offered by Facebook Marketplace are of high quality	1	2	3	4	5
TSCP4	The features provided by Facebook Marketplace are dependable	1	2	3	4	5
Sustainable Purchase Behaviour		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SPB1	When shopping, I deliberately check products for environmentally harmful Ingredients	1	2	3	4	5
SPB2	When shopping, I deliberately choose products with environmentally friendly packaging	1	2	3	4	5
SPB3	I'll prefer to buy sustainable products even if they are expensive than others.	1	2	3	4	5
SPB4	While purchasing, I see environmental and fair-trade label before buying the products	1	2	3	4	5

Sustainable Purchase Intension		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
S(P)I 1	In the future, I am likely to choose C2C platforms offering second-hand clothing the next time I am shopping for clothing items.	1	2	3	4	5
SPI 2	In the future, I am likely to choose C2C platforms offering second-hand clothing instead of buying newly manufactured clothes.	1	2	3	4	5
SPI 3	In the future, I am likely to recommend C2C platforms offering second-hand clothing to my family and friends	1	2	3	4	5
Second-hand Goods Purchase Motivations		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Economic Motivation						
E1	I can afford to buy more clothes because I pay less when I buy second hand.	1	2	3	4	5
E2	I can have more clothes for the same amount of money if I buy second hand.	1	2	3	4	5
E3	I don't want to pay more for a clothing item just because it's new.	1	2	3	4	5
E4	By buying second hand, I feel I'm paying a fair price for clothes	1	2	3	4	5
Bargaining Power Motivation						
BP1	I feel that I'm getting a bargaining power while buying second-hand products	1	2	3	4	5
BP2	Fixed Unlike the primary market, I can easily bargain for price while shopping for second-hand products	1	2	3	4	5
BP3	I can buy a second-hand product for the price that I have in my mind through bargaining	1	2	3	4	5
Sustainability Motivation						
SUS1	Buying second-hand clothing helps save natural resources.	1	2	3	4	5
SUS2	Buying second-hand clothing is a sustainable mode of consumption.	1	2	3	4	5
SUS3	Buying second-hand clothing is efficient in terms of using energy.	1	2	3	4	5
SUS4	Buying second-hand clothing is environmentally friendly	1	2	3	4	5
Environmental Consciousness						
EC1	When I think of companies doing business by polluting the environment, I feel frustrated and angry	1	2	3	4	5
EC2C	When two products are similar, I tend to choose a product that is less harmful to the environment even if it is more expensive	1	2	3	4	5
EC3	I refuse to purchase products sold by the company if they seriously damage the environment," "When I buy products, I always choose products that are environmentally certified even if they are more expensive	1	2	3	4	5
EC4	I am often interested in environmental knowledge and information, trying to find and remember relevant knowledge and information	1	2	3	4	5

Section C: Demographics (*This section is only for statistical purposes*)

C.1. Please indicate your gender

Male	Female	Prefer not to say
1	2	

C.2. What is your age group?

18-25	26-35	36-45	46-55	56-60	Prefer not to say
1	2	3	4	5	

C.3. What is your marital status?

Single (Living alone)	Married or living with a partner	Living with parents	Divorced or separated	Prefer not to say
1	2	3	4	

C.4. What is your highest education level?

None	Primary School	High School	Diploma	Degree	Postgraduate (Honours, masters, PhD)	
1	2	3	4	5	6	

C.5. what is your household 's total income per month (for all the house household combined)?
[*this is for statistical purpose only*].

Less than R10,000	R10,0001– R25,000	R25,001- R40,000	R40,001 – R55,000	R55,001 - 60,000	Above R60,000	Prefer not to say
1	2	3	4	5	6	

Thank you for your participation.

APPENDIX B: ETHICAL CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Buasha

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H23/07/05**
PROJECT TITLE	The role of trust and sustainability on customer -to- Customer purchase behaviour of second-hand goods on Facebook marketplace
INVESTIGATOR(S)	Mr N Buasha
SCHOOL/DEPARTMENT	Business Sciences/
DATE CONSIDERED	21 July 2023
DECISION OF THE COMMITTEE	Approved Risk Level: Minimal
EXPIRY DATE	27 August 2026

DATE 28 August 2023 **CHAIRPERSON** _____ (Professor J Watermeyer)

cc: Supervisor : Dr P Issock Issock

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **A SIGNED COPY** returned to the Secretary electronically. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I/we agree to completion of a regular progress report. For Minimal and Low Risk studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

_____ 2023 / 08 / 30
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES