2024

The Influence of customers last mile delivery experience on the adoption of ecommerce: a case of Jumia.

Muddie, Collins
Strathmore Business School
Strathmore University

THE INFLUENCE OF CUSTOMERS LAST MILE DELIVERY EXPERIENCE ON THE ADOPTION OF ECOMMERCE: A CASE OF JUMIA

MUDDIE COLLINS

DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER IN COMMERCE DEGREE AT STRATHMORE UNIVERSITY

APRIL 2024

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

Muddie Collins

Reg No. **57243**

Signature:  **Date:** 28th April 2024

Approval

The dissertation of Muddie Collins was reviewed and approved by the following:

Supervisor:

Prof. Joseph Onyango

Associate Professor

Strathmore Business School

Signature:  **Date:** 28th April 2024

Dr. Ceaser Mwangi

Executive Dean

Strathmore University Business School.

Dr. Bernard Shibwabo

Director, Office of Graduate Studies

ACKNOWLEDGEMENT

I would like to express my gratitude to my savior Jesus Christ who has spared me and favored me throughout the journey, may all the glory return to You. My sincere thanks to my supervisor Prof. Joseph Onyango for bearing with me and calling me out especially when I appeared to lose focus. I thank my employer and colleagues for providing an enabling environment for me to pursue this personal development. To my life mate thank you for cheering and jeering me on, it was all worth it. Lastly to my SBS classmates thank you for the support and accountability.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

CXD-LMD-Customer delivery experience—Last-mile delivery

DD- Door Delivery

NACOSTI-National Commission for Science and Technology

PUS- Pick up Station.

SBS- Strathmore Business School

DEFINITION OF TERMS

Ecommerce Adoption: is defined as the consumers decision to use the internet services for the purchase and delivery of their products.

Last mile Delivery: The last leg of a business-to-consumer parcel delivery service

Pick up stations: a location that offers a parcel pickup and drop off service. The stations are usually in areas that are easily accessible by most of the customers. It might be a local shop or retail outlet.

Door Delivery: is the delivery of goods to a customer's determined location that can be their home or workplace instead of having them collect the package from a pick-up station.

ABSTRACT

E-commerce has been steadily growing and causing disruptions in the way businesses operate. The convenience of online shopping creates both opportunities and challenges to the stakeholders that use it. Businesses prefer managing their supply chain processes to attain optimum efficiency for their survival. Logistics partners must respond to this change by providing efficient deliveries that are secure and reliable. Consumers of ecommerce on the other side are demanding convenient options for last mile delivery of their goods. The objective of the study was to determine the influence of customers' last mile delivery experience on ecommerce adoption. The study got respondents that used the Jumia Kenya online platform and focused on their last mile delivery experience while using two of the main last mile delivery options; Pick up Stations and Door Delivery. The research measured the customer experience at the last mile using the CXD-LMD model. The research design used was quantitative and there was use of a cross sectional approach that enabled the researcher to collect data at the same time from different Jumia customers located in Nairobi. The research utilized structured questionnaires from a selected sample of 398 respondents. Data collected was analyzed using descriptive statistics, correlation analysis and regression analysis. The results on the influence of pick-up station delivery experience on ecommerce adoption by customers, the study concluded that pick-up station delivery experience boosts ecommerce adoption especially where the parcel tracking feature is available as it boosts the joyful anticipation of the customer. For the door delivery experience the study concluded a positive influence in terms of the delivery efficiency and the convenience which improves ecommerce adoption. The study recommends to management and Ecommerce firms on the need to ensure the last mile delivery solution is fitted with the right features like parcel tracking that show the progress of the delivery and the anticipated time the product would get delivered to the customer. The study also emphasized the importance of the visual appearance of the delivery vehicles, the packaged products and the appearance of the delivery persons as contributors to the ecommerce adoption. Businesses should use this as elements of competitive advantage. This study solely relied on questionnaires, future studies can incorporate interviews, observations and focused group discussions to get a more in depth understanding of the relationship between last mile delivery experience options and ecommerce adoption.

CHAPTER ONE:

INTRODUCTION

1.1 Introduction

This chapter introduces the thesis by providing a background of the study and mentions the dependent and independent variables that will be covered. The chapter will review the ecommerce sector then explain the problem statement before sharing the research objectives and questions. The last parts will be to show the scope of study and its significance to various stakeholders.

1.2 Background to the study

E-commerce has grown at a high rate and has disrupted the way people shop. Clients are now demanding deliveries to be made on the same day, within the same-hour and at their convenience. The number of freight movements because of this keeps soaring as well captured by (Savelsbergh & Van Woensel, 2016).

In the past two years e-commerce growth has been catalyzed by the impact of Covid-19 resulting in increased purchases. Research by (Statista, 2021) showed that in 2018, 93% of internet users in the US made at least one online purchase, in the UK the percentage was even higher at 97% and for China it was 92%. The same report ranked the Kenyan market with revenues of up to 3.2 billion dollars as the 64th largest in online purchases.

Globally ecommerce sales are expected to increase beyond the current growth rate of 17% in 2023. According to Government of Kenya (*Kenya Vision 2030 (Popular Version)* | *Kenya Vision 2030*, 2012) it has listed the retail sector as among the priority areas to spur the country towards a middle-income economy (Mogire et al., 2022). The 5 main markets within ecommerce to drive this are Electronics, Fashion, Toys, Furniture & appliances and Personal care items.

This adoption of e-commerce is driven by a myriad of factors. In study that was commissioned by the Commission Authority of Kenya in April 2014 on E-commerce established the availability of Internet services and access to financial services as two key

drivers of e-commerce. UNCATAD observes that Kenya is only second to Mauritius when you measure the percentage of its population that owns a financial account and can transact online this is supported by the high usage of Mpesa as a well-established mobile money system. These features are relevant to catalyze growth of ecommerce in Kenya.

There is significant data and research work done to link technological advancements to ecommerce adoption. Apart from this there are other supplementing factors that drive the adoption of ecommerce but are not sufficiently studied like the logistics process and how it interacts with customers who can form perceptions that would determine their future use of the ecommerce platforms.

1.1.1 Customers Last Mile delivery Experience

Vrhovac et al. (2023) points out that the growing urbanization and ecommerce are the key drivers for the increased demand for last mile delivery services. For a product to move from an online sale to the customer it is facilitated by fulfillment centers, first mile, middle mile and last mile logistic solutions.

The effectiveness of the sale is measured from the time the order is placed online to the time it is delivered to the client. In the UK around 2004 (Fernie & Mckinnon, 2008) noted that logistics providers reported a 30% failure rate for first attempt deliveries of small packages dispatched to customer homes. This failure led to poor customer services experiences and further logistical inefficiencies. These inefficiencies have a ripple effect on future usage of online platforms hence the need to ensure that the last mile delivery experience in place is working to facilitate the online sale not hinder it through failed deliveries.

Lim et al. (2018)) defines Last-mile as the last phase of a business-to-consumer parcel delivery service. At this stage there is a direct connection between the service provider and the end customer. For (Janjevic & Winkenbach, 2020) considers last mile to be the greatest element of the supply chain process. Gevaers et al. (2014) further describes it as the delivery process that happens from the time the parcel is shipped from the last distribution center to the moment it is delivered to the customer at home or is picked from a pickup point.

This study focused on the customers' Last-mile Delivery experiences, which is at the tail end of the ecommerce process but still plays an important role. According to (Goodman, 2005) Last mile delivery takes up 28% of all movements within the supply chain and accounts for close to 40% of total supply chain costs as described by (Gevaers et al,2009). It is for this reason that the study narrowed down to understanding the influence of the customer last mile delivery on ecommerce adoption.

There are various concepts for last mile delivery that (Boysen et al., 2020) ably summarizes into three broad categories. First are concepts currently in practice, these are concepts already being applied all over the world to process most of the shipments. It involves deliveries to the door usings vans or bikes by a human delivery person. The delivery agent hands over the parcels directly to the customer. The other common option for this concept occurs at pick up points where multiple parcels for more than one customer are consolidated to allow for customers to collect. The pickup point is usually situated in convenient areas for customers to easily access like supermarkets or convenience stores and is manned by a person who issues out the parcels. These two are among the most popular last mile delivery models (Yuen et al, 2017) and are going to be the focus of this research.

The second concept is for technology that is currently in its evaluation stages better referred to as the near future. Most of these concepts have been applied in field tests with success, they include solutions like drones, crowd shopping and autonomous delivery robots as alternative last mile delivery options (Boysen et al., 2020).

Lastly are the further future concepts that are yet to fully develop the critical technological components. In this category the elementary system parts are not yet readily available. The concepts include options like the alternative drone launching platforms, technology on the autonomous driving, and the tunnel-based cargo transport. Berg et al. (2016) explains one of these concepts in his patent for the flying warehouse where he aspires to have an airship hovering around cities and once an order has been made a drone can be quickly launched to make the delivery to customer from the sky.

The experience one has with delivery at the last mile can influence the overall online shopping experience as is noted by (Donegan, 2000). Understanding the delivery process at the last mile and how it connects to the customer experiences is therefore very important as

this affects the adoption of ecommerce. The readily available last mile delivery solutions are Door delivery to the home of the customer and the Pick-up stations which are going to be the focus of this study.

To measure customer delivery experience in last mile (Vrhovac et al., 2023) describes a measurement scale that is inspired by (Olsson et al., 2022) and (Lemon & Verhoef, 2016) general framework model of user experience. To evaluate the evaluate the last-mile delivery experience (Vrhovac et al., 2023) points out the six aspects: Parcel tracking, Visual appeal, Delivery efficiency, Smooth delivery, Joyful anticipation and lastly Convenience. These aspects were tested against the two independent variables to establish which would be suitable to use to best explain the experience of the variable. From the tests it was established that Parcel tracking and the joyful anticipation aspects would best explain the delivery experience at the pickup station. Visual appeal, Delivery efficiency, Smooth delivery, and Convenience were used to explain the customers door delivery experience.

Olsson et al. (2022) clearly points out last mile delivery is not just about moving parcels to the customer but rather it also entails the services provided to customer though the process. Following this line, there is an expectation that customer experience during the last mile delivery influences their adoption of ecommerce.

1.1.2 Ecommerce adoption

Globally, ecommerce trends by customers are increasing demand for online shopping experiences (Pham et al.,2019). Ahmad et al. (2013) describes ecommerce as the use of the internet to facilitate buying and selling of products. According to research by Communications Authority of Kenya in 2015 they describe e-commerce as using the internet as a medium for the selling, paying and delivering of products to consumers. For the purpose of this study and building from these definitions e-commerce is referred to as the set of activities that take place on the Internet to facilitate the purchase of a products.

Adoption on the other hand is described by (Hall & Khan, 2002) with respect to technology as the choice to acquire and use an invention or innovation. Rogers (2003), further defines adoption as the decision to fully utilize an innovation as the best course of action available.
Ecommerce adoption is the decision to use internet services for the purchase and selling of products. For the context of this study, ecommerce adoption by consumers is defined as the

decision by the consumers to use the internet services for the purchase and delivery of their products. To review this adoption of ecommerce by consumers this study utilized the research model developed by Rogers by using the five perceived characteristics of innovation which are, Relative advantage described as the extent to which e-commerce can provide greater benefits for the consumer compared to traditional instore shopping. Compatibility refers to the extent to which technology is felt in accordance with the needs and processes that exist for the consumer. Third is complexity – which is the extent to which e-commerce technology is perceived as more difficult or too complex to be used than the old ideas that have been used before. Fourth is trialability which is a measure of how simple it is use a new product or technology and fifth is observability which is described as how well the new technology is understood by the user (Religia et al., 2021).

Different authors have used these measures, (Wu et al., 2005) in his study established that among the 5, compatibility appeared to have the significant influence that contributed to the consumers intend to use a new technology. Joo et al. (2006) on the other hand suggests in his study that relative advantage positively influences the adoption of new technology. Sarrina Li (2004) while studying the adoption of interactive cable TV noted trialability positively influenced the adoption of new technology.

E-commerce adoption is very important for businesses and countries as a source of competitive advantage. Mogire et al. (2022) notes that more than half- 50.6% of total global e-commerce sales in 2022 was attributed to China. The impressive position held by China was not by fluke, (Yi, 2022.) attributes the growth status to the strategic investment by the government in areas that support the ecommerce process like last mile delivery service, among other factors. Chinese businessman and founder of Alibaba, Jack Ma suggest that ecommerce is necessary for any business survival. Wambugu (2017) states that businesses have no option, they either go online or risk perishing.

Turban (2010) notes that the key advantages derived from ecommerce are improved productivity, increased revenue, reduced cost, reduced processing time and increased customer loyalty. Although access to internet services and smartphones is driving the adoption of ecommerce, the physical movement of goods still must be facilitated out of the precinct of technology.

1.1.3 Ecommerce Sector in Kenya

The ecommerce sector in Kenya has experienced tremendous growth in the last decade. Despite this growth the sector is still considered to be in its early stages and the proof of this is in the optimism seen with online companies that are setting up shop to run operations in Kenya (Kabuba, 2014). The market is available for the taking and businesses are setting themselves up to take advantage of this.

Kenya has numerous ecommerce sites; the most used ones are Masoko which is owned by Safaricom and focuses on selling phones and related gadgets. Cheki Kenya is an advertising ecommerce platform for buyers and sellers to advertise their vehicles. Naivas online supermarket is an online grocery store for clients to conveniently shop without leaving their house. Sky Garden is another ecommerce platform that sells a variety of products from phones, furniture, home appliances, clothes, electronics. Jiji allows users to buy and sell phones, cars, shoes, bags, furniture, clothing, and many others. Kilimall has also carved out it space as an e-commerce marketplace platform that allows its customers to buy goods and services online as well as provide traders the same platform to sell any type of goods or service (Mohamed, 2021). Within this space we also have Jumia which was founded in 2012 as an online marketplace initially operating only in Nigeria but they have since extended operations across Africa with setups in 16 African countries. Jumia has operated in Kenya since 2013 as an online retailer with a vision to revolutionize the shopping experience in Africa.

Jumia has more than 1.5 million subscribers in Kenya who enjoy more than 5 million products listed on their website. They have listed more than 80,000 vendors who sell products on their online platform and have established fulfillment warehouses, sorting centers and last mile hubs with door delivery capabilities across Kenya. Jumia's last mile service is done through the more than 1000 pick-up stations it has. They also do door deliveries using more than 500 delivery agents mapped across the cities delivering physical goods and groceries as on demand services for restaurants and other retail stores. Jumia is ideally set for this study as it provided an environment where we accessed both new and existing consumers that used their platform and had chosen between the door delivery or the pick-up station model as their

preferred last mile delivery option during the online purchase process and had experiences that were vital for this study

1.2 Problem definition

Scholars and businessmen are having to adjust to the growth of ecommerce and the challenges that it brings. Mangiaracina et al. (2019) noted the new challenges that the growth of e-commerce provides to companies and that need to be investigated by businesses to establish opportunities for competitive advantages. There has been considerable research looking at the internet revolution and how it has affected the growth of ecommerce. Haryanti and Subriadi (2020) did this using a literature review approach to classify the journey of technology acceptance in e-commerce as a driving factor for the adoption of e-commerce.

Vakulenko et al. (2019) researched and found out that a customer's behavior can be affected by innovation. Ignat and Chankov (2020) went further with their research by looking at the environmental and social consciousness of e-commerce customers in choosing a preferred last-mile delivery solution.

Datta (2010) on the other hand has looked at the mechanics in developing countries, the facilitating conditions and their importance in understanding actual e-commerce adoption. Viu and Alvarez (2020) had a different view in their literature review as they focused on the impact of last mile logistics in the cities on ecommerce. More recently (Suguna et al., 2021) during the covid pandemic reviewed various last mile projects to understand what factors had stood out to influence ecommerce adoption. The focus of research on ecommerce and last mile delivery is mostly narrowed to environmental sustainability and customer service effectiveness as articulated by (Mangiaracina et al., 2019) review of more than 75 published papers between 2001 and 2019.

In Kenya, Wangari (2016) researched on E Commerce by looking at what influenced customers perspectives within the town of Thika. It is almost apparent that research on the factors affecting e-commerce adoption is mainly focused on technology and consumer behavior. Research on last-mile delivery options is limited. Last mile delivery options are facilitating conditions that play a critical role in e-commerce adoption. As pointed out by Olsson et al. (2022) research has been done almost comprehensively on customer experience but when it comes to the role of the delivery experience at the last mile and how that affects a

customer's willingness to visit an ecommerce platform again this is still limited and fragmented. The effect of this however has not been clearly established through research.

This study aimed to establish the influence of a customer's last mile delivery experience on the adoption of e-commerce by consumers. Jumia's leading position within the ecommerce sector in Kenya provided a good setting for this research. If online sales are to be fulfilled using last mile solutions, there is need for a better understanding of what the last mile delivery experience. Ecommerce adoption fails if last mile delivery is not working and vice versa. It is for this reason that (Olsson et al., 2022) insists on having last mile delivery understood and made to work to produce delightful experiences for customers.

1.3 Research objectives

The objective for this study was to determine the influence of last mile delivery experience on the adoption of e-commerce by consumers.

1.3.1 The Specific Objectives

i. To determine the influence of customer's Pick-up station delivery experience on ecommerce adoption by customers.
ii. To establish the influence of customer's door-to-door delivery experience on ecommerce adoption by customers.

1.3.2 Research questions

The specific question was focused on the customers last mile delivery experience for the two prevalent options used in Kenya and by Jumia. The specific questions were.

i. What is the influence of the delivery experience at a Pick-up station to the on-e-commerce adoption by customers?
ii. What is the influence of the delivery experience done to the door on e-commerce adoption by customers?

1.4 Scope of the study

This study looked at the influence of last mile delivery experience with a concentration on the two predominant last mile delivery solutions in Kenya that are, the pick-up locations and the door-to-door deliveries and how they influence a consumer to adopt ecommerce. The scope

was on the Jumia ecommerce platform which is regarded as the biggest player in the ecommerce industry in Kenya (*Kenya - ECommerce*, 2021).

The target population was clients within Nairobi that purchased items from the Jumia website which as ranked as a preferred site by online consumers across Kenya (Statista, 2021). The study was limited to Nairobi County considering it is the capital city of the country and accounts for almost 30% of the GDP according to the (Business Daily, 2022). The specific objectives were to determine the influence of Pick-up station delivery experience on ecommerce adoption by customers and to establish the influence of door delivery experience on ecommerce adoption by customers. The study focused on these two objectives with the aim of broadening the available literature on this topic. Because of the limited time for the study the data collection instrument had to be one that can be easily accessed and reliable to collect huge amounts of data quickly. For these reasons the researcher opted for questionnaires to collect data for this study that was done between April and May of 2023. The questionnaires were administered electronically through google forms to the respondents.

1.5 Significance of the study

The adoption of e-commerce breeds benefits such as better external communication, extended markets, increased revenue, increased company image, improved speed of processes, and employee loyalty and productivity. Customers' last mile delivery experience can be harnessed by business as a competitive advantage. Understanding the significance of a great experience during the last mile delivery benefits the customer, the business, the entire sector and even the government in formulating the right policies.

1.5.1 Significance to Government

This study's findings are for the Kenyan government specially the Ministries of information, transport and Trade to develop policies that will create a conducive environment for last mile innovations to drive and grow the e-commerce ecosystem as a driver of economic development.

1.5.2 Significance to Businesses

Businesses' competitive advantage can be derived from this study's findings and with proper application it will provide unique value to attract and retain customers. Businesses can also better map the customers' adoption journey as it is influenced by the customers experience during the last mile delivery.

1.6 Chapter Summary

This is the introductory chapter that covers the background, and gets into a breakdown of the independent variables, last mile delivery solutions and the dependent variable which is ecommerce adoption. The chapter also covers Jumia as the focus organization for the study, after this it touches on the problem definition then followed by the research objectives and questions. Before concluding the chapter covers the scope and the importance of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the existing literature on the influence of last mile delivery experience on the adoption of e-commerce by consumers. Focus was on the theoretical review, empirical review, and the conceptual framework.

2.2 Theoretical review

The theory of the Diffusion of Innovation will help explain the dependent variable which is ecommerce adoption by consumers. The researcher used the CDX-LMD measurement model to measure and explain the independent variable that is customers Last mile delivery experience by apportioning the six aspects to the two last mile delivery options available for review within the research questions.

2.2.1 Diffusion of Innovation Theory

Gabriel Tarde (1904) is the grandfather of this theory with his initial diffusion research that postulated that social change occurred through the penetration of new ideas and inventions through the process of imitation. He is credited with plotting the original S-shaped diffusion curve signifying the number of users during the early adoption stages.

Ryan and Gross (1943) further developed this by introducing adopter categories through their research on the adoption of hybrid seed among the agricultural communities of Iowa.

Rogers (1962) synthesized the research on the diffusion of innovations and utilized Beal and Bohlen adopter categories as basis for his work which he refined the categories and presented the 5 stages. The five categories are led by innovators: who want to try out new things first, Early adopters: majorly people in leadership roles, Early majority: not made up of leaders but respond to the adoption earlier than the rest, Late Majority: made of the skeptical who doubt the innovation, Laggards: these are the conservatives in the community.

It also noted by Rogers (1962) that a person's decision towards innovation is not instant but rather happens over time through a series of actions that involves knowledge, persuasion, decision, implementation and confirmation.

He also notes that rate of adoption is impacted by these five attributes; complexity; ease of use, compatibility; how consistent is the innovation to the perceived needs, relative advantage; level of superiority to the current practice, observability; how visible are the results of the innovation, and trialability; can the innovation be experienced on limited basis?

By reviewing Jumia online marketplace by using the attributes formulated by this theory the study establishes the factors affecting the adoption of Jumia as an ecommerce platform by consumers. Using the stages of the theory the research was able to review the consumers at the different stages of ecommerce adoption depending on the time they have utilized the platform.

2.2.1 CDX-LMD Framework

This model uses confirmatory and exploratory factor analysis results to evaluate the delivery experience at last mile. The Model evaluates six aspects; The first aspect is Delivery Efficiency which is measured by the professionalism and efficiency of the delivery. as the preference for the efficiency and professionalism of the delivery services. The second aspect is Parcel Tracking which is the ability to proactively see the different statuses of the item ordered as it gets delivered. The third aspect is Smooth Delivery which is the ease of interactions during the package delivery. The fourth aspect is on Visual Appeal of the packaging and appearance of the delivery agent. The fifth aspect is on Joyful Anticipation, described as the feeling of joy related to the anticipation and reception of a parcel. Lastly is Convenience which is the usefulness of online shopping over the instore shopping (Vrhovac et al., 2023).

Vrhovac et al. (2023) developed this model as an improvement to both (Lemon & Verhoef, 2016) and (Olsson et al., 2022) works. Lemon & Verhoef (2016) tried to understand the customer experience and the customer journey by examining existing definitions and concepts of customer experience as a construct. From that they were able to establish the genesis of customer experience which had a bias to marketing. Within the same study they were also able to establish current knowledge on customer experience, customer journeys as well as customer experience management.

Olsson et al. (2022) research was aimed at building on this customer experience by examining empirically how customers respond to deliveries done to their locker boxes where there are no interactions with the delivery agents which he referred to as the unattended home delivery. They collected data over a period of nine months through in-depth interviews of nine

households that actively used this model. The research established that the experience produced a multi dimension that entailed emotional, physical and social responses to the service. From the empirical analysis a framework was developed that describes each customer experience dimension.

The results of these two pioneering works set ground for investigations into the last mile delivery experience dimensions. As demonstrated by (Vrhovac et al., 2023) the two studies provided a solid foundation and comprehensive framework for them to build on. In fact, in their own admission, they have mentioned that from their research they had six of the eight identified factors of a package delivery process exactly resembled what (Olsson et al., 2022) had initially pointed out in their framework. Two factors were dropped which were the unpleasing emotions and skeptical perception on the delivery experience were deemed not to be naturally occurring during a customer experience. These factors only come up when unexpected issues arise during delivery.

CDX-LMD framework is therefore borne out of compulsion to further the initial studies on understanding customer experience in last mile deliveries. Both (Lemon & Verhoef, 2016) and (Olsson et al., 2022) demanded additional quantitative studies on this area. The CDX-LMD framework is set as an ideal measuring tool to help reduce the knowledge gap by providing pragmatic and measurable way of reviewing the customer's delivery experience within the last-mile process (Vrhovac et al.,2023).

The developer of the framework acknowledges limitations with their cross-sectional design in conclusively determining causal relationships. They also pointed out that some scales had too high homogeneity. Lastly, they pointed out that the research had respondents coming from one country and there is a need to test the same tool with participants from a different country.

2.3 Empirical literature review

This section showcases an evaluation of existing empirical studies carried out on customer experience with the main last mile delivery options and their influences on the adoption of ecommerce. It is based around the study objectives, and it crystalizes the findings and gaps from the relationship between last mile delivery experience and the adoption of ecommerce by customers.

2.3.1 Pick-up stations and e-commerce adoption

Corejova et al. (2022) describes a pickup station as a location that offers a parcel pickup and drop off service as part of a wider network of Pickup and drop off points. These stations are in locations that are easy to locate like the local shop or retail outlet which is frequented by customers.

Within the last mile delivery process Pick up stations are vital solutions (Oliveira et al., 2017) in their study to understand the attitudes of online shoppers towards the delivery process established that customers preferred the home delivery over pick up stations.

Cardenas (2017) Through interviews and empirical analysis found out that pick up stations offer a unique solution as a last mile delivery experience given that they remedy the challenge of failed deliveries that is synonymous with door delivery.

Ivan and Cardenas (2019) went a little further again to establish the right conditions that a Pickup station can benefit the society by analyzing the costs associated with operationalizing a PUS. Their findings pointed to latent benefits of using a Pickup station as a last mile delivery solution and that regular use of the solution leads to decreased costs.

Looking at the customers' role in the adoption of ecommerce (Wang et al., 2018) investigated the consumers' behavioral responses to last mile delivers experience at pick up stations with a focus in Singapore. Based on attitude theories and Diffusion theories they established that a customer's attitude plays a mediating role in determining the preferred last mile delivery.

Apart from attitude, psychological factors can also influence the customers intention to adopt ecommerce as presented by (Zhou et al., 2020) in his study that empirically established that social influence, performance and effort as positive determinants and perceived risk as a negative factor to behavioral intention to adopt ecommerce.

In a study conducted by (Tsai & Tiwasing, 2021) in Thailand to establish what influenced consumers' intent in utilizing pick-up station options for last mile delivery found that the options have to be convenient, reliable, secure, advantageous, simple and compatible.

In France pick up stations account for 20% of parcel deliveries, the growth of ecommerce has been spurred by the availability of delivery services. Morganti et al. (2014) study on the strategy of pick-up stations network operators were able to identify that the operators position

the pick-up stations strategically to compete and provide a better alternative to the other delivery services.

Consumers are looking for convenience and satisfaction as they adopt ecommerce, (Miyatake et al., 2016) lauds the pick-up station concept to provide this convenience to clients. In Japan convenience stores are being converted to pick up stations given that they are open all the time and they also stand to benefit from the additional in store traffic that will come from the consumers that will visit to pick their parcels.

A study in the city of Shenyang China by (Bai et al., 2022) that was set to determine the impact of pick-up stations experience during the delivery process found out that sales went up by 3.8% and this was attributed to the logistic flexibility of the pick-up station.

2.3.2 Door to door delivery and e-commerce adoption

Door delivery is defined by (Park & Regan, 2004) as delivery of goods to a customer's determined location that can be their home or workplace instead of having them collect the package from a pickup station.

The door delivery experience plays an important role in customers' adoption of ecommerce. (Chung & Ahn, 2008) confirmed this through his study that sought to establish door delivery attributes affect the ecommerce customers satisfaction. The findings showed a positive influence of the door delivery experience on the customers' satisfaction.

The adoption and advancement of ecommerce as rightly put by (Park et al., 2006) can be further spurred through development of door delivery as a last mile solution. In another pursuit by (Ye, 2015) to find a convenient last mile delivery model based on economics found out that door delivery services coupled with other models optimize the growth of ecommerce logistics.

Ecommerce adoption by consumers is a factor of trust as established by (Wangari, 2019) in her study done in Kenya to identify the ecommerce adopter characteristics. The experience at last mile influences the customers' behavior which in turn leads to the usage of ecommerce. (Xiao et al., 2018) observed that consumers' frequency to use ecommerce is linked to the satisfaction they get during the delivery process. He also noted that door delivery experience has a relatively bigger effect on ecommerce usage compared to the other last mile delivery experiences.

2.4 Research Gap

The below studies have all purposed to reduce the knowledge gap in both ecommerce adoption as well as the with last mile delivery solutions. As Olsson et al. (2022) admits there is need for further studies to investigate the extent of customer's last mile delivery experience as this would influence the use of ecommerce. This study contributes to the bridging of the research gap by establishing the influence of last mile delivery experience on the adoption of ecommerce by consumers.

Table 1: Summary of the Research Gaps

Author	Objectives	Methodology	Findings	Gaps
Oliveira et al. (2017)	To establish the attitude of online customers in relation to delivery services.	The study utilized surveys to review prospecting customers considering two delivery services: door delivery and automated delivery stations.	Door delivery was preferred but automated delivery stations was also demanded by online buyers.	**Contextual Gap** The study was limited to city of Belo Horizonte, Brazil.
Ma et al. (2022)	Review of related literature with the aim of proposing a double-sided framework meant to close the gap.	Literature review on last mile delivery, operational management and consumer research	There exists a disparity between consumer research and practice. Consumer research and behavior modeling in operations.	**Methodology Gap.** This study focuses on literature review.

Author	Objectives	Methodology	Findings	Gaps
Luo et al. (2021)	To develop a framework to evaluate Pick up station's convenience.	The research used descriptive data and spatial analysis Regression analysis was also utilized.	Urban locations were well covered compared to suburbs. Delivery efficiency and comfort was more pronounced in urban areas and near institutions of higher learning.	**Contextual Gap** The study focused on the perspective of residents within Wuhan City.
Cardenas (2017)	To determine how the efficiency of logistics in urban areas can be improved.	By use of interviews and empirical analysis.	Pick-up locations are a remedy to failed deliveries and they provide a consolidation of deliveries.	**Empirical Gap** The study assumed uniform distribution of the demand in the area and a constant travel time

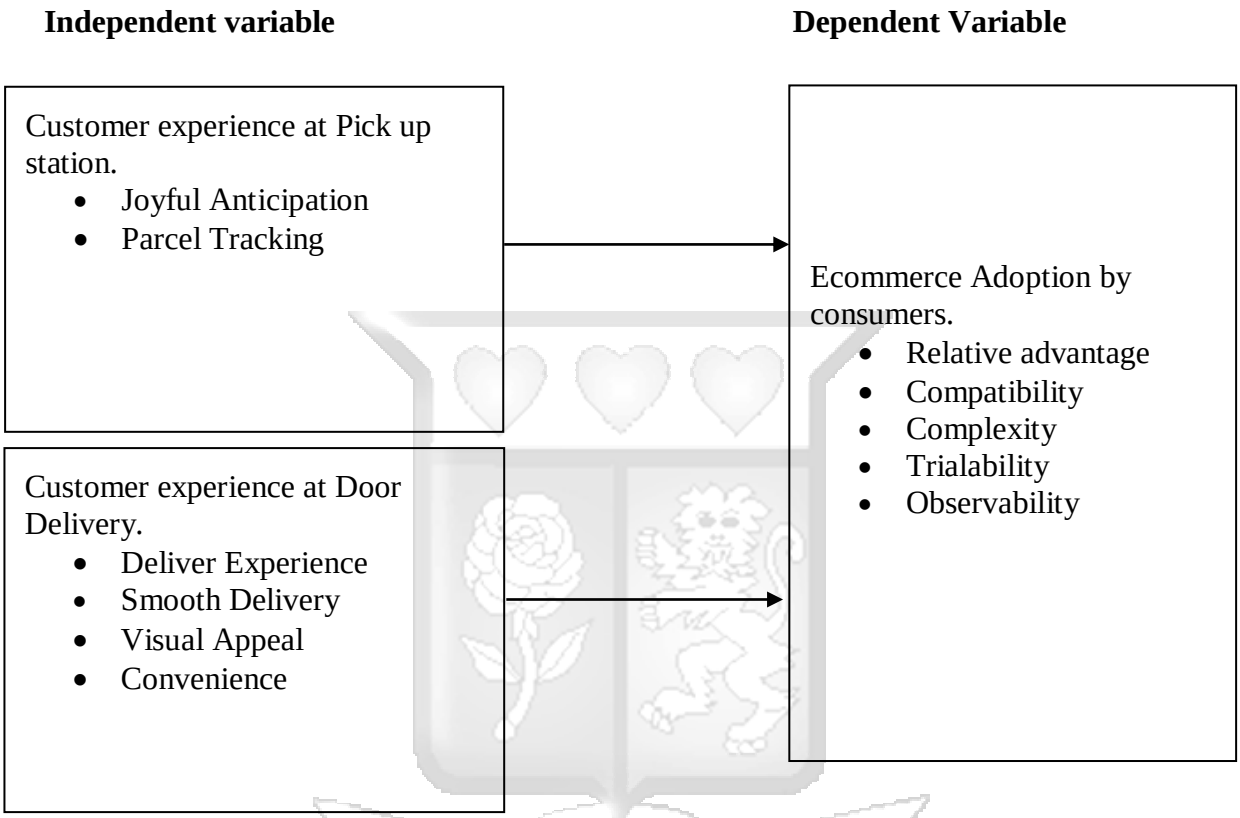
Author	Objectives	Methodology	Findings	Gaps
Ivan and Cardenas (2019	To study the conditions under which pick-up points can be beneficial for society	The research was done using empirical and analytical methods	Results showed that the costs decrease proportionately to an increase in the flow of parcels through the pick-up point network which eventually unlock the benefits of pick-up points.	**Contextual Gap** The study was done in Belgium and there is a need to check the validity of the models in a different set up. **Empirical Gap** The study on consumer behavior can provide insights in the decision-making process for customers towards pick-up points.
Mangiara cina et al. (2019)	To review group scientific writings touching on the efficiency that comes innovations within last mile delivery.	The study was purely a literature review on 75 publications in international journals done from 2001 and 2019.	The review points out that the last-mile delivery process requires specific focus for it to be optimized and as it affects the overall logistics costs.	**Empirical Gap.** The suggest further research to be done in mapping customer behavior, crowdsourcing logistics

Source: Researcher (2024)

2.5 Conceptual Framework

With the backdrop of the literature review, the study conceptualized the e commerce adoption by consumers Kenya is influenced by the customer experience at Last mile delivery. This conceptualization is demonstrated in the below conceptual framework.

Figure 1: Conceptual Framework



Source: Researcher (2024)

The above framework shows and explains the relationship between customer experience of last mile delivery solution and ecommerce adoption The main Last Mile Delivery solutions are Pick up stations and Door Delivery options and hence are the basis for this study.

2.6 Operationalization of Variables

Building from the empirical literature review, the following definitions and measures have been adopted to guide the study.

Table 2: Operationalization of Variables

	Construct	Adopted Definition	Indicator	Measurement	Supporting literature
E commerce adoption by Consumers (Dependent Variable)	Relative Advantage	The extent of benefit derived from an innovation it seeks to replace.	Benefits of ecommerce over instore shopping	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree.	Ahmad et al. (2013) Rogers (2003)
	Compatibility	The consistency of the innovation to the users current needs	Serving existing shopping needs	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree.	
	Complexity	The ease of use for the innovation.	Is the online shopping experience easy	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree	
	Triability	Can innovation be experienced on limited basis?	Is it easy is attempting to order online without completing	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral,	

			the transaction?	4. agree, and 5. strongly agree	
	Observability	How visible are the results of the innovation.	Can I see my online transactions, what messages are shared to confirm my transactions	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree	
Customer experience on Last Mile Delivery Options (Independent Variable) Pick up Stations and Door Delivery Payment Options (Independent Variable)	Delivery Efficiency	Defined as the preference for the efficiency and professionalism of the delivery services.	The delivery agent is professional, and order is handled well	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree	(Vrhovac et al.,2023).
	Parcel Tracking	The feature that provides a consumer's ability to see the changing statuses of their package as it gets delivered.	Package status visibility as it travels to me	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree	

	Smooth Delivery	The ease of interactions during delivery.	Pleasant and smooth interaction while receiving the package	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree
	Visual Appeal	The presentation of the delivery agent and packaging of the products being delivered.	Appearance of the delivery agent and vehicle during delivery	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree
	Joyful Anticipation	The happiness that is as result of the expected package.	Eagerness for the expected package	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree
	Convenience	The benefit derived from online shopping compared to in-store shopping.	Takes less effort for goods to be delivered.	Use of a Likert scale. 1.denotes Strongly disagree,2. disagree, 3. neutral, 4. agree, and 5. strongly agree.

Source; Researcher (2024)

2.7 Chapter Summary

This chapter focused on theories that the study will be premised on as well as a review of the empirical studies and analysis done by other scholars on last mile and payment options and how they affect the e-commerce adoption by customers. Tables were used to summarize the research gaps from previous work. A conceptual framework was created to show the relationship between the variables and their measures.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter breakdowns the methods used to respond to the problem of the study. This section first touches on the philosophy and design of the research then provides context and identifies the target population. It then shows procedures for sampling and the reliability and validity of the instruments used for data collection.

3.2 Research Philosophy

Research philosophy looks at the nature of the study and underlying assumptions relied upon to develop the knowledge (Dudovskiy, 2022). It is also viewed as the means through which analysis of data for an occurrence should be done (Alavi & Carlson, 1992). Within business and management studies philosophies can be one that criticize reality or is about positivism or pragmatic or about interpretivism (Saunders et al., 2009).

This study utilized a positivism philosophy focusing on observing reality objectively. Positivism derives its origin from natural sciences hence the inclination testing the hypotheses through statistical analysis and seeking logical proof (Collis & Hussey, 2014). The choice of this philosophy was also influenced by the quantitative approach used to measure the variables of this study.

3.3 Research Design

The research methodology used for this study was a quantitative one with the design being descriptive cross -sectional which provided a picture of the situation, event and showed how things are related to each other (Boris et al., 2014). A cross-sectional approach was used to collect data from Jumia customers within Nairobi who were the respondents. A survey of the independent and dependent variables was done without the influence of the researcher. Kumar (2018) describes such a study as having adopted a cross section approach as it takes snapshot of a population at a particular time with the recording of variables from the respondents. The study was focused on explaining the influence of last mile delivery experience on the adoption of ecommerce in Kenya.

3.4 Population of the study

The target population was drawn from online shoppers who used the Jumia platform and resided in Nairobi. According to (Statistica, 2021) Jumia was rated as the most preferred ecommerce platform with 42% of the respondents terming it as their favorite online platform hence the choice to use it for this study. (Nicodemus and Judit, 2018) also pointed out Jumia as the largest online marketplace in Kenya and used it as an illustration of their research.

According to the Statistica report Jumia had approximately 1.4M customers visiting their website 2023 and they noted around 139,000 of these customers who resided in Nairobi. Taking into consideration time and resources being constraints and the fact that it was not possible to get the list of customers from Jumia, convenience sampling was used for the study to pick out respondents and to ensure a high response rate.

3.5 Sampling Technique

The sample size was drawn from the 139,000 customers who had shopped on the Jumia platform that resided in Nairobi. The sample of the study was 398. The size was determined using Yamane's formula as demonstrated below with the 95%demonstrated below summed and alpha of 0.05:

n = N/ [1+N (e)2]

Where:

n is the sample size

N is the study population

e is the margin of error i.e., 0.05.for categorical data.

Hence, n = 139,000/ [1 + 139,000 (.05)2] = 398

The study sample size is 398 online customers.

To obtain a positive response rate, the study utilized a non-probability sampling technique, that used a convenient approach to obtain respondents of the study. Only respondents who

were okay with being part of the study were surveyed, and their data collected. This approach was useful as the initial assessment to establish if they are Jumia customers was easily done before administering the questionnaire.

The convenience sampling technique was preferred as the researcher approached anyone within the network of friends that resided within Nairobi by sharing the online survey using google forms. Because of the limited resources and time, the researcher opted for to use the online surveys.

3.6 Data Collection Instruments and Techniques

To collect the primary data structured questionnaires were used. The questionnaire was a virtual form accessible through URL link to allow the respondents to fill virtually either on their phone or computer. To get the important information closed ended questions were included. The data was measured using a Likert chart (1 representing strongly disagree, 2 denoting- disagree, 3- neutral, 4- agree and 5 to show- strongly agree). There were three parts of the questionnaire, the first part was captured the bio data of the respondent, the second section touched on the two independent variables Last mile and the dependent variable (E Commerce adoption by consumers) was covered in the last section. To ensure impartiality, respondents did to include their names in the questionnaire. Data was collected within the period of March and May 2023.

3.7 Quality of Research

To enhance the accuracy of this study, reliability and validity was pursued in the cause of this research. Reliability is about consistency and validity is about the accuracy of the measure (Middleton, 2019).

3.7.1 Pilot Study Results

Initially, the researcher carried out a pilot test before the main data collection exercise to assess the validity of the questionnaire and its level of reliability. A pilot test was carried out on 10 respondents who were then not incorporated into the main data collection exercise as a strategy to avoid biasness. The internal validity was ensured since the respondents understood the question items in the questionnaire, and they truly represented the constructs intended to be measured. Moreover, the researcher's supervisor scrutinized the appropriateness of the questionnaire, and his views were incorporated by making the necessary changes and

corrections in the questionnaire to ensure the contents correspond to the study's research objectives. Besides that, the data obtained from the pilot test was fed into the SPSS software for the Cronbach's Alpha model to be used to analyze it and determine the reliability of the questionnaire. The results of the analysis were presented in Table 3 below.

Table 3: Pilot Study Results

Variable	Cronbach's Alpha	No. of Items
Ecommerce Adoption	0.938	5
Way of Delivery Frequency	0.940	2
Pick-up Station Delivery		
Parcel Tracking	0.969	3
Joyful Anticipation	0.843	3
Door Delivery		
Delivery Efficiency	0.968	8
Visual Appeal	0.856	3
Convenience	0.711	3
Smooth Delivery	0.944	4

Source: Researcher (2024)

As presented in Table 3. in the previous page, the question items representing ecommerce adoption, way of delivery frequency, pick-up station delivery and door delivery posted Cronbach's Alpha values that were greater than the threshold figure of 0.7 as it had been recommended by Brown (2002). Thus, the level of reliability of the questionnaire was deemed to be acceptable.

3.7.1 Validity

This research purposed to maintain both internal and external validity in the extent that the relationship stated was aligned to the aims and that the findings could be scaled and applied to the real world. The questionnaire was scrutinized by the supervisor for appropriateness and that it responded to the set research questions. The supervisors' views were also incorporated to ensure that the content responds to the research objectives.

3.7.2 Reliability

Research reliability is determined by how much the results of a study can be replicated with the same condition by a different researcher. The collected data will be subjected to the Cronbach Alpha test which measures the variance that is consistent in set of test scores. This estimate can range from 00.0 indicating no consistency in variance to 1.00 where all the

variance is consistent (Brown, 2002). In this study, threshold values of 0.7 and above will be aimed to ensure consistency with the acceptable reliability coefficient.

3.8 Data Analysis

This stage provides the path through which the study transitions from being just a description of what is the scenario to a breakdown of the phenomenon being what it is (Hitchcock & Hughes,2002). The collected data was reviewed for common mistakes/errors and gaps which were eliminated, and the inconsistencies was checked to ensure there was oneness and that the responses were complete. The questionnaires were then coded into SPSS Statistics software for quantitative analysis. From the questions on the Likert scale a computation of mean scores and standard deviations was done and presented in tabular format. To test the relationship between the variables The Pearson's correlation test and regression analysis was done using the model displayed below,

$Y = \alpha + \beta 1X1 + \beta 2X2 + \varepsilon$

Where: Y = Dependent Variable (Ecommerce adoption)

X=Independent variables, which are:

X1 Door Delivery experience

X2 Pick up station Experience.

3.9 Chapter Summary

The chapter had the breakdown of the method used to review the search problem and touched on the research philosophy. Follow up sections were on the research, the study context the target population, sample and sampling procedures. The last two sections were on the instruments used to collect the data and lastly was on the analysis.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The findings that were obtained and analyzed from the field were presented in this chapter. The presented findings discussed the research quality of the survey instrument in terms of its reliability and validity, the response rate the study was able to achieve, the demographic results and the descriptive results. It also presented and discussed the Pearson correlation together with the regression results that sought to establish the influence of last mile delivery experience on the adoption of ecommerce by consumers.

4.2 Response Rate Findings

The study managed to realize a response rate of 92% since 366 out of 398 respondents were studied. This response rate was completely satisfactory for inferences to be made from it and be relied on. The study only suffered a non-response rate of 8% that comprised of 10 respondents that had not be considered in the main data collection exercise and 22 respondents who failed to partake in the study due to network issues. This response rate confirms the convenience of obtaining primary data through online platforms.

4.3 Demographic Results

The demographic results concerning the consumers of Jumia products are presented in Table 4 below.

Table 4: Respondents' Demographic Results

Respondents' Demographic Information		Frequency	Percentage (%)
Gender	Female	220	60.1
	Male	146	39.9
Age	18-35 years	227	62.0
	35-45 years	80	21.9
	45-60 years	59	16.1
Length of Interaction with Jumia	2-5 years	125	34.2
	5-10 years	221	60.4
	More than 10 years	20	5.5
Times Shopped from Jumia	More than twice	305	83.3
	Once	41	11.2
	Twice	20	5.5
Employment Status	Employed	304	83.1

	Self-Employed	33	9.0
	Un-Employed	29	7.9
Highest Level of Education	High School	16	4.4
	Masters	49	13.4
	PHD	13	3.6
	University/College	288	78.7

Source: Researcher (2024)

The results as presented in Table 4. in the previous page show the gender characteristics, age, employment status, level of education of the consumers, frequency of shopping on Jumia by the consumers and their length of interaction with Jumia. Frequencies and percentages were used to describe the demographic results. The findings observed that most of the shoppers are female who accounted for 60.1% of the response while male trailed behind by 39.9%. Age wise, most of the consumers studied were aged 18-35years accounting for 62.0% of the total responses while the older generation aged 45-60years accounted for only 16.1% of the total responses. Clearly the youth dominate as Jumia shoppers given their knowledge of technology and ecommerce which the older generation tend to lack at times. Far from that, the findings noted that most of the consumers studied accounting for 65.9% of the total responses had interacted with Jumia shopping platform for more than 5 years, a clear indication of the dominance of Jumia within the ecommerce sector and as well as some of satisfaction and loyalty with the service.

There was also confirmation by 83.3% of the total consumers studied that they had shopped on Jumia more than twice. Regarding the employment status the study showed that 83.1% of the respondents were employed. This can be attributed to the financial stability that comes with a steady job to allow for the purchases from the online platform like Jumia. Finally, most of the respondents studied had a University/College degree, accounting for 78.7% of the total responses. The results clearly show an opportunity for Jumia to focus beyond the youth and those with higher education as the data shows most of the respondents fell in this category.

4.4 Descriptive Results

The descriptive analysis involved the usage of mean scores and standard deviation to summarize the raw data obtained from the respondents and to describe the way of delivery frequency, pick-up station delivery, door to door delivery and ecommerce adoption among Jumia consumers in Kenya. The findings have been presented and thoroughly discussed in the succeeding sections.

4.4.1 Way of Delivery Frequency

The descriptive analysis concerning the way of delivery frequency has been presented in Table 5 on the next page.

Table 5.1: Way of Delivery Frequency

Way of Delivery Frequency	Count
Door Delivery	220
Pick up Station	146
Grand Total	**366**

Source: Researcher (2024)

From the study one can clearly see a preference for Door Deliver as a mode of delivery by the respondents as 60.06% picked that as the way of delivery they prefer and another 39.94 indicated delivery via the Pickup station as their preferred mode of delivery

Table 5.2: Way of Delivery Frequency

Way of Delivery Frequency		
	Mean	**Standard. Deviation**
Door Delivery	4.443	0.808
Pick up Station	4.336	0.885

Source: Researcher (2024)

The findings of the study observed that most consumers often use both door-to-door delivery and pick-up station delivery options. This was justified by mean scores of 4.443 and 4.336 respectively together with standard deviations of 0.808 and 0.885 respectively. The high level of frequency regarding the usage of the two delivery options evidenced from Jumia consumers is because Jumia has reduced the delivery fees charged on the consumers besides expanding pick-up station delivery network system in Kenya in order to boost convenience among the consumers (Abuyeka, 2022; Agarwal, 2022). Moreover, the two options both provide timely deliveries which is a response to the customers need for convenience which catalyzes repeat purchases as described by (Gicheru, 2015).

4.4.2 Pick-up Station Delivery

The descriptive analysis concerning pick-up station delivery regarding parcel tracking has been presented in Table 6. on the next page. It was observed that most of the Jumia consumers want to know where their packages are after being ordered. This was supported by

a mean of 4.268 and a standard deviation of 0.821. They also indicated that they are regularly tracking and checking the status of the shipment as it travels towards them. The mean scores for this showed a 4.243 and 4.180 respectively and standard deviations of 0.833 and 0.831. The tracking feature inspires trust in the customer and provides a competitive advantage to the ecommerce firm and its last mile delivery process (Sperle, 2019). Based on a survey conducted in 2018, it was established that 88% of the customers prioritize real-time shipment tracking for positive customer experience (Sperle, 2019). Shipment tracking provides a high level of transparency to the delivery process which then creates the confidence that the customers can use to make multiple orders in future. The data from this study collaborates with the priority of the Jumia customer to have the parcel tracking feature available as part of the delivery experience.

Table 6: Parcel Tracking

No.	Statement	Mean	Standard. Deviation
1.	I would like to know where my package is at the moment.	4.268	0.821
2.	I like to track the delivery of what I ordered.	4.243	0.833
3.	I check the status of the shipment as it travels towards me.	4.180	0.831
Overall Score		**4.230**	**0.828**

Source: Researcher (2024)

The descriptive analysis on pick-up station delivery regarding joyful anticipation has been presented in Table 7. below. The results noted that most of the consumers eagerly await the delivery of the items they have ordered from Jumia. This was justified by a mean score of 4.268 and a standard deviation of 0.821. Besides that, it was noted that most of the consumers are usually happy when they need to collect the shipment they have ordered. This statement was supported by a mean of 4.243 as well as a standard deviation of 0.833.

Similarly, the descriptive findings observed that most consumers look forward to the delivery of a product they have ordered. This statement was justified by a mean score of 4.180 indicating that most of them agreed with the statement together with a standard deviation of 0.787. Joyful anticipation in a consumer is characterized by uneasiness and impatience that develops after purchasing a product online. The consumer is said to develop an innate sense of ownership to the product ordered as they expect the item will bring joy to (Puri, 2018).

Table 7: Joyful Anticipation

No.	Statement	Mean	Standard. Deviation
1.	I am eagerly awaiting the delivery of the ordered items.	4.268	0.821

2.	I am happy when I need to collect the shipment I ordered.	4.243	0.833
3.	I look forward to the delivery of something I ordered.	4.180	0.787
Overall Score		**4.230**	**0.814**

Source: Researcher (2024)

The findings agreed with McKenzie (2021) who notes that anticipation of a product arriving is joyous experience to the customer. A study conducted by Nayaki and Nair (2023) noted that anticipatory shipping plays an important role in increasing consumer satisfaction and supply chain efficiency. The descriptive results also agreed with Vrhovac, Vasić, Milisavljević, Dudić, Štarchoň and Žižakov (2023) who noted that consumers not only experience joyful anticipation when waiting for their last-mile deliveries but also experiences enhanced satisfaction and trust when their experience exceeds expectations, thus, building a strong relationship with the last-mile delivery firm.

4.4.3 Door-to-Door Delivery

The descriptive analysis on door-to-door delivery regarding delivery efficiency has been presented in Table 8. below. The findings observed that most of the consumers agreed that they can only be loyal to firms that possess a well-coordinated delivery process. This statement was supported by a mean figure of 4.260 and a standard deviation value of 0.854. It was also observed that most of the respondents are happy to order goods from vendors whom they have not had problems with before as supported by a mean score of 4.260 and a standard deviation value of 0.854 respectively. Interestingly, it was also observed that when the Jumia consumers are disappointed in the delivery of their products, then don't order again. This is statement was supported by a mean of 4.153 and a standard deviation of 0.869. The findings also observed that during delivery, the customers usually check whether their packages are damaged. This was justified by a mean value of 4.096 and a standard deviation figure of 0.824. The descriptive findings interestingly are rightly observed that customers would easily give up on those last-mile delivery firms that are unreliable in delivering their products.

Table 8: Delivery Efficiency

No.	Statement	Mean	Standard. Deviation
1.	I am loyal to companies that have a well-managed delivery process.	4.260	0.854
2.	I am happy to order goods from vendors with whom I have no problems with former deliveries.	4.260	0.854
3.	When I'm disappointed in the delivery of something, I don't buy from that place anymore.	4.153	0.869

4.	During delivery, I check whether the package is damaged.	4.096	0.824
5.	I will easily give up on those who are unreliable in delivering their products.	4.096	0.824
6.	I will change vendors if they poorly handle their deliveries.	4.085	0.910
7.	I like when packages delivered to me are tightly packed.	4.085	0.870
8.	I will often buy from those with whom my goods are delivered seamlessly.	4.085	0.870
Overall Score		**4.140**	**0.859**

Source: Researcher (2024)

Since most of the respondents on average agreed with the statement as supported by a mean of 4.096 and a standard deviation of 0.824 respectively. The findings also confirmed that customers would not hesitate to change their vendors if they handle their deliveries in a poor manner. Justified by a mean of 4.085 and a standard deviation value of 0.910 respectively. Finally, the findings observed that the customers like it when their packages are delivered to them while tightly packed and that they would often buy from those who deliver their goods seamlessly. These statements were supported by mean values of 4.085 and standard deviation figures of 0.810 respectively. The findings concurred with Vakulenko et al. (2019), Buldeo et al. (2021) and Li et al. (2021) who observed that the efficiency and effectiveness of package delivery creates a positive perception in the mind of the consumer towards that last-mile delivery firm. Better delivery service boosts positive perceived customer value, thus enhancing customer satisfaction (Uzir et al., 2021). The quality of the delivery service, regarding proper handling of deliveries, seamlessly delivery process that is reliable not only retains customers but attracts more customers (Joerss et al., 2016).

The descriptive analysis on door-to-door delivery regarding visual appeal has been presented in Table 4.7 below. As presented in Table 9 below, most of the consumers studied agreed that the visual appearance of the delivery vehicle is an important aspect of shopping experience to them. This was supported by a mean of 4.260 and a standard deviation of 0.854. Interestingly, it was observed that the visual impression during the delivery of goods is important to Jumia customers. This was justified by a mean score of 4.153 and a standard deviation of 0.869. Finally, it was observed that the package delivery person is important to Jumia customers regarding the delivery experience.

Table 9: Visual Appeal

No.	Statement	Mean	Standard. Deviation
1.	The appearance of the delivery vehicle is an important aspect of shopping experience for me.	4.260	0.854

2.	The visual impression during the delivery of the goods is important to me.	4.153	0.869
3.	The appearance of the package delivery person is an important item to me in the delivery experience.	4.085	0.910
Overall Score		**4.166**	**0.878**

Source: Researcher (2024)

This was justified by a mean of 4.085 and a standard deviation of 0.910. The findings disagreed with Vrhovac et al. (2023) who observed that customers do not really care about the visual features of the product delivery vehicle or the delivery person, all they care about is that their goods should arrive safety on time with no damages incurred on them.

The descriptive analysis on door-to-door delivery in regard to convenience has been presented in Table 10. below. The findings observed that most of the consumers studied perceive order delivery as an interesting alternative to ordinary shopping and that it takes less effort to have the goods delivered to them compared to going to the store. Since the statements posted mean values of 4.096 and 4.085 respectively together with standard deviation values of 0.824 and 0.910 respectively. Finally, the findings observed that most of the consumers studied see the delivery of the ordered goods as a useful alternative to classic shopping in a store. The findings concurred with Vrhovac et al. (2023) who observed that online shopping is highly preferred over physical shopping because it is very convenient and less task involving. In fact, a survey conducted by Capgemini Research Institute (2019) observed that approximately 40% of the consumers have prioritized on delivery services to purchase food products because it is convenient. Speed and convenience have become the primary determinants of buying behavior in the last mile delivery sector (Friese, n.d.). Thus, most last mile delivery firms are working very hard to deliver ordered products and packages speedily wherever the customers are located and whenever those products and services are needed (Friese, n.d.).

Table 10: Convenience

No.	Statement	Mean	Standard. Deviation
1.	I perceive order delivery as an interesting alternative to ordinary shopping.	4.096	0.824
2.	It takes less effort to have the goods delivered to me versus going to the store.	4.085	0.910
3.	I see the delivery of ordered goods as a useful alternative to classic shopping in a store.	4.085	0.870
Overall Score		**4.089**	**0.868**

Source: Researcher (2024)

A descriptive analysis concerning door-to-door delivery in regard to smooth delivery has been presented in Table 11. on the next page. The findings observed that the process of product delivery to the customers is a simple process. Justified by a mean score of 4.260 and a standard deviation of 0.854 respectively. The findings also noted that the delivery of ordered goods is easy for the Jumia customers. Justified by a mean value of 4.153 and a standard deviation of 0.869 respectively. Interestingly, it was noted that most of the customers do not care who delivers their packages. This was supported by a mean score of 4.096 and a standard deviation of 0.824 respectively. Finally, the findings observed that contact with package delivery people is usually a pleasant experience for Jumia customers. This was supported by a mean value of 4.085 and a standard deviation of 0.870 respectively.

Table 11: Smooth Delivery

No.	Statement	Mean	Standard. Deviation
1.	When someone delivers goods to me, it's a simple process.	4.260	0.854
2.	The delivery of the ordered goods is easy for me.	4.153	0.869
3.	I don't care who delivers my package.	4.096	0.824
4.	Contact with package delivery people is a pleasant experience for me.	4.085	0.870
Overall Score		**4.149**	**0.854**

Source: Researcher (2024)

4.4.4 Ecommerce Adoption

The descriptive analysis concerning ecommerce adoption by Jumia consumers has been presented in Table 12 below. The findings observed that online purchases from the Jumia platform are easy for the studied respondents. This was supported by a mean of 4.443 and a standard deviation of 0.808 respectively. The Jumia customers agreed that they can do a test order easily by using the Jumia platform first before fully purchasing the products. This was supported by a mean of 4.361 and a standard deviation of 0.737 respectively.

Table 12: Ecommerce Adoption

No.	Statement	Mean	Standard. Deviation
1.	Buying online from the Jumia platform is easy.	4.443	0.808
2.	I can do a test order easily using the Jumia platform first before fully purchasing the products.	4.361	0.737
3.	Online shopping on Jumia is better than physical shopping at the supermarket.	4.339	0.866
4.	I buy my daily supplies online from the Jumia platform.	4.336	0.885

5. I can see benefits of buying products online through Jumia.	4.262	0.914
Overall Score	**4.348**	**0.842**

Source: Researcher (2024)

The respondents also agreed that online shopping on Jumia is better than physical shopping at the supermarket supported by a mean of 4.339 and a standard deviation of 0.866 respectively. Most of them agreed that they buy their daily supplies from Jumia platform and that they can see the benefits of buying products from the Jumia online platform. This statement was supported by mean values of 4.336 and 4.262 respectively together with standard deviation values of 0.885 and 0.914 respectively.

4.5 Pearson Correlation Results

The Pearson correlation model was employed to establish the relationship between last mile delivery experience and the adoption of ecommerce by customers in the context of Jumia. The findings were presented in Table 13. below. The study observed a strong positive significant relationship between a customer experience at a pick-up station during delivery and ecommerce adoption. This was justified by a correlation coefficient of 0.736^{**} and a *p*-value of $0.000 < 0.01$ since BMJ (2023) recommended that correlation coefficient figures ranging between 0.6 and 0.79 indicates a strong relationship between the given variables. This meant that having the parcel tracking feature and joyful anticipation during the pick-up station delivery process is strongly linked to improved ecommerce adoption. The results also noted a strong positive significant relationship between customers' door-to-door delivery experience and ecommerce adoption. This was justified by a correlation coefficient figure of 0.695^{**} and a *p*-value of $0.000 < 0.01$.

Table 13: Pearson Correlation Results

Correlations				
		Pick up Station Delivery	Door to Door Delivery	Ecommerce Adoption
Pick up Station Delivery	Pearson Correlation	1	0.684^{**}	0.736^{**}
	Sig. (2-tailed)		0.000	0.000
	N	366	366	366
Door to Door Delivery	Pearson Correlation	0.684^{**}	1	0.695^{**}
	Sig. (2-tailed)	0.000		0.000
	N	366	366	366
Ecommerce Adoption	Pearson Correlation	0.736^{**}	0.695^{**}	1
	Sig. (2-tailed)	0.000	0.000	

	N	366	366	366
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Researcher (2024)

For door-to-door delivery, increased delivery efficiency, enhanced visual appeal, convenience and smooth delivery are strongly linked to improved ecommerce adoption.

4.6 Regression Analysis Results

Multiple linear regression analysis through the SPSS software was used by the researcher to establish the influence of last mile delivery experience in terms of pick-up station delivery and door-to-door delivery on the adoption of ecommerce by customers. The findings of the analysis were presented in Tables 14, 15 and 16 respectively. The first table of the regression output, Table 4.12 presented the model summary results. The findings in Table 14. regarding the R-value of 0.781[a] provided evidence that 78.1% of the data analyzed was explained by the regression model. Therefore, the regression model was established to have a strong predictive power that could be relied on. The R-Square figure of 0.611 established that 61.1% of the change caused on ecommerce adoption was caused by pick-up station and door-to-door delivery. The adjusted R-Square figure of 0.609 meant that the 60.9% change on ecommerce adoption was indeed caused by both door-to-door delivery and pick-up station delivery thus no independent variable was penalized for not affecting ecommerce adoption. This is because the adjusted R-Square figure of 0.609 was indeed very close to the R-Square value of 0.611.

Table 14: Model Summary Results

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.781[a]	0.611	0.609	0.44576	1.355
a. Predictors: (Constant), Door to Door Delivery, Pick up Station Delivery					
b. Dependent Variable: Ecommerce Adoption					

Source: Researcher (2024)

Besides that, the standard error of the estimate which posted a figure of 0.44576 established that the dataset narrowly moved along the regression line thus supporting the fact that the regression model had a great predictive power that reliable regression models should have. It also indirectly provided evidence that there was a linear relationship between the study's independent variables and the outcome variable thus fulfilling the linearity assumption. The Durbin Watson test realized a figure of 1.355 which confirmed to that there was no

correlation among the residuals since Field (2013) had recommended that if the Durbin Watson test values lies between 1 and 2 then it means that the residuals are independent from each other. Thus, in our case the independence assumption required to be met before conducting regression analysis was fulfilled. To establish if the 61.1% variance caused on ecommerce adoption by pick-up station and door-to-door delivery was statistically significant, the analysis of variance (ANOVA) was conducted, and the findings presented in Table 15. below. As shown in Table 4.13 below, it was observed that the 61.1% variance caused on ecommerce adoption by the customers experience at a pick-up station and during the door-to-door delivery was statistically significant. Since the ANOVA results realized a *p*-value of 0.000[b] which was lower than the benchmark figure of 0.05.

Table 15: Analysis of Variance (ANOVA) Results

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	113.164	2	56.582	284.754	0.000[b]
	Residual	72.130	363	0.199		
	Total	185.294	365			
a. Dependent Variable: Ecommerce Adoption						
b. Predictors: (Constant), Door to Door Delivery, Pick up Station Delivery						

Source: Researcher (2024)

The regression coefficient results are posted in Table 16 below showed how each of the independent variable influenced ecommerce adoption. The results explained whether the influence was positive or negative and whether it was significant or not. But before looking at the regression coefficient results let's first understand what the collinearity statistics meant which is of great importance before relying on the regression coefficient results. The collinearity statistics tested if Multicollinearity existed among the independent variables.

Table 16: Regression Coefficient Results

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.636	0.158		4.036	0.000		
	Pick up Station Delivery	0.504	0.046	0.489	10.900	0.000	0.532	1.880
	Door to Door Delivery	0.382	0.048	0.360	8.028	0.000	0.532	1.880
a. Dependent Variable: Ecommerce Adoption								

Source: Researcher (2024)

Multicollinearity is a case where the independent variables are relying on each other which should not be the case (Waswa et al., 2018). This is because independent variables can only be deemed to have an influence on the outcome variable only if those said independent variables are sovereign from each other (Pallant, 2007). According to Kim (2018) Multicollinearity can only be deemed to be absent if the independent variables post tolerance figures that are more than 0.1 and the VIF figures lies between 1 and 5. Based on the findings presented in Table 16 in the previous page it was noted that the independent variables were indeed sovereign from each other and that no Multicollinearity existed between them since both of them posted tolerance values that were more than 0.1 and their VIF figures lied between 1 and 5. The study was able to formulate the following regression model based on the unstandardized coefficient results posted in Table 16 in the previous page;

$$Y = 0.636 + 0.504X_1 + 0.382X_2$$

Whereby.

Y = ecommerce adoption the dependent variable
X_1 = pick-up station delivery the first independent variable
X_2 = door-to-door delivery the second independent variable

The model's constant value of 0.636 which meant that the level of ecommerce adoption would significantly (p-value = 0.000 < 0.05) go down to 0.636 in the absence a good customer experience during the last mile delivery at pick-up station and door-to-door when all other things are held constant. This shows the importance of a great customer experience during the last mile delivery on the adoption of ecommerce by consumers. In essence, if Jumia fails to provide a good customer experience at the pick-up station and during the door-to-door delivery then the customers won't bother purchasing Jumia's products from its ecommerce platform. The findings agree with Olsson et al. (2022) that last mile delivery options are key elements that play a critical role in ecommerce adoption. The last mile delivery options produce delightful experiences for customers (Olsson et al., 2022). The regression coefficients of the two independent variables are interpreted and discussed in line with each specific objective in the ensuing subsections.

4.6.1 Influence of Pick-up Station Delivery Experience on Ecommerce Adoption by Customers

The first specific objective was to determine the influence of pick-up station delivery experience on ecommerce adoption by customers. The pick-up station delivery's unstandardized beta coefficient value of 0.504 was used to address the specific objective.

The findings established that a unit increase of the pick-up delivery experience would significantly (p-value = 0.000 < 0.05) increase the level of ecommerce adoption by customers at Jumia. Therefore, it was observed that pick-up station delivery experience considerably improves the ecommerce adoption by customers at Jumia. This meant that an increase of parcel tracking and joyful anticipation during the pick-up station delivery process considerably improves ecommerce adoption.

4.6.2 Influence of Door-to-Door Delivery Experience on Ecommerce Adoption by Customers

The second specific objective was to establish the influence of door-to-door delivery experience on ecommerce adoption by customers. The door-to-door delivery's unstandardized beta coefficient value of 0.382 was used to address the specific objective. The findings established that a unit increase of the door-to-door delivery experience would significantly (p-value = 0.000 < 0.05) increase the level of ecommerce adoption by customers at Jumia. It was noted that door-to-door delivery experience considerably improves the ecommerce adoption by customers at Jumia.

CHAPTER FIVE

SUMMARY OF RESEARCH FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This is the final chapter of the thesis that summarizes the discussion of the findings to determine the influence of last mile delivery experience on the adoption of e-commerce by consumers. It also presents the conclusions the study made from the interpreted findings and recommendations to the given stakeholders of this study and suggestions for future research.

5.2 Discussion of the Research Findings

This section summarizes the discussion of the findings in line with each specific objective in the following subsections.

5.2.1 Influence of Pick-up Station Delivery Experience on Ecommerce Adoption by Customers

The first specific objective was to determine the influence of pick-up station delivery experience on ecommerce adoption by customers. To clearly address this objective, descriptive analysis together with the multiple linear regression analysis were employed by the researcher. The descriptive results with respect to pick-up station delivery observed that observed that most Jumia consumers need to know where their packages are after being ordered. They want to track their deliveries throughout the delivery process. They regularly check the status of the shipment when it travels towards them. Shipment tracking gives a warning in advance to the customer of any anticipated delay, this feature creates a high level of transparency that is appreciated by the customers who would consequently in future order more products from that given last-mile delivery firm (Sperle, 2019).

With respect to joyful anticipation, the descriptive results noted that most of the consumers studied eagerly await the delivery of the items they have ordered from Jumia. Besides that, it was noted that most of the consumers are usually happy when they need to collect the shipment they have ordered. Finally, the descriptive findings observed that most consumers usually look forward to the delivery of a product they have ordered.

Joyful anticipation in a consumer is characterized by uneasiness and impatience that develops after purchasing a product online that is to be to be delivered, this makes them develop an innate sense of ownership that assigns more value to the product as they it would improve and bring joy to them (Puri, 2018). The multiple linear regression results observed that pick-up station delivery experience considerably improves the ecommerce adoption by customers at Jumia. This meant that an increase of parcel tracking and the element of joyful anticipation during the pick-up station delivery process considerably improves ecommerce adoption. Based on the CDX-LMD Framework developed by (Vrhovac et al., 2023) the findings of this study have been able to confirm that parcel tracking the second aspect of the framework involving active tracking of the ordered item and joyful anticipation the fifth aspect of the model boosts ecommerce adoption due to positive customer experience. Shipment tracking through informing customers the whereabouts of their packages nurtures their trust towards the last-mile delivery firm and boosts good customer relationship thus providing the firm sustained competitive advantage in the last-mile logistic business (Sperle, 2019).

Pick-up station delivery process involving anticipating for a product to arrive is a very joyous experience to the customer, which is a necessary element in influencing the customer to purchase more products from the online platform especially if the delivered product supersedes his or her expectations (McKenzie, 2021). The findings of this study agreed with (Cardenas 2017) who found out that pick up stations offer a unique solution as a last mile delivery experience given that they remedy the challenge of failed deliveries that is synonymous with door delivery. Moreover, as stipulated by (Ivan & Cardenas 2019) a pick-up station delivery system characterized by decreased costs would boost good customer experience, thus, increasing the customer's loyalty to that given last mile delivery firm. The findings also concurred with Bai et al. (2022) and Miyatake et al. (2016) who observed that pick-up station delivery boosts sales due to logistic flexibility and convenience to the customers.

5.2.2 Influence of Door-to-Door Delivery Experience on Ecommerce Adoption by Customers

The second specific objective was to establish the influence of door-to-door delivery experience on ecommerce adoption by customers. To clearly address this objective, descriptive analysis together with the multiple linear regression analysis were employed by the researcher. The descriptive results regarding door-to-door delivery experience observed

that consumers can only be loyal to firms that possess a well-coordinated delivery process. It was also observed that most of the Jumia consumers are usually happy to order goods from vendors with whom they have no problems with former deliveries. Interestingly, it was observed that when the Jumia consumers are disappointed in the delivery of their products, then they won't buy from that place anymore. The findings also observed that during delivery, the customers usually check whether their packages are damaged. The findings concurred with Vakulenko et al. (2019), Buldeo et al. (2021) and Li et al. (2021) who observed that the efficiency and effectiveness of package delivery creates a positive perception in the mind of the consumer towards that last-mile delivery firm. Better delivery service boosts positive perceived customer value, thus enhancing customer satisfaction (Uzir et al., 2021). The quality of the delivery service, regarding proper handling of deliveries, seamlessly delivery process that is reliable not only retains customers but attracts more customers (Joerss et al., 2016).

With regards to visual appeal, the descriptive findings noted that the visual appearance of the delivery vehicle is an important aspect of shopping experience to them. Interestingly, it was observed that the visual impression during the delivery of goods is important to Jumia customers. Finally, it was observed that the package delivery person is an important item to Jumia customers in the delivery experience. The findings disagreed with Vrhovac et al. (2023) who observed that customers do not really care about the visual features of the product delivery vehicle or the delivery person, all they care about is that their goods should arrive safety on time with no damages incurred on them. With respect to convenience, the findings observed that most of the consumers studied perceive order delivery as an interesting alternative to ordinary shopping and that it takes less effort to have the goods delivered to them than to go to the store. Finally, the findings observed that most of the consumers studied see the delivery of the ordered goods as a useful alternative to classic shopping in a store. The findings concurred with Vrhovac et al. (2023) who observed that online shopping is highly preferred over physical shopping because it is very convenient and less task involving.

Regarding smooth delivery the findings observed that the process of product delivery to the customers is a simple process. The findings also noted that the delivery of ordered goods is easy for the Jumia customers. Interestingly, it was noted that most of the customers do not care who delivers their packages. Finally, the findings observed that contact with package delivery people is usually a pleasant experience for Jumia customers. The multiple linear

regression results observed that that door-to-door delivery experience considerably improves the ecommerce adoption by customers at Jumia. This meant that door-to-door delivery in terms of increased delivery efficiency, enhanced visual appeal, convenience and smooth delivery considerably improves ecommerce adoption. The findings concur with the proposition of the Diffusion of innovation theory that the level of ecommerce adoption is increased among customers when the innovation is consistent with the perceived needs of the consumers in terms of convenience, smooth delivery, enhanced visual appearance and delivery efficiency. The findings concurred with Vrhovac et al. (2023) who observed that online shopping is highly preferred over physical shopping because it is very convenient and less task involving. The findings of this study also agree with Chung and Ahn (2008) that door-to-door delivery experience plays an important role in customers' adoption of ecommerce since it enhances customer satisfaction.

The findings of the study concurred with the research outcomes of Ye (2015) that door-to-door delivery services characterized by customer convenience coupled with other models optimize the growth of ecommerce logistics. The findings also agreed with Xiao et al. (2018) who noted that door delivery experience has a relatively bigger effect on ecommerce usage compared to the other last mile delivery experiences. This shows that most consumers prefer the goods to be delivered to them to their homes and workplaces rather than going to collect the goods in person from a physical point of sale, thus the reason behind increased ecommerce adoption (Park & Regan, 2004).

5.3 Conclusions

The findings draw the following conclusions based on the results obtained. In line with the first specific objective that sought to determine the influence of pick-up station delivery experience on ecommerce adoption by customers, the study concludes that pick-up station delivery experience through parcel tracking that involves active tracking of the ordered item and joyful anticipation boosts ecommerce adoption due to positive customer experience. Delivering the product that matches the desires and needs of the joyously anticipating customer would make him/her stay loyal to the given ecommerce platform. In line with the second specific objective that sought to establish the influence of door-to-door delivery experience on ecommerce adoption by customers, it was concluded that door-to-door delivery

in terms of increased delivery efficiency, enhanced visual appeal, convenience and smooth delivery considerably improves ecommerce adoption.

Even though in other contexts Vrhovac et al. (2023) observed that customers do not really care about the visual features of the product delivery vehicle or the delivery person, its the reverse in the case of Jumia consumers in Kenya. They consider the visual appearance regarding the delivery vehicle and the visual appearance of the delivery person as important aspects in the delivery experience. In essence, if Jumia fails to provide a good customer experience at the pick-up station and during the door-to-door delivery then the customers won't bother purchasing Jumia's products from its ecommerce platform. The findings agree with Olsson et al. (2022) that last mile delivery options are key elements that play a critical role in ecommerce adoption. The last mile delivery options produce delightful experiences for customers (Olsson et al., 2022). The regression coefficients of the two independent variables are interpreted and discussed in line with each specific objective in the ensuing subsections.

5.4 Recommendations

The study recommends for the top management of the Ecommerce firms and the last mile delivery firms should ensure they provide customers with a parcel tracking feature that can communicate in advance if the product is delayed. The tracking feature should show the progress of the delivery and the anticipated time the product would get delivered to the customer. This plays an important role in creating trust and confidence in the mind of the consumer, thus not only becoming loyal to that given firm but inviting other potential consumers to shop from the given firm (with our case being Jumia). Since, the visual appearance of the delivery vehicle, the packaged products and the visual impression of the delivery persons are important aspects that consumers in Kenya look at. The Ecommerce platforms and last mile delivery firms with specific reference to Jumia should always ensure that the visual appearance of their delivery vehicles, the packaged products and the appearance of the delivery persons (even in terms of behavior) matches the desires and expectations of the given consumers to attain a competitive edge over the other competitors.

To policy makers the study recommends setting requirements for last mile delivery companies to adopt technology that at a minimum can provides tracking of parcels. This is a need for ecommerce users as it guarantees the integrity of the delivery process and can act as an audit

trail to measure that the promise time given was honored. It is also a recommendation to have delivery agents making door delivery well-presented and even kitted with uniforms as the study noted that the visual appeal of the parcel and the delivery agent was a contributing factor to a good delivery experience.

The study contributes to the exiting ecommerce literature by establishing the influence of last mile delivery experience options on the adoption of e-commerce by consumers in the case of Jumia. It also emphasizes the effectiveness of the CDX-LMD framework as a great tool for measuring customers experience during the last mile delivery process.

5.5 Study Limitations and Suggestions for Further Research

This study was limited to the context Jumia online shopping platform in Kenya with a focus on customers within Nairobi and this study solely relied on questionnaires in collection of data.

Future researchers can use this study as a basis of establishing how last mile delivery experience options influences adoption of e-commerce based in the context of other online shopping platforms like Kilimall, Alibaba and Amazon among other e-commerce platforms. Future studies can incorporate interviews, observations and focused group discussions to get a more in-depth understanding of the relationship between last mile delivery experience options and ecommerce adoption. Scope for future research can also be on customers in the regions with a relatively older demography.

5.6 Chapter Summary

This final chapter summarized the research findings discussions, conclusions drawn from the study, the recommendations for further research and the limitations of the study.

REFERENCES

11. Correlation and regression | The BMJ. (2020, October 28). The BMJ | the BMJ: Leading General Medical Journal. Research. Education. Comment. https://www.bmj.com/about-bmj/resources-readers/publications/statistics-square-one/11-correlation-and-regression

Abuyeka, Z. (2022, June 24). How to open a Jumia pick-up station in Kenya. *Victor Matara*. https://victormatara.com/how-to-open-a-jumia-pick-up-station-in-kenya/

Agarwal, A. (2022, February 9). Jumia reduces delivery fee through expansion of pickup station network in Kenya. *Jumia Group - Blog*. https://www.jumia-blog.com/post/jumia-reduces-delivery-fee-through-expansion-of-pick-up-station-pus-network-in-kenya

Ajzen, I. (2012). Martin Fishbein's Legacy. *˜the œAnnals of the American Academy of Political and Social Science/˜the œAnnals*, *640*(1), 11–27. https://doi.org/10.1177/0002716211423363

Asdecker, B. (2020). *How dare you replace my deliveryman?! Acceptance of Last-Mile Transportation Innovations – A Qualitative perspective* (pp. 1–10). https://aisel.aisnet.org/amcis2020/adv_info_systems_research/adv_info_systems_research/24/

Bai, B., Chan, T. Y., Zhang, D., & Zhang, F. (n.d.). *The Value of Logistic Flexibility in E-commerce*. Social Science Research Network. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4206229

Bai, S., & Xu, N. (2016). The online seller's optimal price and inventory policies under different payment schemes. *European Journal of Industrial Engineering*, *10*(3), 285. https://doi.org/10.1504/ejie.2016.076380

Berg, P. W., Isaacs, S., Blodgett, K. L., & Inc, A. T. (2014, December 22). *US10032125B1 - Airborne fulfillment center utilizing unmanned aerial vehicles for item delivery - Google Patents*. https://patents.google.com/patent/US10032125B1/en.

Blumberg, B., Cooper, D., & Schindler, P. (2014). *EBOOK: Business Research Methods*. McGraw Hill.

Boysen, N., Fedtke, S., & Schwerdfeger, S. (2020a). Last-mile delivery concepts: a survey from an operational research perspective. *OR Spectrum/OR-Spektrum*, *43*(1), 1–58. https://doi.org/10.1007/s00291-020-00607-8

Boysen, N., Fedtke, S., & Schwerdfeger, S. (2020b). Last-mile delivery concepts: a survey from an operational research perspective. *OR Spectrum/OR-Spektrum*, *43*(1), 1–58. https://doi.org/10.1007/s00291-020-00607-8

Brown, J. D. (2002). The Cronbach alpha reliability estimate. JALT Testing & Evaluation SIG Newsletter, 6(1).

Buldeo, H., Broekaert, C., Verlinde, S., & Macharis, C. (2021). Sharing is caring: How non-financial incentives drive sustainable e-commerce delivery. *Transportation Research. Part D, Transport and Environment*, *93*, 102794. https://doi.org/10.1016/j.trd.2021.102794

Cárdenas, I., Dewulf, W., Vanelslander, T., Smet, C., & Beckers, J. (2017). The e-commerce parcel delivery market and the implications of home B2C deliveries vs pick-up points. *Rivista Internazionale De Economia Dei Trasporti*, *44*(2), 235–256. https://doi.org/10.19272/201706702004

Chung, H., & Ahn, A. (2008). Effects of service quality attributes on customers' satisfaction in the Door-to-Door delivery service and on-line shopping mall context. *Han'gug Kontencheu Haghoe Nonmunji/Hanguk Kontencheu Hakoe Nonmunji*, *8*(7), 174–181. https://doi.org/10.5392/jkca.2008.8.7.174

Collis, J., & Hussey, R. (2003). *Business research*. Palgrave Macmillan.

Čorejová, T., Jucha, P., Paďourová, A., Strenitzerová, M., Štalmachová, K., & Valicova, A. (2022a). E-commerce and last mile delivery technologies in the European countries. *Production Engineering Archives*, *28*(3), 217–224. https://doi.org/10.30657/pea.2022.28.26

Čorejová, T., Jucha, P., Paďourová, A., Strenitzerová, M., Štalmachová, K., & Valicova, A. (2022b). E-commerce and last mile delivery technologies in the European countries. *Production Engineering Archives*, *28*(3), 217–224. https://doi.org/10.30657/pea.2022.28.26

Čorejová, T., Jucha, P., Paďourová, A., Strenitzerová, M., Štalmachová, K., & Valicova, A. (2022c). E-commerce and last mile delivery technologies in the European countries. *Production Engineering Archives*, *28*(3), 217–224. https://doi.org/10.30657/pea.2022.28.26

Čorejová, T., Jucha, P., Paďourová, A., Strenitzerová, M., Štalmachová, K., & Valicova, A. (2022d). E-commerce and last mile delivery technologies in the European countries. *Production Engineering Archives*, *28*(3), 217–224. https://doi.org/10.30657/pea.2022.28.26

Datta, P. (2010a). A preliminary study of ecommerce adoption in developing countries. *ISJ. Information Systems Journal/Information Systems Journal*, *21*(1), 3–32. https://doi.org/10.1111/j.1365-2575.2009.00344.x

Datta, P. (2010b). A preliminary study of ecommerce adoption in developing countries. *ISJ. Information Systems Journal/Information Systems Journal*, *21*(1), 3–32. https://doi.org/10.1111/j.1365-2575.2009.00344.x

Drupal already installed | Drupal. (n.d.). https://hosted.jalt.org/test/bro_13.htm

Friese, M. (2023, March 20). *Last Mile Delivery in the food and convenience sector: Digital transformation in logistics*. Xpress Ventures. https://xpress.ventures/last-mile-delivery-in-the-food-and-convenience-sector-digital-transformation-in-logistics/

Gevaers, R., Van De Voorde, E., & Vanelslander, T. (2011). Characteristics and Typology of Last-mile Logistics from an Innovation Perspective in an Urban Context. In *Edward Elgar Publishing eBooks*. https://doi.org/10.4337/9780857932754.00009

Gevaers, R., Van De Voorde, E., & Vanelslander, T. (2014). Cost Modelling and Simulation of Last-mile Characteristics in an Innovative B2C Supply Chain Environment with Implications on Urban Areas and Cities. *Procedia: Social & Behavioral Sciences*, *125*, 398–411. https://doi.org/10.1016/j.sbspro.2014.01.1483

Gicheru, M. (2015, March 6). *What the shopping experience on Jumia Kenya is like*. Techweez | Tech News, Reviews, Deals, Tips and How To. https://techweez.com/2015/03/06/shopping-experience-on-jumia-kenya/

Hall, B. H., & Khan, B. (2003a). *Adoption of new technology*.

Hall, B. H., & Khan, B. (2003b). *Adoption of new technology*. https://doi.org/10.3386/w9730

Haryanti, T., & Subriadi, A. P. (2020). The Evolution Adoption Technology Theory for E-Commerce. *International Journal of Electronic Commerce Studies*, *11*(2). https://doi.org/10.7903/ijecs.1910

Hua, Y., Liang, Y., Wang, A., Fan, Q., & Jin, J. (2022). Pay online or pay on delivery? An ERP study of how payment methods affect online purchase decisions for search vs. experience products. *Journal of Economic Psychology*, *91*, 102526. https://doi.org/10.1016/j.joep.2022.102526

Ignat, B., & Chankov, S. (2020). Do e-commerce customers change their preferred last-mile delivery based on its sustainability impact? *International Journal of Logistics Management/˜the œInternational Journal of Logistics Management*, *31*(3), 521–548. https://doi.org/10.1108/ijlm-11-2019-0305

Janjevic, M., & Winkenbach, M. (2020). Characterizing urban last-mile distribution strategies in mature and emerging e-commerce markets. *Transportation Research. Part a, Policy and Practice*, *133*, 164–196. https://doi.org/10.1016/j.tra.2020.01.003

Kenya - eCommerce. (2022, August 20). International Trade Administration | Trade.gov. https://www.trade.gov/country-commercial-guides/kenya-ecommerce

Kenya Vision 2030 (Popular Version) | Kenya Vision 2030. (n.d.). https://vision2030.go.ke/publication/kenya-vision-2030-popular-version/

Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology*, *72*(6), 558–569. https://doi.org/10.4097/kja.19087

Kumar, R. (2018). *Research methodology: A Step-by-Step Guide for Beginners*. SAGE.

Li, F., Fan, Z., Cao, B., & Li, X. (2020). Logistics Service mode selection for Last mile delivery: An analysis method considering customer utility and delivery service cost. *Sustainability*, *13*(1), 284. https://doi.org/10.3390/su13010284

Lim, S. F. W., Jin, X., & Srai, J. S. (2018). Consumer-driven e-commerce. *International Journal of Physical Distribution & Logistics Management*, *48*(3), 308–332. https://doi.org/10.1108/ijpdlm-02-2017-0081

Makokha, T., Asenahabi, B., & Makokha, A. (2021). Electronic Commerce: The Evolution and State in Kenya.

Mangiaracina, R., Perego, A., Seghezzi, A., & Tumino, A. (2019). Innovative solutions to increase last-mile delivery efficiency in B2C e-commerce: a literature review. *International Journal of Physical Distribution & Logistics Management*, *49*(9), 901–920. https://doi.org/10.1108/ijpdlm-02-2019-0048

McKenzie, S. (2021, May 24). 'The joy of not yet': why marketers need to sell anticipation, not just products. *The Drum*. https://www.thedrum.com/opinion/2021/05/24/the-joy-not-yet-why-marketers-need-sell-anticipation-not-just-products

Middleton, F. (2023, June 22). *Reliability vs. Validity in Research | Difference, Types and Examples*. Scribbr. https://www.scribbr.com/methodology/reliability-vs-validity/

Min, Z., Zhao, L., Kong, N., Campy, K. S., Xu, G., Zhu, G., Cao, X., & Wang, S. (2020). Understanding consumers' behavior to adopt self-service parcel services for last-mile

delivery. *Journal of Retailing and Consumer Services*, *52*, 101911. https://doi.org/10.1016/j.jretconser.2019.101911

Miyatake, K., Nemoto, T., Nakaharai, S., & Hayashi, K. (2016). Reduction in consumers' purchasing cost by online shopping. *Transportation Research Procedia*, *12*, 656–666. https://doi.org/10.1016/j.trpro.2016.02.019

Mogire, E., Kilbourn, P. J., & Luke, R. (2022). THE LAST MILE DELIVERY PROBLEM: A KENYAN RETAIL PERSPECTIVE. *Acta Logistica*, *09*(04), 387–395. https://doi.org/10.22306/al.v9i4.329

Morganti, E., Dablanc, L., & Fortin, F. (2014). Final deliveries for online shopping: The deployment of pickup point networks in urban and suburban areas. *Research in Transportation Business & Management*, *11*, 23–31. https://doi.org/10.1016/j.rtbm.2014.03.002

Morganti, E., Seidel, S., Blanquart, C., Dablanc, L., & Lenz, B. (2014). The impact of e-commerce on final deliveries: alternative parcel delivery services in France and Germany. *Transportation Research Procedia*, *4*, 178–190. https://doi.org/10.1016/j.trpro.2014.11.014

Nayak, P., & Nair, A. (2023). ANTICIPATORY SHIPPING: AN OVERVIEW ON IMPLEMENTATION OF ANTICIPATORY SHIPPING THROUGH a MANAGERIAL PERSPECTIVE. *EPRA International Journal of Economics, Business and Management*, 16–21. https://doi.org/10.36713/epra12177

Niranjanamurthy, M., & Chahar, D. (2013). The study of e-commerce security issues and solutions. International Journal of Advanced Research in Computer and Communication Engineering, 2(7), 2885-2895.

Ngugi, B. (2022, May 6). Richest, poorest counties revealed in 2021 study. *Business Daily*. https://www.businessdailyafrica.com/bd/news/counties/kenya-s-richest-poorest-counties-revealed-in-survey-3805866

Olsson, J., Hellström, D., & Vakulenko, Y. (2022). Customer experience dimensions in last-mile delivery: an empirical study on unattended home delivery. *International Journal of Physical Distribution & Logistics Management*, *53*(2), 184–205. https://doi.org/10.1108/ijpdlm-12-2021-0517

Pallant, J. (2020). SPSS Survival Manual. In *Routledge eBooks*. https://doi.org/10.4324/9781003117452

Park, M., Min, J. U., & Lee, S. Y. (2006). Implications of growing electronic commerce for freight transportation: A case study of the United States. *Journal of International Logistics and Trade/Journal of International Logistics and Trade*, *4*(2), 37–52. https://doi.org/10.24006/jilt.2006.4.2.37

Park, M., & Regan, A. (2004, March 1). *Issues in emerging home delivery operations*. https://escholarship.org/uc/item/3754142p

Pham, H. C., Nguyen, D., Doan, C., Thai, Q., & Nguyen, N. (2019, December). Last Mile Delivery As A Competitive Logistics Service—A Case Study. In Proceedings of the 9th International Conference on Operations and Supply Chain Management (OSCM 2019) (pp. 1-8). Institut Teknologi Sepuluh Nopember (ITS), Indonesia.

Puri, A. (2018, May 9). The psychology of waiting for a parcel | Mint. *Mint*. https://www.livemint.com/Opinion/zHZAxEAvLOvAFncBaaM9eK/The-psychology-of-waiting-for-a-parcel.html

Rahayu, R., & Day, J. (2016). E-commerce adoption by SMEs in developing countries: evidence from Indonesia. *Eurasian Business Review*, *7*(1), 25–41. https://doi.org/10.1007/s40821-016-0044-6

Saunders, M. N., Lewis, P., & Thornhill, A. (2009). Understanding research philosophies and approaches. *ResearchGate*. https://www.researchgate.net/publication/309102603_Understanding_research_philosophies_and_approaches

Savelsbergh, M. M., & Van Woensel, T. (2016). 50th Anniversary Invited Article—City Logistics: Challenges and Opportunities. *Transportation Science*, *50*(2), 579–590. https://doi.org/10.1287/trsc.2016.0675

Statista. (n.d.). *ECommerce - Worldwide | Statista Market forecast*. https://www.statista.com/outlook/dmo/ecommerce/kenya#analyst-opinion

Suguna, M., Shah, B., Raj, S., & Suresh, M. (2021a). A study on the influential factors of the last mile delivery projects during Covid-19 era. *Operations Management Research/Operations Management Research : Advancing Practice Through Research*, *15*(1–2), 399–412. https://doi.org/10.1007/s12063-021-00214-y

Suguna, M., Shah, B., Raj, S., & Suresh, M. (2021b). A study on the influential factors of the last mile delivery projects during Covid-19 era. *Operations Management Research/Operations Management Research : Advancing Practice Through Research*, *15*(1–2), 399–412. https://doi.org/10.1007/s12063-021-00214-y

The importance of shipment tracking in customer Experience | Startups Magazine. (n.d.). Startups Magazine. https://startupsmagazine.co.uk/article-importance-shipment-tracking-customer-experience

Tsai, Y., & Tiwasing, P. (2021). Customers' intention to adopt smart lockers in last-mile delivery service: A multi-theory perspective. *Journal of Retailing and Consumer Services*, *61*, 102514. https://doi.org/10.1016/j.jretconser.2021.102514

Turban, E. (2010). *Electronic Commerce 2010: A Managerial Perspective*.

Uzir, M. U. H., Halbusi, H. A., Ramayah, T., Lim, R., Aljaberi, M. A., Hasan, N., & Hamid, M. (2021). The effects of service quality, perceived value and trust in home delivery service personnel on customer satisfaction: Evidence from a developing country. *Journal of Retailing and Consumer Services*, *63*, 102721. https://doi.org/10.1016/j.jretconser.2021.102721

Vakulenko, Y., Shams, P., Hellström, D., & Hjort, K. (2019a). Online retail experience and customer satisfaction: the mediating role of last mile delivery. *International Review of Retail, Distribution & Consumer Research/˜the œInternational Review of Retail, Distribution & Consumer Research*, *29*(3), 306–320. https://doi.org/10.1080/09593969.2019.1598466

Vakulenko, Y., Shams, P., Hellström, D., & Hjort, K. (2019b). Service innovation in e-commerce last mile delivery: Mapping the e-customer journey. *Journal of Business Research*, *101*, 461–468. https://doi.org/10.1016/j.jbusres.2019.01.016

Vrhovac, V., Vasić, S., Milisavljević, S., Dudić, B., Štarchoň, P., & Žižakov, M. (2023). Measuring E-Commerce user experience in the Last-Mile delivery. *Mathematics*, *11*(6), 1482. https://doi.org/10.3390/math11061482

Wang, X., Yuen, K. F., Wong, Y. D., & Teo, C. (2018). E-consumer adoption of innovative last-mile logistics services: A comparison of behavioural models. *Total Quality Management and Business Excellence/Total Quality Management & Business Excellence*, *31*(11–12), 1381–1407. https://doi.org/10.1080/14783363.2018.1485484

Wangari, W. E. (2019). *Factors affecting the adoption of e-commerce in Kenya: A case study of consumer perspective in Thika Town*. http://erepository.uonbi.ac.ke/handle/11295/127444

Waswa, C.W., Mukras, M. S. & Oima, D. (2018). Effect of liquidity on financial performance of the sugar industry in Kenya. International Journal of Education & Research, 6 (6), 29-44.

What is Jumia | Get to Know More About us - Jumia Kenya. (n.d.). Jumia Kenya. https://www.jumia.co.ke/sp-about_new

Xu, N., Bai, S., & Wan, X. (2017). Adding pay-on-delivery to pay-to-order: The value of two payment schemes to online sellers. *Electronic Commerce Research and Applications*, *21*, 27–37. https://doi.org/10.1016/j.elerap.2016.12.001

Ye, C. (2015). Economic research on the “Last mile” in e-commerce logistics system on the basis of time and space. *Advances in Intelligent Systems Research/Advances in Intelligent Systems Research*. https://doi.org/10.2991/lemcs-15.2015.25

Zhou, X., Wang, J., & Liu, Q. (2017). The impacts of final delivery solutions on e-shopping usage behaviour. *International Journal of Retail & Distribution Management*, *46*(1), 2–20. https://doi.org/10.1108/ijrdm-03-2016-0036

APPENDICES

APPENDIX 1: INTRODUCTORY LETTER

Muddie Collins
Strathmore University,

Strathmore Business School
P.O. Box 59857 – 00200,

Nairobi.

Dear Respondent,

RE: REQUEST FOR COLLECTION OF RESEARCH DATA.

I am a Master's student at Strathmore University – Strathmore Business School. I'm pursuing a Master of Commerce Degree with a specialization in Strategic Management.

I am currently conducting research on **the influence of last mile delivery and payment options to the adoption of ecommerce by consumers in Kenya: a case of Jumia.**

This research is in partial fulfilment of the award of the Master's Degree. I humbly request your participation in this study.

I would like to assure you that **all the information shared in this study will be kept confidential and used solely for the purposes of this research**. It is in this regard that I request you not to indicate your name in the questionnaire. Your participation in this study will be fully appreciated.

Yours sincerely,

Muddie Collins

APPENDIX 2 QUESTIONNAIRE

This questionnaire is created to collect data to study the influence of last mile delivery experience to the adoption of ecommerce by consumers in Kenya: a case of Jumia. You are kindly requested to fill it with a tick (√) or explanation where necessary.

All responses provided will be strictly confidential and will be used for academic purposes only. Your participation will be highly appreciated.

SECTION A: BACKGROUND INFORMATION

1. Gender
   Check all that apply.

   - [ ] Male
   - [ ] Female

2. Age
   Check all that apply.

   - [ ] 18-35yrs
   - [ ] 35-45yrs
   - [ ] 45-60yr
   - [ ] over 60yrs

3. How long have you known about Jumia?
   Check all that apply.

   - [ ] less than 1year
   - [ ] 2-5years
   - [ ] 5-10years
   - [ ] more than 10 years

4. How many times have you Shopped from Jumia?
   Check all that apply.

   - [ ] Once
   - [ ] Twice
   - [ ] more than twice

5. Which area of Nairobi do you reside in

_____

6. What is your Employment status?

Check all that apply.

- ☐ Employed
- ☐ Un-employed
- ☐ Self-Employed

7. What is your highest education level?

Check all that apply.

- ☐ Primary School
- ☐ High School
- ☐ University/College
- ☐ Masters
- ☐ PHD
- ☐ Other: _____

SECTION B: ECOMMERCE ADOPTION

In this section you will be assessing the following statements indicating the attributes of Jumia as an ecommerce platform. Please indicate the extent of your agreement or disagreement with each statement by ticking the box.

8. Buying online from the Jumia platform is easy.
Check all that apply.

- ☐ 1.strongly disagree
- ☐ 2.disagree,
- ☐ 3.neutral,
- ☐ 4.agree,
- ☐ 5.strongly agree.

9. I buy my daily supplies online from the Jumia platform?

Check all that apply.

- [ ] 1.strongly disagree
- [ ] 2.disagree,
- [ ] 3.neutral,
- [ ] 4.agree,
- [ ] 5.strongly agree.

10. Online shopping on Jumia is better than physical shopping at the supermarket.
Check all that apply.

- [ ] 1.strongly disagree
- [ ] 2.disagree,
- [ ] 3.neutral,
- [ ] 4.agree,
- [ ] 5.strongly agree.

11. I can see benefits of buying products online through Jumia.
Check all that apply.

- [ ] 1.strongly disagree
- [ ] 2.disagree,
- [ ] 3.neutral,
- [ ] 4.agree,
- [ ] 5.strongly agree.

12. I can do a test order easily using the Jumia platform first before fully purchasing the products.

Check all that apply.

- ☐ 1.strongly disagree
- ☐ 2.disagree,
- ☐ 3.neutral,
- ☐ 4.agree,
- ☐ 5.strongly agree.

SECTION C: LAST MILE DELIVERY EXPERIENCE

In this section you will be assessing the following statements on the aspects of last mile delivery experience while using Jumia.

Please indicate the extent of your agreement or disagreement with each statement by ticking the box.

13. **Way of Delivery Frequency-**

Using a 4-point Likert scale indicate the frequency at which you use the below ways of delivery.

The answers could range from 1 = never to 4 = often.

Check all that apply.

	1	2	3	4
Door Delivery	☐	☐	☐	☐
Pick Up station	☐	☐	☐	☐

14. **Delivery efficiency**

Using a 5-point Likert scale please rate how important the aspect of delivery is to you. The answers could range from **1=least important** to **5= great importance.**

Check all that apply.

	1	2	3	4
I am happy to order goods from vendors with whom I have no problems with former deliveries.	☐	☐	☐	☐
I will often buy from those with whom my goods are delivered seamlessly.	☐	☐	☐	☐
I will easily give up on those who are unreliable in delivering their products.	☐	☐	☐	☐
I **Will change vendors if they poorly handle their deliveries.**	☐	☐	☐	☐
When I'm disappointed in the	☐	☐	☐	☐

delivery of something, I don't buy from that place anymore.				
I am loyal to companies that have a well-managed delivery process.	☐	☐	☐	☐
I like when packages delivered to me are tightly packed.	☐	☐	☐	☐
During delivery or pick up, I check whether the package is damaged.	☐	☐	☐	☐

15. **Parcel tracking**

Using a 5-point Likert scale please rate how important the aspect of delivery is to you. The answers could range from **1=least important** to **5= great importance.**

Check all that apply.

	1	2	3	4
I **would like to know where my package is at the moment**.	☐	☐	☐	☐
I **like to track the delivery of what I ordered**.	☐	☐	☐	☐
I **check the status of the shipment as it travels towards me**.	☐	☐	☐	☐

16. **Smooth delivery/Pick up experience.**

Using a 5-point likert scale please rate how important the aspect of delivery is to you. the answers could range from **1=least important** to **5= great importance.**

Check all that apply.

	1	2	3	4
The delivery of the ordered goods is easy for me.	☐	☐	☐	☐
When someone delivers goods to me, it's a simple process.	☐	☐	☐	☐
Contact with package delivery people is a pleasant experience for me.	☐	☐	☐	☐
I don't are who delivers my package.	☐	☐	☐	☐

VT OMNES
VNVM SINT

17. **Visual appeal**

Using a 5-point likert scale please rate how important the aspect of delivery is to you. The answers could range from **1=least important** to **5= great importance.**

Check all that apply.

	1	2	3	4
The appearance of the package delivery person is an important item to me in the delivery experience.	☐	☐	☐	☐
The visual impression during the delivery of the goods is important to me.	☐	☐	☐	☐
The appearance of the delivery vehicle is an important aspect of shopping experience for me.	☐	☐	☐	☐

VT OMNES
VNVM SINT

18. **Joyful anticipation**

Using a 5-point Likert scale please rate how important the aspect of delivery is to you. The answers could range from **1=least important** to **5= great importance.**

Check all that apply.

	1	2	3	4
I **look forward to the delivery of something I ordered**.	☐	☐	☐	☐
I **am eagerly awaiting the delivery of the ordered items.**	☐	☐	☐	☐
I **am happy when I need to collect the shipment I ordered**.	☐	☐	☐	☐

19. **Convenience**

Using a 5-point likert scale please rate how important the aspects of delivery is to you. The answers could range from **1=least important** to **5= great importance.**

Mark only one oval per row.

	1	2	3	4
I see the delivery of ordered goods as a useful alternative to classic shopping in a store.	⬭	⬭	⬭	⬭
I **perceive order delivery as an interestin g alternativ e to ordinary shopping**.	⬭	⬭	⬭	⬭
It takes less effort to have the goods delivered to me versus going to the store.	⬭	⬭	⬭	⬭

Thank you for your participation.

APPENDIX 3 NACOSTI RESEARCH LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **838774**

Date of Issue: **24/May/2023**

RESEARCH LICENSE

This is to Certify that Mr.. Muddie Chepkurui Collins of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: "THE INFLUENCE OF LAST MILE DELIVERY EXPERIENCE ON THE ADOPTION OF ECOMMERCE: A CASE OF JUMIA." for the period ending : 24/May/2024.

License No: **NACOSTI/P/23/26064**

838774

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX 4 ETHICS APPROVAL LETTER

Strathmore UNIVERSITY

30th June 2023

Mr Muddie Collins,
collins.muddie@strathmore.edu

Dear Mr Muddie,

RE: The Influence of Last Mile Delivery Experience on the Adoption of Ecommerce: A Case of Jumia

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC1751/23.** The approval period is from **30th June 2023 to 29th June 2024.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

STRATHMORE UNIVERSITY INSTITUTIONAL SCIENTIFIC AND ETHICAL REVIEW COMMITTEE
(SU-ISERC)
30-Jun-2023
Email:ethicsreview@strathmore.edu
P.O BOX 59857-00200
NAIROBI-KENYA