



**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**EFFECTS OF DETERMINANT FACTORS OF E-MARKETING ON
E- HAILING
(IN THE CASE OF ADDIS ABABA)**

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**June 2020
Addis Ababa, Ethiopia**

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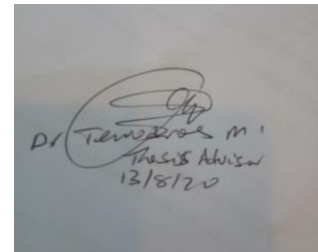
**BY
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DECLARATION

I, the undersigned, declare that this Thesis is my original work; prepared under the guidance of Dr. Tewodros Mesfin. All the sources of materials used for this thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Rahwa Desta

Name

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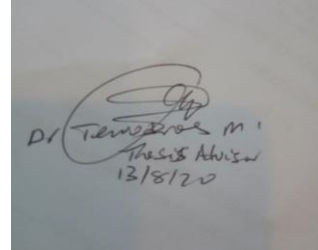
ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

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A photograph of a handwritten signature and date on a piece of paper. The signature is written in cursive and appears to be 'Dr. Tewodros M.'. Below the signature, the text 'Thesis Advisor' and the date '12/5/20' are written in a simpler, more legible hand.

Signature and Date

June, 2020

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Acronyms and Abbreviations

App: Application

DOI: Diffusion of Innovation

DV: Dependent variable

Emp: Employee

Info: Information

Infra: Infrastructure

IV: Independent variable

SD: Standard Deviation

Std: Standard

SPSS: Statistical Package for Social Science

VIF: Variance Inflation Factor

Abstract

The usage of E-marketing is having a foothold in the e-hailing service. The aim of this study was to assess the effects of determinant factors of e-marketing on e-hailing in the case of Addis Ababa. The target population of this research were e-hailing customers in Addis Ababa who use the service to satisfy their transportation needs; structured questionnaires were used to gather the data from these 384 respondents. The customers were used to assess the effect of e-marketing determinant factors on ride hailing. The collected data was analyzed using SPSS version 20, employing statistical tools such as mean, correlation, and multiple regression analysis. According to the research findings, of the four independent variables that were tested; three determinants have an effect on e-hailing. The affecting factors that had a statistically significant influence had also positive effect on e-hailing. E-marketing infrastructure had the highest effect on e-hailing; e-marketing customers were the second determinant affecting factor of e-hailing in Addis Ababa. E-marketing service providers came third with the level of effect they subsequently had on e-hailing. Based on the findings of the research, major recommendations for e-marketing infrastructure suppliers and e-marketing service providers are discussed; which are the need to improve the current internet infrastructure and e-hailing mobile applications. Further recommendations for e-hailing regulators, other stake holders and e-hailing customers have finally been forwarded.

Key words: impact, e-hailing, e-marketing.

Chapter One

Introduction

1.1 Background of the study

In the era of globalization internet plays vital role in easing the atmosphere of life and industries. Internet is very famous nowadays for satisfying people with various services related to various different fields. It is a versatile facility, which can help you in completing many tasks easily and conveniently with few clicks. E- Marketing, which is also called internet marketing, involves use of interactive, virtual spaces for the sake of promoting, selling goods and services (Owen and Humprey, 2009).

As Diffusion of Innovation (DOI) Theory explains how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (i.e., purchase or use a new product, acquire and perform a new behavior, etc.). The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible. (E.M. Rogers, 2003). Therefore, e-marketing in ride hailing needs adoption and persuasion through its innovation to penetrate and dominate the existing traditional taxi service.

Passengers usually hail a taxi on the street in the traditional manner. However, with advanced information and communication technologies, hailing a taxi through smartphones has become very popular; this approach offers passengers a high level of comfort and efficiency, especially during rush hours and rainy days. With the advent of smartphones, an increasing number of smartphone-based e-hailing applications have emerged in recent years, such as Uber and Lyft in the US and Didi and Kuaidi in China. These e-hailing applications provide an information platform that makes communication between drivers and passengers more efficient and convenient. The e-hailing service of taxicabs, as a new form of communication between drivers and passengers, has aroused scholarly interest. (Zhixiang F et al., 2018).

E-marketing is growing at a dramatic pace and is impacting customer and market behaviors. This has forced firms to start incorporating e-marketing as the main form of marketing and try

to meet their targeted customers' needs to the satisfaction. This paper investigates and states about e-marketing, what the current trend of the e-marketing field is and what are the future of E- marketing in regards to ride hailing services. The paper further looks into the effects of the determinant factors of e-marketing on ride-hailing. E- marketing is the future as it has been positively affected by the current technological change which has made the use of smart phones and gadgets a necessity.

Effective taxi services can significantly reduce the number of private cars on the roads (Jha et al., 2018). The technological advancements in the industry of transportation and mobile devices have paved the way for smartphone enabled ride-hailing services (Maqableh & Karajeh, 2014). California public utilities commission stated in 2013 such services to be referred as transportation network companies. However, they are still colloquially known as ride sharing, ride sourcing, ride splitting or ride-hailing services. In 2009, Uber emerged as of the first service to provide such facilities (Ziad Hunaiti et al., 2018). There are eleven licensed ride hailing service providing companies in Ethiopia. Thus, the research focuses on the ones that are fully operational within the outskirts of Addis Ababa. E-marketing brings about new opportunities on every sector the same is true on the taxi industry. It has transformed how the traditional taxi service operators, and has laid the ground work for ride-hailing service providers to blossom.

E-hailing which is defined as a process of ordering a car, taxi, limousine, or any other form of transportation pick up via virtual devices: computer or mobile device. More recently, a new type of urban transportation arrangement known as e-hailing became available with the peer-to-peer connection between passengers and drivers who own a private vehicle. This market expanded quickly, becoming one of the most vibrant and dynamic sectors of the sharing economy (Eduardo et al., 2019).

1.2 Statement of the problem

Over the past 15 years the ICT revolution has driven global development in an unprecedented way. Technological progress, infrastructure deployment, and falling prices have brought unexpected growth in ICT access and connectivity to billions of people around the world. In 2015 there were more than 7 billion mobile cellular subscriptions worldwide, up from less than 1 billion in 2000. At the same time, the percentage of the population covered by a 2G mobile-cellular network grew from 58% in 2001 to 95% in 2015. Likewise, it is important to mention

that Mobile Broadband is the most dynamic market segment; globally this market penetration reached 47% in 2015, a value that increased 12 times since 2007 (Sanou, 2015).

According to Ethio-telecoms report released on December 31, 2019 it has forty-five million six hundred thousand customers, of which forty-four million thirty thousand are mobile voice subscribers and twenty-two million seven hundred forty thousand are internet and data subscribers. Which shows huge customer base that is growing at an average rate of 33% per year since 2013 G.C. Ethio-telecom: data and internet subscribers 2013-2019.

Published by S. O'Dea, dated Feb 27, 2020, on statista.com the statistic shows the number of data and internet subscribers to Ethio-telecom in Ethiopia from the 2011/12 fiscal year to the 2018/19 fiscal year.

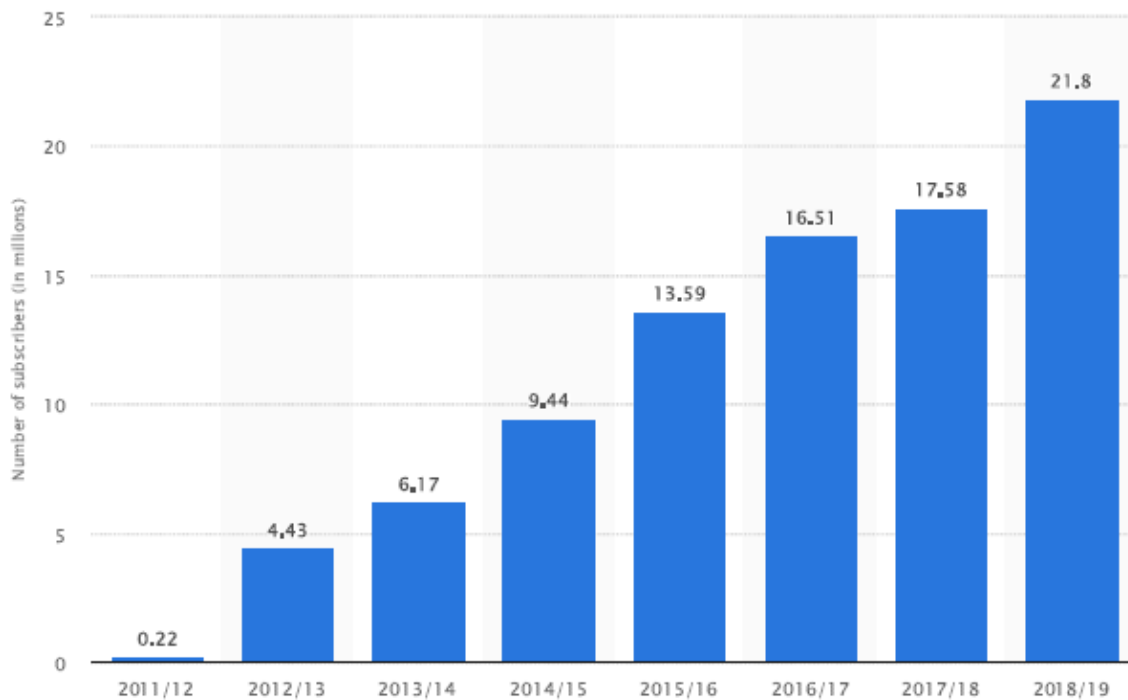


Figure 1.1 Number of data and internet subscribers to Ethio-Telecom, Ethiopia, from fiscal year 2012 to 2019 (in millions)

According to (Arjinder and Gurveen, 2017), the major challenges of digital marketing in developing countries compared to that of developed countries are: low speed internet connections, cyber-crime: many consumers are hesitant to purchase items over the internet, digital marketing education is still generally low in developing countries, high cost of

production, over regulations of business by government, high illiteracy to digital marketing application. The same is true for Ethiopia.

E-commerce readiness in Ethiopia is not still measured at a macro level which is identified with major constraints like absence of E-banking with foreign banks, lack of appropriate legal frame works of E-commerce and internet cost expensiveness (Ayalew et al., 2010).

The research pursues to answer the following questions;

- What is the effect of infrastructure in e-marketing within ride-hailing?
- How do customers affect e-marketing usage within ride-hailing?
- How do service providers affect usage of e-marketing within ride-hailing?
- What are the effects of government rules and regulations in e-marketing usage of ride hailing?

1.3 Objectives

The main objective of the study is to assess the effects of determinant factors of e-marketing on ride-hailing in the case of Addis Ababa.

1.3.1 General objectives

- To assess the effects of e-marketing determinant factors on ride-hailing companies.

1.3.2 Specific Objectives

- To measure the effect of infrastructure in e-marketing on ride hailing;
- To assess the effect of governments' rules and regulations have in e-marketing on ride hailing;
- To list the major effect customers, have in e-marketing on ride hailing;
- To evaluate the influence of service providers of e-marketing on ride hailing.

1.4 Significance of the study

The good aspect of this study is that it is the first in its kind conducted in the use of e-marketing among Ride hailing companies in Addis Ababa focusing to assess the impact of the determinant factors. This study would be practically advantages since e-marketing is the driving factor through which customers demand are met and influenced by ICT infrastructure to deliver its service.

The study is useful for companies that offer ride-hailing services and government offices that regulate the service they provide as it gives insight in to the new category within the transportation service-providing sector. It lays out the level of impact each factor has on the service. Thus, government regulators and ride hailing service providers can develop strategies that work for all.

It can be used as a reference document for future researches done on this subject. Further the analysis compiled in the research from the determinant factors will help determine the effect each variable has on ride-hailing them build on their strength; resolve their weakness and eventually what opportunities and threats the business model brings about.

1.5 Scope of the Study

The main objective of the study is to assess the level of impact determinant factors of e-marketing have on ride-hailing in the case of Addis Ababa. In theoretical aspect, it will assess the technological acceptance of e-marketing. The outcomes of this research are believed to address the needs of customers, companies and government regulators in the field. In the context of e-hailing users in the Addis Ababa. Considering some constraints such as time limitation and financial setbacks as well as to make the study more manageable, the research has limited the scope of the study in the city of Addis Ababa.

Chapter Two

Literature Review

2.1 Theoretical Review

The Internet is a global system of interconnected computer networks. It is a network of networks that consists of millions of private, public, academic, business, and government networks. “Internet works thanks to combination of a range of technologies and it is the biggest source of information mankind has ever had for its disposal. Internet also laid the foundations of more information channels than people have created until the 20th century.” (Phillips, 2003). The term Marketing has many definitions.

One of the most well-known definition says that “Marketing is the social process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others.” (Kotler, Keller, 2007). By connecting these two fields “We can apply marketing principles within the internet area. This can be done mainly by creating a web pages, internet advertising, and also marketing research on the internet, electronic commerce etc. However, internet marketing demands a little bit different approach in certain aspects than traditional marketing.” (Blažková, 2005). Simply speaking internet marketing, also referred to as online-marketing, web-marketing, e-marketing, or i-marketing, is the marketing of products or services over the Internet.

Digital marketing is a form of direct marketing which links consumers with sellers electronically using interactive technologies like emails, websites, online forums and newsgroups, interactive television, mobile communications etcetera (Kotler and Armstrong, 2009). It facilitates many-to-many communications due to its high level of connectivity and is usually executed to promote products or services in a timely, relevant, personal and cost-effective manner (Bains et al., 2011).

Internet marketing is a general term used for the practice of marketing products and services over the Internet (online websites). It is the process of promoting an organization using online media, typically with goals of increasing sales and boosting profits.

Since late 1990’s, the Internet has been used for various marketing practices. It has evolved tremendously during the past decades owing these changes to rapid technological innovations and changes of the Information Technology (IT) industry.

The Internet represents a significant change in the competitive landscape. Scholarly research in developed countries has devoted considerable attention to this new marketing medium. Extant research has focused on issues such as, the Internet as a communication medium, electronic business markets enabled by the Internet, and the proposed effects of firms' use of the Internet on trust development (Kiang and Chi, 2001). Other research has examined industry structure, product characteristics, and the relative advantages of online buying contexts and efficiencies (Strauss and El-Nassary, 2003). In addition, conceptual work has addressed competitive strategy issues related to the Internet (Cronin, 1996). Even though the internet is a relatively new technology as compared to the taxi and car industry, it is expanding at a swift rate.

Although the initial taxi industry can be traced back to 1640s, when horse drawn vehicles were available for hire in Paris, the industry did not truly begin in the United States until the late 1800s. By 1890, automobiles gained popularity and were becoming more prevalent on city streets around the country. It comes as no surprise that soon enough; business opportunists were hiring automobiles out and creating competition for the horse-drawn carriages.

A study by (Lu et al, 2015) suggested that self- service mobile technologies give control to commuters to access lot of information with the help of technology. (Horsu and Yeboah, 2015) had revealed in their study that driver behavior has negative correlation on customer satisfaction in Ghana. Other variables continuous service, comfort, reliability and affordability have an impact on customer satisfaction with regard to minicab taxi. One study by (Paronda et al., 2016) identified the key performance indicators of conventional taxis which includes reliability, travel speed, passenger expenses and quality of service. Study based on surveys for 30days concluded that Uber and Lyft offer better quality services than conventional taxis.

Taxis, the dominant means of transportation in Addis Ababa compete with a wide range of other transport options, including mini cabs, public transport, light railway trains and private vehicles. Substantial evidence suggests that restrictive approaches to taxi licensing taken in many countries, together with resulting upward price pressures, is progressively leading consumers to substitute away from the taxi industry. Absent a strong theoretical justification for restricting taxi numbers, this substitution is economically distorting and will lead to important welfare losses. Even with these restrictions they come out as the leasing means of transportation within the city.

2.2 Empirical Review

Research's that have been performed with a near proximity to this specific topic have been made but, with a different context taken, which are discussed below.

The determinant factors of e-marketing have been studied with-in previous literatures (Day et al, 2005) stated, seventy-eight percent of Internet users utilize the Internet to get information on products or services, and over fifty-four percent purchased products or services online. As well (El-Gohary, 2012) identified that, limited resources, bad infrastructure, stiff -competition, readiness of the owners to take risky investment and the newness of e-marketing are the main obstacles limiting the application of e-marketing. The same goes for (Odimmega et al, 2016) putting the influence of infrastructure on e-marketing finding that inadequate communication infrastructures, high internet connectivity expenses, and inadequate power supply were the main obstacles to e-marketing adoption.

The study made by (Shivangi and Priyanka, 2018), on consumer behavior while using E-cab hailing, has tried to examine how app-based cab aggregators have made our life easier; to study the factors affecting adoption and usage of mobile app-based cab services; to identify the popular mode of payment preferred by consumers while availing these services; to ascertain whether privacy and safety is a matter of concern for various consumers availing e-cab hailing services. According to the survey taken for the study, we observed that 95% of the respondents normally book cab using e-hailing cab application, the rest either call a taxi company or book using taxi company website. 95.8% and 60% of the respondents feel safe while getting a taxi on their own during daytime and night time respectively. 40% of the respondents still feel unsafe while hiring a taxi at night and the reasons could be many like fear of eve-teasing, sexual harassment, loot, theft, and fear of life. 30% of the respondents feel safe with female drivers so more female drivers should be given opportunity to take driving as their career option. There should be proper police verification and training of cab drivers to encourage ethical and moral behavior amongst them which will have positive long-term effects for e-cab hailing industry (Shivangi and Priyanka, 2018).

On the research paper titled regulating e-hailing services: the case of Uber Regulation in Mexico City and Bogotá (María L. Puche, 2016). At any rate, city governments should assure that

transportation network companies make their rules public as well as their protocol, so that the user is better informed about this new transportation option.

To conclude, it is evident that innovation and technology represent an opportunity to improve the efficiency of transportation systems for which the public policy and the current regulations should be taken advantage of, for the common interest of society and to improve the harmonious relationship that should exist between transportation and social dimension. Public leaders must promote the coexistence of diverse individual transportation systems within cities and even though it is one same industry, it cannot function under the same rules. They must allow innovation in menu of service options provided to inhabitants of a given city, under the rules of fair competition, looking forward to reaching a plane level insofar as conditions are concerned, whereby each transportation service could operate. Likewise, better addressing requires new models of governance through the participation of stakeholders. The importance of spaces for public participation in the decision-making processes in a bid to govern urban and social conflicts in cities is an undeniable fact of modern urban life.

2.3 E-Hailing Services

E-hailing encompasses a range of companies and services, including traditional taxis and car services. The overarching idea of ride-hailing is that a customer hires a driver to take them exactly where they need to go, something accomplished by hailing a taxi from the street, calling up a car service on the phone, or virtually hailing a car and driver from an app. (The Zebra, April 13, 2016).

E-hailing services are services that use online-enabled platforms to connect between passengers and local drivers using their personal vehicles. In most cases, they are a comfortable method for door-to-door transport. Usually they are cheaper than using licensed taxis. In some countries the ride hailing services are regulated in the same way as regular taxicabs.

Customer base of the service usually urban dwellers starting from middle income citizens not restricted to any age group, though must be above the legal age of 18 years old. Conveniently, they should also have access to the internet or mobile device and has the ability to navigate the basic features of using the device.

The Global Positioning System (GPS) is a network of about 30 satellites orbiting the Earth at an altitude of 20,000 km. The system was originally developed by the US government for military

navigation but now anyone with a GPS device, be it a SatNav, mobile phone or handheld GPS unit, can receive the radio signals that the satellites broadcast. Wherever you are on the planet, at least four GPS satellites are 'visible' at any time. Each one transmits information about its position and the current time at regular intervals. These signals, travelling at the speed of light, are intercepted by your GPS receiver, which calculates how far away each satellite is based on how long it took for the messages to arrive. Once it has information on how far away at least three satellites are, your GPS receiver can pinpoint your location using a process called trilateration. Exposure to briefly understanding GPS (both drivers and customers).

Infrastructure, which is the physical part of the conditions required for transportation. These can be: underground infrastructures or surface infrastructures (IGLUS, EPFL, 2016). Paved or unpaved roads, bridges and canals are within this category.

The vehicle or car, represented by the different ways of transportation. This instrument allows mobility for people, things or objects from one place to the other. In the case of urban public transportation.

The transport operator, the person or institution in charge of the operation of the vehicle or car in which people or things will mobilize.

Rules, regulations and laws, are the transportation system's main factor, because they determine the way to move from one place to another and in addition, they regulate the operation rules.

The shortage of research in the area specifically E-Marketing and ride hailing services within the context of our country makes it an intriguing research topic. As well its input in filling the gap of literatures within the scope of study.

The impact of ride-hailing services on urban congestion has been difficult to disentangle due to shortage of data as well as an appropriate empirical setting. Due to these limitations, prior work has relied largely on self-reported surveys or simulated counterfactual models.

The context is analyzing taxi service organization located in Addis Ababa specifically, concerned on ride hailing companies that use internet as their main configurations for marketing.

2.4 Determinants of E-marketing effects on e-hailing services

Software Development has opened markets for young developers and engineers to develop various mobile apps and start businesses from small to large scales. In the recent past, we have witnessed an enormous growth in the development of mobile applications in the automation industry. In one way or another, those applications are proven to be a major source of income and provide good quality services with less investment as a customer. These applications have changed the way of commuting within cities. The main idea was to let users (drivers) use their cars to give rides throughout their cities to the other users; while these applications play the role of intermediate parties to assure the good quality of service and experience. To this end, everything seems perfect and in order.

It has been a while since mobile app-based taxi service became a well-known and widely used service in many parts of the world including our country. The service is convenient and efficient as it is accessible at any time anywhere in areas where it is applicable. This became possible due to the technology advancement in mobile phone applications i.e. apps. These apps are pieces of software installed onto personal phones to attain the services like entertainment, communication, transportation, shopping, mapping etc. (Rasheed, Mazhar & Shahid, 2018)

(Chen, 2014) proposed several technical improvements to solve issues related to honesty, accuracy, equality and safety while using mobile app-based taxi dispatching system. They studied that mobile applications in cab-hailing help both the driver and passengers to contact and find each other. At present, the mobile apps help customers to find cabs, trace the driver and call or message him to know his location. They also focused on further improvement related to route, taximeter and carpooling.

(Khupse, 2017) conducted a survey on 150 app-based taxi users with a help of structured questionnaire and they chose only those respondents who have used app-based taxi services at least 3 times and also have mobile applications on their phone. They found that reasons such as timely and quick availability of cabs, safety, cheaper than traditional model of taxies, cab-pooling, attractive cash back, coupons and discounts are the most common and significant reasons for using app-based taxi services. They suggested that these service providers must focus on cashless system, Wi-Fi connectivity, negotiations and bargaining while improving their services. (Venkatesh, & Easaw, 2015) found that technology plays a very significant role in cab-

aggregator services. They studied the way Ola and Uber have tapped the Indian market using the smart phone technology and converted the loopholes in traditional transportation into their business opportunities.

Mobile taxi booking (MTB) Apps (applications) have been developed in cities as a bridge to connect passengers and taxis (Shen et al., 2015) and this is to deal with the above problem. With MTB App, passengers can search for available taxis around them and make an order. They fix their locations by GPS or typing the target location, by which drivers can easily reach them (Rayle, Dai, Chan, Cervero & Shaheen, 2016). These literatures testify communication infrastructure, mobile applications, internet and others which all can be categorized in to infrastructure, that it is one of the determinant factors of e-marketing.

Security and Privacy control; First and foremost, security and privacy for both drivers and riders were the main concern. Thanks to sophisticated security protocols, it was not an issue to connect a mobile app to the credit card or debit card of your bank. If these options are not available, you always have the option of paying cash.

Governing Rules and Regulations of the service is government's responsibility to provide a respectful and safe environment for both ride-hailing users and drivers. To make it possible governments should take initiative to develop an online, centralized database for smart driving licenses along with a driver's driving record, criminal and accident history. Governments should also maintain an online record of vehicle registration and should also update the vehicle health status periodically. Specific area route permits should only be given to those who successfully provide the proof of a driver's residence in that specific area. It is not a one-time job; record maintenance and preservation are to be assured to regulate the cases of deceit. The role of government in laying the rules and regulations for e-marketing to work is not questionable as (Papazafeiropoulou and Pouloudi, 2014) put it public authorities today have to act in a fast-changing environment where international co-operation is imperative while there is necessity to deal with special national demands. Governments world-wide have shown the intention to incrementally replace traditional systems of data manipulation with electronic ones. Using electronic commerce technologies, they try to streamline the delivery of their services to the public, serving the citizens through diverse channels. Governments should recognize the unique qualities of the Internet and the new electronic commerce environment. It is obvious that existing

strategies and regulatory frameworks have to be reconsidered or even substituted by new ones (Papazafeiropoulou and Pouloudi, 2014).

Moreover, there is a dearth of information for the cases in which governments have approved regulations for e-hailing taxi services in order to give recommendations for public leaders about how to change the current taxi regulatory framework or create new ones including e-hailing taxi. In addition, city governments should take advantage of the work performed in other cities, these examples would provide authorities new structures that are being developed to achieve better governance of e-hailing taxi market (María L. Puche, 2016).

New worldwide leading ridesharing applications like Uber, Lyft and Sidecar, are currently revolutionizing the urban transportation industry, by allowing taxi drivers to find clients more rapidly, and other individuals to offer transportation services more easily (Geloso and Guénette, 2014).

Smart devices and task oriented smart apps are very handy in time saving and comfort. After enormous success in the developed countries, these apps are finding a very big market in the developing countries. The arrival of these multinational services will create hundreds and thousands of jobs for the unemployed and will also help carve the way for different apps and projects that may provide on-demand services to their customers in domains like transport, health, security, and maintenance. But in the developing countries, these services will challenge the existing traditional transport system. Due to lack of awareness of smart devices and apps, drivers will have difficulties surviving in the competition, while customers face a bit of challenge adopting the new technology.

The other determinant factor of e-marketing customers or the service users have an effect on the usage of e-marketing. As (Joon Moon, 2004) wrote on his literature with regard to consumer's behavior on the internet, it can be noticed that consumers focus on product purchasing and information gathering. Customers search for online services such as: e-marketing, online banking, investing and e payment (Lain & Lin, 2007). (Shergill & Chen, 2005) further focused on factors, which online New Zealand buyers keep in mind while e-marketing. (Joon moon, 2004) also provided an exploratory model to understand the factors that influence consumers to adopt the internet instead of traditional channels for information search and product purchase. Finally, (Alsmadi, 2002) investigated possible factors that influence consumer attitudes to e-

marketing in Jordan. These all papers state that customers are one of the determinates of e-marketing.

The last determinant of e-marketing, the service providers, have been discussed by (Sparkes and Thomas, 2011) stating, early adopters of internet marketing have gained a competitive advantage and established customer loyalty programs that have enabled them retain and gain new clients. As well (Kithinji, 2014) noted that the use of e-marketing by organizations has allowed cheaper marketing of its products, a greater customer base and a more personal interaction in the marketing. This has enabled a better research of the customer needs and has allowed the provision for these needs easier at a reduced cost. Thus, as discussed on the previous paragraphs, the four selected determinant factors have well studied effects on e-marketing.

2.5 Conceptual framework and Research Hypothesis

Independent variables

- E-marketing infrastructures
- E-marketing rules and regulations
- E-marketing customers
- E-marketing services providers

Dependent variable

- E-hailing

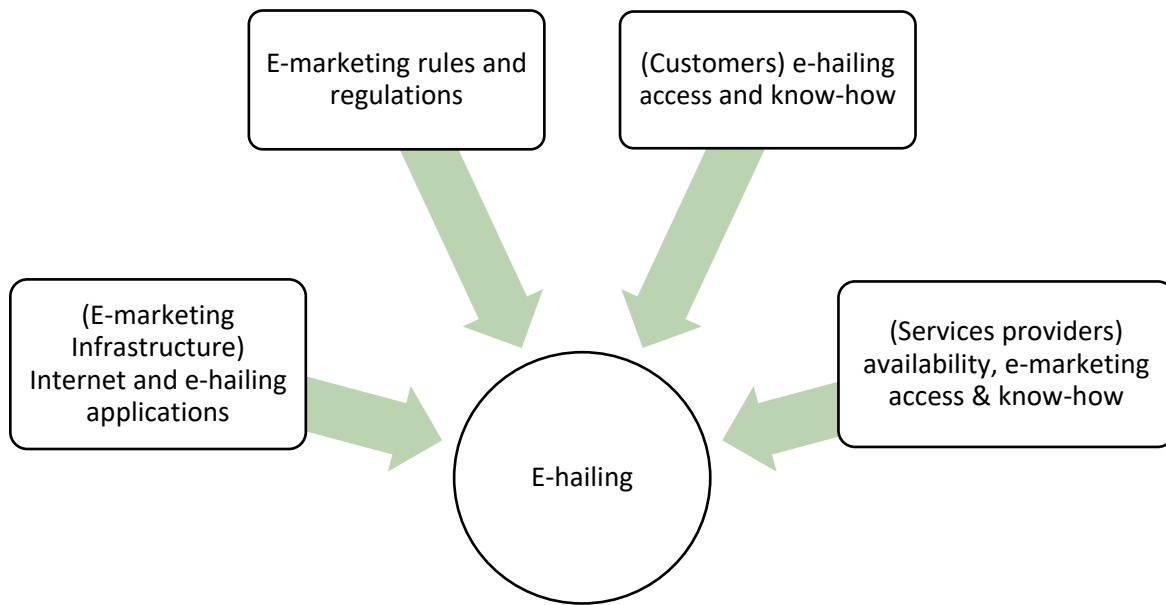


Figure 2.1 Conceptual framework of the hypothesis and variables

For this thesis research, the following hypothesis, which considers e-marketing's infrastructure, e-marketing's rules and regulations, customers e-hailing usage and e-hailing service providers effect on e-hailing in the case of Addis Ababa have been tested.

H1: E-marketing infrastructure and e-hailing applications have an effect on e-hailing.

H2: E-marketing rules and regulations affect e-hailing.

H3: Customers e-hailing access and know-how influences e-hailing.

H4: Service provider's availability, e-marketing access and proficiency affect e-hailing.

Chapter Three

Research Methodology

3.1 Research approach

Based on the type of data it employs, a research can follow quantitative, qualitative and mixed approaches. A quantitative research is used in researches that have measuring and counting attributes, which largely depends on the measurement device or instrument used. The approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion (Kothari, 2004).

It is also often concerned with finding evidences to either support or contradict a hypothesis that contains concepts to be measured. Hence, this study found the quantitative method appropriate to investigate the causal relationship between the variables in line with the main aim of the research which was testing the developed hypothesis.

3.2 Research design

The study employs explanatory research method that describes any causal link between independent and dependent variables that pertains to the research problem. Since the intention of this study is to assess the impact of independent variables over the dependent variable, descriptive method was suitable and helpful in examining the relationship and conclude from the findings.

3.3 Population of the study

The target population of the study comprised of all individual customers' who were occasional and/or are regular users of ride-hailing services. In the research, as the number of customers obtained from the database of the service providers exceeds 950,000 users. The population of the study is therefore considered to be close to a million. Addis Ababa was the paramount target location where the ride-hailing service was available to obtain the respondents data.

Based on Small-Sample Techniques published on the NEA research bulletin, Vol. 38 (December, 1960), p. 99; Table for determining sample size from a given population. As the sample population is close to a million the sample size requires a minimum of 384 respondents from e-hailing user customers.

3.4 Sampling technique

Because of the large number of the sample unit, time and cost constraint, the sample was drawn from the targeted population by using a non-probability sampling. This sampling method involves purposive or deliberate selection of particular units in Addis Ababa. In this research, Convenience sampling techniques will be used where the population elements were selected in the sample based on the criteria if they have used the e-hailing service at least once.

3.5 Data sources and data collection instruments

Primary data collection methods gathered using questionnaire, which is the main data-gathering tool of this study.

The items used to measure the different dimensions of e-marketing were searched from existing literature. Out of the eight dimensions of e-marketing by Chen (2006), this study therefore, is based on these validated scales for measuring e-marketing through five dimensions, E-promotion, E-payment, E-place/interface, E-service and E-privacy. Hence, four independent variables were drawn from these dimensions. Namely, internet infrastructure, government rules and regulations, customers and service providers.

3.6 Methods of data analysis

The data gathered from the questionnaires; from e-hailing customers; were entered and all the analysis was performed using the Statistical Package for the Social Sciences (SPSS). Descriptive analysis was used to organize and summarize the demographic data of the respondents which include age, gender, educational level and monthly income. On the other hand, correlation analysis was used to see if there is any linear relationship between the independent and the dependent variable.

Multi-collinearity test was also performed to check if there are correlations between the independent variables themselves and the dependent variable in the model. correlations between the variables in the model. In addition, multiple linear regression analysis was also used to learn by how much the independent variables influences the dependent variable.

3.7 Ethical considerations

According to Resnik (2015) many of the ethical norms help to ensure that researchers can be held accountable to the public. Therefore, this research took this in to account has been responsible to keep the interests of the public it dealt with confidential. Participants were asked if they will voluntarily participate in the study. In addition, anonymity of individuals who will participate in filling of the questionnaires will remain undisclosed throughout the study.

Chapter Four

Analysis and Findings

4.1. Introduction

The flow of organization of this chapter consists of then demographic profile of the respondents presented and analyzed. In order to facilitate ease in conducting the empirical analysis, the results of descriptive analyses were presented first, followed by the results of Pearson's correlation coefficient and regression results.

4.2. Samples and Response rate

From a total of 402 questionnaires sent for e-hailing users to fill out the questionnaires using the google forms and adobe forms online platforms taking into consideration the current social distancing protocols, 384 questionnaires that were successfully submitted; from the e-hailing customers in Amharic and English languages were used for the analysis.

The customer's questionnaire had a validly responded questionnaires of 95.5% from the total forwarded questionnaires.

4.3. Demographic Profile of respondents E-hailing customers

The samples of this study have been classified according to five demographic background data assembled from the questionnaire's response.

The demographic data analysis is used to classify the respondents in gender groups; percentage of male and female e-hailing users, age categories; young adults, adults and elderly, their profession, current employer as well as based on the academic background of the respondents.

The compiled demographic data of the customers are presented in the tables below respectively. As presented in the table below the majority of e-hailing customers work in the IT/Engineering profession having 26.0% and are between the ages of 18-29 with 45.3%. As well as, the main customers were males, slightly out numbering the females which had 52.3% and 47.7% of the participants respectively.

Furthermore, the academic qualification of the customers was dominated by bachelor's degree, followed by diploma holders, masters and above degree and which consists 49.0%, 23.2% and 20.3% sorted in a descending order respectively. Most of the customers have a monthly income

more than 10,000 birr which were 32.0% of the respondents, while incomes 5,000 and below, 5,001 - 7,500 and 7,501 - 10,000 had a percentage proportion of 12.0%, 25.3% and 30.7%.

In summary, the majority of the customers were males within the age group of 18-29 having predominantly bachelor's degree and are private sector employees, which work in IT/ Engineering with a monthly income of more than 10,000 birr.

Table 4. 1 Demographic data summary of e-hailing customer respondents.

Category	Item	Frequency	Percent	Cumulative Percent
Profession	Art/Entertainment	23	6.0%	6.0%
	Education	22	5.7%	11.7%
	Healthcare	22	5.7%	17.4%
	Media	28	7.3%	24.7%
	Finance/Banking	21	5.5%	30.2%
	Sales/Marketing	46	12.0%	42.2%
	Student	22	5.7%	47.9%
	IT/Engineering	100	26.0%	74.0%
	Civil Servant	21	5.5%	79.4%
	Farmer	16	4.2%	83.6%
	Other	63	16.4%	100.0%
	Total	384		
Age	18 - 29	174	45.3%	45.3%
	30 - 39	128	33.3%	78.6%
	40 - 49	39	10.2%	88.8%
	Over 50	43	11.2%	100.0%
	Total	384		
Gender	Male	201	52.3%	52.3%
	Female	183	47.7%	100.0%
	Total	384		
Monthly Income	5,000 and below	46	12.0%	12.0%
	5,001 - 7,500	97	25.3%	37.2%
	7,501 - 10,000	118	30.7%	68.0%
	10,001 and above	123	32.0%	100.0%
	Total	384		
Education level	Certificate and below	29	7.6%	7.6%
	Diploma	89	23.2%	30.7%
	Bachelor's Degree	188	49.0%	79.7%
	Masters and above	78	20.3%	100.0%
	Total	384		
Current Occupation	Self Employed	111	28.9%	28.9%
	Private Sector	123	32.0%	60.9%
	Public sector	69	18.0%	78.9%
	Other	81	21.1%	100.0%
	Total	384		

Table 4. 2 Statistics summary of e-hailing customer's usage frequency, arrival time and vehicles used.

Category	Item	Frequency	Percent	Cumulative Percent
Weekly ride hailing usage frequency	1-3 times	191	49.7%	49.7%
	4-6 times	78	20.3%	70.1%
	7-10 times	64	16.7%	86.7%
	11 and above	51	13.3%	100.0%
	Total	384		
Time it took for your ride to arrive	2-4 min	101	26.3%	26.3%
	5-7 min	141	36.7%	63.0%
	8-10 min	89	23.2%	86.2%
	Over 10 min	53	13.8%	100.0%
	Total	384		
Vehicle type used mostly	4 seat vehicle	306	79.7%	79.7%
	7 seat Vehicle	28	7.3%	87.0%
	11 seat vehicle	18	4.7%	91.7%
	Other	32	8.3%	100.0%
	Total	384	49.7%	49.7%

As per the above table, most of the e-hailing customers used the service 1 to 3 times per week with a share of 49.7% whereas the remaining respondents used the service 4-6 times, 7-10 times and more than 11 times with a percentage of 20.3%, 16.7% and 13.3% correspondingly.

In regards to the time it took for the ride-hailing to arrive from the time the request is made, majority of passengers which are 36.7% of the total waited from 5-7 minutes, the rest which had 26.3%, 23.2% and 13.8% share of percentage from the total respondents waited 2-4 minutes, 8-10 minutes and over 10 minutes accordingly.

A four-seat vehicle was predominately the favorite of the users with a percentage of close to 80% while the 7-seat vehicle, 11 seat and other type of vehicles had a usage percentage of 7.3%, 4.7% and 8.3% respectively as shown in the table above.

4.4. Agreement level of the respondent's perception towards variables of the research

To determine the effects of the determinant factors of e-marketing on ride-hailing from the perspective of the customers a five-point Likert scale was used. Within which three items were used to represent the variable e-marketing infrastructure availability that are Internet and e-hailing applications, three items were used to represent the variable rules and regulations from the government, four items were used to measure customers e-hailing access and know how, three items to measure services provider's availability, e-hailing adoption, e-marketing access and know-how respectively.

The analysis of the study was done using descriptive statistic from these results the mean scores of each variable were used for the research. To demonstrate the average responses of respondents for each question that was included under each dimensions of the predictor variable and to reach the grand mean of each dimension, these measurement methods was adopted.

As a final point, the interpretation is made using the grand mean of each independent dimension for the aim of achieving partial research objectives of the study. When the grand mean score for the constructs are above 3 shows the respondents reply in some way shows an agreement to the questions raised during the questionnaire.

In contrast, high standard deviation score implies, the data is wide spread due to the fact that the respondents have shown relatively diverse opinion whereas, the low standard deviation value can be interpreted as the respondents having relatively similar responses to items under the study.

4.4.1 Perception of respondents on the effect of e-marketing infrastructures on e-hailing

Three questions were presented to the respondents to test the opinions and views of them in regards to the e-marketing infrastructures effect on e-hailing. The table below depicts the responses of the respondents with the mean and standard deviation of the question item.

According to the data presented in the table, most of the respondents are toward agreeing internet provides necessary support and information to use e-marketing while accessing the ride app and e-marketing system enables me to call ride faster than calling agents with a mean value of 3.80 and 3.79 respectively. I have stable internet connection to access ride-hailing app has a mean

score of 3.62 showing the aggregate mean value of the respondents slightly agree with the statements forwarded for this section of the questionnaire. The mean value of 3.74 for e-marketing infrastructures shows the respondents are towards agreeing on the questions depicted for the category.

Table 4. 3 Respondents perception on the effect of e-marketing infrastructures on e-hailing

	N	Mean	Std. Deviation
Internet provides necessary support and info to use E-marketing while accessing the ride app	384	3.80	1.03
E-marketing system enables me to call ride faster than calling agents	384	3.79	1.07
I have stable internet connection to access ride-hailing app	384	3.62	1.06
Overall mean value of the effect of infrastructure on e-hailing.		3.74	1.05

4.4.2 Perception of respondents on the effect of e-marketing rules and regulations on e-hailing

Three questions were presented to the respondents to assess the opinions and views in respects to the rules and regulations of e-marketing effect on e-hailing. The table below portrays the responses of the respondents with the mean and standard deviation for the question item.

According to the data presented in the table, the aggregate average score of the respondents portrayed in the questions, how has the government’s involvement impacted your ride-hailing use, my safety is guaranteed while using ride, do you believe the government is involved in regulating ride-hailing service is adequate; with mean scores of 3.83, 3.81 and 3.82, show they are on the agree level in their responses.

The mean value of 3.82 for the rules and regulations shows the respondents are towards agreeing on the questions depicted for the category.

Table 4. 4 Respondents perception on the effect of e-marketing rules and regulations on e-hailing

	N	Mean	Std. Deviation
How has the government's involvement impacted your ride-hailing use	384	3.83	1.01
My safety is guaranteed while using ride	384	3.81	0.99
Do you believe the government is involved in regulating ride-hailing service is adequate	384	3.82	1.07
Overall mean value of the effect of rules and regulations on e-hailing.		3.82	1.03

4.4.3 Perception of respondents on the effect of e-marketing customers on e-hailing

Four questions were presented to the respondents to test and assess the effect e-marketing customer's usage experience has on e-hailing services. The table below shows the responses of the respondents with the mean and standard deviation for the question item.

According to the data presented in the table below, most of the respondents are near to agreeing in I have acquired knowledge to use ride app with a mean value 3.83. For the questions I will recommend others to use e-marketing ride hailing services, I save time by using e-marketing to call ride, E-marketing interface language is user friendly and guides appropriately; they have shown towards an agree level of response with mean values of 3.67, 3.63 and 3.60 accordingly. The overall mean value of 3.68 shows the respondents have shown nearing an agree level of response for the itemed questions.

Table 4. 5 Respondents perception on the effect of e-marketing customers on e-hailing

	N	Mean	Std. Deviation
I will recommend others to use e-marketing ride hailing services	384	3.67	1.03
I have acquired knowledge to use ride app	384	3.83	1.01
I save time by using e-marketing to call ride	384	3.63	1.07
E-marketing interface language is user friendly and guides appropriately	384	3.60	1.01
Overall mean value of the effect of customers' effect on e-hailing.		3.68	1.03

4.4.4 Perception of respondents on the impact of e-marketing service providers on e-hailing

Three questions were presented to the respondents to test their opinions on the effect of e-marketing service providers on e-hailing. The table below shows the responses of the respondents with the mean and standard deviation for the question item.

According to the data presented in the table, most of the respondents have responded to the presented questions with an above average agreement level of response for e-marketing system easily makes adjustments related to scheduling and using the ride application, how do you consider the impacts ride-hailing has brought to taxi-services and advertisements on the internet frequently introduce, suggest and guide the society into being familiar with ride hailing service, with mean scores of 3.42, 3.86 and 3.68.

The overall mean value of 3.66 shows the respondents have shown towards agree level of response for the itemed questions.

Table 4. 6 Respondent perception on the effect of e-marketing service providers on e-hailing

	N	Mean	Std. Deviation
E-marketing system easily makes adjustments related to scheduling and using the ride application.	384	3.42	1.07
How do you consider the impacts ride-hailing has brought to taxi-services	384	3.86	1.06
Advertisements on the internet frequently introduce, suggest and guide the society into being familiar with ride hailing service	384	3.68	1.07
Overall mean value of the effect of service providers on e-hailing.		3.66	1.07

4.4.5 Comparison of respondents Perception on the effects of determinant factors on e-hailing

Table 4.7 below shows the overall means of all factors considered to assess the effect of determinants factors of e-marketing on ride-hailing. According to the findings of the means Government rules and regulations, came up with the highest overall mean score of 3.82.

Table 4. 7 Overall mean score ranking of respondent's perception on influencing factors

Factor	Mean score	Standard deviation	Rank
E-marketing infrastructure	3.74	1.05	2 nd
E-marketing rules and regulations	3.82	1.03	1 st
E-marketing customers	3.68	1.03	3 rd
E-marketing service providers	3.66	1.07	4 th

4.4.6 Respondents Perception on the effect of E-marketing on ride-hailing

Table 4.8 below shows the respondents overall mean value on their perception on the effect of e-marketing on ride hailing which had a mean score of 3.81. The result shows the respondents made towards an agree level of response with a standard deviation value of 0.99.

Table 4. 8 Respondents Perception on the effect of E-marketing on ride-hailing

	N	Mean	Std. Deviation
How do you perceive the impact of e-marketing on ride-hailing service	384	3.81	0.99
Overall mean value of the effect of e-marketing on ride-hailing.		3.81	0.99

4.5. Correlation Analysis: Relationship between the study variables

For this research Pearson's correlation coefficient was used to determine whether there is a relationship between e-marketing infrastructure, e-marketing rules and regulation, e-marketing customers access and knowhow and e-marketing service provider availability with e-hailing. Pearson's coefficient of correlation is the most widely used method of measuring the degree of relationship between variables. This coefficient assumes there is a linear relationship between the two variables.

The following section presents the results of correlation on the relationship between independent variables and dependent variable. Table 4.8 below indicates that the correlation coefficients for the relationship between independent variables and the dependent variable is linear and positive ranging from moderate to strong correlation coefficients.

Table 4. 9 Summary of Pearson Correlation

		Correlations				
		Infra.	Rules and regulations	Customers	Service providers	E-hailing
E-marketing infrastructure	Pearson Correlation	1	.624**	.631**	.690**	.717**
	Sig. (1-tailed)		.000	.000	.000	.000
	N	384	384	384	384	384
E-marketing rules and regulations	Pearson Correlation	.624**	1	.593**	.442**	.478**
	Sig. (1-tailed)	.000		.000	.000	.000
	N	384	384	384	384	384
E-marketing customers	Pearson Correlation	.631**	.593**	1	.614**	.627**
	Sig. (1-tailed)	.000	.000		.000	.000
	N	384	384	384	384	384
E-marketing service providers	Pearson Correlation	.690**	.442**	.614**	1	.567**
	Sig. (1-tailed)	.000	.000	.000		.000
	N	384	384	384	384	384
E-hailing	Pearson Correlation	.717**	.478**	.627**	.567**	1
	Sig. (1-tailed)	.000	.000	.000	.000	
	N	384	384	384	384	384
. Correlation is significant at the 0.01 level (1-tailed).						

It is evidently indicated in the table above a moderate to strong and confident relationship was found between e-marketing infrastructure and e-hailing ($r = 0.717$, $p < .05$), e-marketing rules and regulation and e-hailing ($r = 0.478$, $p < .05$), e-marketing customers and e-hailing ($r = 0.627$, $p < .05$), e-marketing service providers and e-hailing ($r = .567$, $p < 0.05$), which are statistically significant at 95% confidence level.

4.6. Multiple Linear Regression

4.6.1 Assumptions Testing in Multiple Regression

The basic assumptions should be satisfied in order to maintain data validity and robustness of the regressed result of the research under the multiple regression models. Hence, this research has conducted the assumption tests such as, multi-collinearity, outliers, auto-correlation, homoscedasticity, linearity, and normality.

4.6.2 Sample size

Different authors tend to give different guidelines concerning the number of cases required for multiple regressions. (Tabachnick and Fidell, 2007) gave a formula for calculating sample size requirements, taking into account the number of independent variables to use: $N > 50 + 8m$ (where N = number of participants & m = number of independent variables). In this study, four independent variables had existed and cases were 384, exceeding the minimum requirement 82. Therefore, the study satisfied sample size assumption.

4.6.3 Multi Collinearity

Multi collinearity is checked using correlations between the variables in the model. Independent variables show at least some relationship with dependent variable (above 0.3 preferably). In this case all of the scales (independent variables) correlate substantially with the e-hailing (infrastructure, $r = 0.717$, rules & regulation, $r = 0.478$, customer, $r = 0.627$, service providers, $r = 0.567$) respectively.

Collinearity diagnostics on the variables as part of the multiple regression procedure is done using Tolerance and Variance Inflation Factor (VIF). Tolerance is an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model. If the value is less than 0.10, it indicates that the multiple correlation with other variables is high, suggesting the possibility of multi Collinearity (Pallant, 2007). Variance Inflation Factor (VIF) is just the inverse of the tolerance value (1 divided by tolerance). According to (Pallant, 2007), VIF values above 10 would be a concern, indicating multi Collinearity. The result shows that the tolerance value for each independent variables as; (Infrastructure= 0.349, Rules and Regulations= 0.487, Customers= 0.353, Services= 0.494) respectively. Thus, multi Collinearity assumption isn't violated. The VIF value also supports the

tolerance value; 2.869, 2.055, 2.834 and 2.024, which indicated it is below the cut-off value of 10 in the table below.

Table 4. 10 Multi-collinearity test

Variables	Collinearity Statistics	
	Tolerance	VIF
Infrastructure	.349	2.869
Rules and regulation	.487	2.055
Customers access and know how	.353	2.834
Service providers	.494	2.024

4.6.4 Normality and Linearity

One of the ways that these assumptions can be checked is by inspecting the residuals scatter plot and the normal probability plots of the regression standardized residuals that were requested as part of the analysis. These are presented in normal P-P Plots of regression standardized residuals graph. In normal probability plots the points will lie in reasonably, straight diagonal line from bottom left to top right. This would suggest no major deviations from normality. The finding from normal P=P Plot reveals no violation of normality assumptions.

The study used both methods of assessing normality; graphically as shown in figure 1, of annex, depicted that the scores are normally distributed using Normal Probability Plot (P-P) graph and numerically using Skewness and Kurtosis.

The skewness value provides an indication of the symmetry of the distribution while kurtosis provides information about the sharpness of the peak of a frequency-distribution curve. According to (Hair et al., 2010), for variables with normal distribution the values of skewness and kurtosis are zero, and any value other than zero indicated deviation from normality the most commonly acceptable value for (kurtosis/skewness) distribution is ± 2.58 . Then, in the following table the kurtosis and skewness values of the variables fall within the range.

Table 4. 11 Skewness and Kurtosis

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Infrastructure	384	-.580	.125	.014	.248
Rules and Regulation	384	-.633	.125	.754	.248
Customers	384	-.488	.125	.167	.248
Service	384	-.523	.125	-.007	.248

4.7. Multiple Regression Analysis

Multiple regression analysis was performed to examine the influence of (Infrastructures, rules and regulations, customers access and knowhow, service provider’s availability) on the impact of e-marketing on ride-hailing service.

Table 4. 12 Model Summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.736 ^a	.542	.537	.67596	1.961
a. Predictors: (Constant), Infrastructure, Rules & Regulations, Customers, Service					
b. Dependent Variable: E-hailing					

The regression model summary presents how much of the variance e-hailing is explained by the predictor variables. The adjusted R square indicates 54 % of the variation in the impact of e-marketing on ride-hailing service is described by the combined effect of the four-predictor variables.

Table 4. 13 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	204.567	4	51.142	111.928	.000 ^b
	Residual	173.172	379	.457		
	Total	377.740	383			
a. Dependent Variable: E-hailing						
b. Predictors: (Constant), Infrastructure, Rules & regulations, Customers, Service						

The ANOVA table, it has been determined that (F) value is (111.928) at 0.000 which confirms that determinants factors of e-marketing has a statistically significant influence on e-hailing services.

Table 4. 14 Coefficients

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.294	.221		1.333	.183		
	Infrastructure	.599	.068	.515	8.751	.000	.349	2.869
	Rules and Regulation	-.055	.077	-.036	-.712	.477	.487	2.055
	Customers	.290	.078	.218	3.719	.000	.353	2.834
	Service	.111	.059	.093	1.877	.041	.494	2.024
a. Dependent Variable: E-hailing service								

The coefficient table indicates level of effect each variable has on the dependent variable. The highest beta value of Infrastructure B= 0.515 indicating that the variable has relatively a strong degree of importance on e-hailing than any other variables in the study. The regression equation would take the following form to measure the effect of e-marketing dependents have on e-hailing service can be formulated as follows;

$$Y = \beta^{\circ} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon^{\circ}$$

$$CS = \beta^{\circ} + \beta_1 (\text{Infrastructure}) - \beta_2 (\text{Rules \& Regulations}) + \beta_3 (\text{Customer}) + \beta_4 (\text{Service provider})$$

$$EH = 0.294 + 0.515(I) + (-) 0.036(R) + 0.218(C) + 0.093(S)$$

Where;

EH= E-hailing

I = Infrastructure

R = Rules and Regulations

C= Customer

S = Service provider

ε° = Error term

$\beta_1, \beta_2, \beta_3$ and β_4 = The Regression standardized coefficient of each variable and,

β° = intercept of equation; with significant value 0.183, has a positive but statistically insignificant value thus should not be considered in the formula.

Therefore, the corrected formula becomes;

$$EH = 0.515(I) + 0.218(C) + 0.093(S)$$

From the above multiple regression analysis, it can be noted that the three independent variables i.e. Infrastructure (B=0.515, P=.000), Customers access and knowhow (B=0.218, P=.000) and Service provider (B=.093, P=.041) are statistically significant and have a positive influence on the effects of e-marketing on e-hailing service. Whereas, rules and regulation (B=-0.036, P=.477) have a p-value of greater than 0.05 and a negative B value, which means they showed a negative but not statistically significant relationship on the effect of e-marketing on ride-hailing service.

Standardized coefficient (Beta value) indicates the degree of importance each variable has towards the effect of e-marketing on ride-hailing service as a result, the affecting variables can be ranked in the following order on the basis of their contribution. Infrastructure comes first with the highest standardized beta value (B=0.515), followed by customer's access and knowhow (B=0.218) and service providers is the third beta value (B=0.093).

In addition, the beta value on the coefficients table indicates the level of effect or impact each variable has on the dependent variable. Let's consider the infrastructure (highest standardized beta value) for every additional standard deviation (SD) of infrastructure enlarged, the system would expect a gain of 0.515 SD points on the impact of e-marketing determinants on ride-hailing service, other variables are held constant.

Therefore, from the three variables, Infrastructure contributes the strongest unique effect on the e-hailing service. Thus, as infrastructure's effect is the highest at most focus should be given in providing internet and mobile service infrastructures, as well as developing e-hailing usage applications for e-hailing service.

4.8. Hypothesis Test Result

As the alternate hypotheses denotes that there is a significant difference on the outcome variable that are the outcome of the four-independent variable. The obtained results are presented in the Table below.

Table 4. 15 Hypothesis test result

H1- E-marketing infrastructures have a statistically significant effect on e-hailing.	H1 supported	$B=0.515$ $t=8.751$ $P <0.05$
H2- E-marketing rules and regulations have a statistically significant effect on e-hailing.	H2 rejected	$B=-0.036$ $t=-0.712$ $P >0.05$
H3- E-marketing customers have a statistically significant effect on e-hailing.	H3 supported	$B=0.218$ $t=3.719$ $P <0.05$
H4- E-marketing service providers have a statistically significant effect on e-hailing.	H4 supported	$B=0.093$ $t=1.877$ $P <0.05$

4.9. Discussion of Results

As per the multiple regression result, among the four independent variables, three hypotheses, showed a positive and statistically significant result; i.e. Hypothesis 1, Hypothesis 3 and Hypothesis 4 are accepted, while Hypothesis 2 showed a statistically insignificant result therefore is rejected.

As indicated on Table 4.14, Hypothesis-1 is supported as Infrastructures factor is significantly different from zero and is important in the model. This implies infrastructure as an e-marketing determinant has a positive and statistically significant effect on e-hailing service. Therefore, availability of internet service, e-hailing applications and GPS accuracy are the major affecters

of e-hailing. Thus, as infrastructure is significantly different from zero and is important in the model which is in consistent with that of (Nur et al, 2019) who stated user-friendliness is an added advantage for an e-hailing application.

The second hypothesis, as shown in the table, Hypothesis-2 is rejected as e-marketing rules and regulations result outcome is not significantly different from zero and not important in the model. This implies, the rules applied and the regulations imposed to ensure the safety of users and drivers as e-hailing vehicle regulations are not seen as significant variable and has a negative effect on e-hailing in this research, from the respondent's point of view. When regulators provide acceptable and practical rules and regulations, that will help thrive the e-hailing business the results might change. The recent public disagreements between ride-hailing companies and government regulators might have contributed to the result. The outcome of this hypothesis is consistent with that of (Sperling et al., 2018) Local governments and agencies can work with ride-hailing services instead of undermining it. However, this result is in contrary to (María L, 2016) research which concluded that the role rules and regulations play in regulating e-hailing taxi service is one that cannot be replaced.

Hypothesis-3 as shown in the table, is supported as customer's obligations and duties, requirements, e-marketing access and know-how affect e-hailing is significantly different from zero and is important in the model. This implies, customers are the second most important variable and have positive and significant relationship with the dependent variable in this research. Customers knowledge towards accessing the application such as requesting a drive, contacting with the customer service center, scheduling and booking a ride and fully understanding how to navigate freely on the application is a major factor in influencing the impact of e-marketing on ride-hailing service. Customers need more than basic knowledge of the e-hailing usage; involvement of customers in the business model will affect impact of e-marketing on ride-hailing service. The outcome of this hypothesis is consistent with that of (Nur et al, 2019) who concluded customers choose their e-hailing service based on their needs and requirements.

Hypothesis-4 is supported as per the results of the regression indicated on the table. This indicates, the availability of services, accuracy in product delivery, access and e-marketing adoption have an effect on e-hailing. This is evident in the market, that has accepted and is supporting the service provider which is feasible in the yearly growth of customers as well as

the continued negotiations with the government regulators for legal market assurance. One of the e-hailing determinants service providers, has the above discussed effects on e-hailing. The outcome of this hypothesis is supported with that of (Jumal, 2016) who concluded service providers availability and competition are needed for e-hailing taxi adoption.

This study indicates that the determinants of e-marketing that are, infrastructure, customers and service providers have a positive effect from the three hypotheses, whereas rules and regulations of e-hailing has a negative but not statistically significant effect. Analyzing the determinants of e-marketing on e-hailing is an important study to understand the overall framework of how e-hailing is provided.

Chapter Five

Summary, Conclusions and Recommendations

5.1. Introduction

This chapter discusses the summaries of the findings from the results in the previous chapter, drawn conclusion and closing recommendations.

5.2. Summary of major findings

The study was conducted to determine the effects of determinant factors of e-marketing on e-hailing in the case of Addis Ababa. After reviewing previous researches and related literatures, four influencing factors were chosen, examined and the effect of each on e-hailing were investigated. E-marketing infrastructure availability, e-marketing rules and regulations, e-marketing customers e-hailing access and know how; e-marketing services provider's availability, e-hailing adoption, e-marketing access & know-how, respectively were the four affecting factors tested in this research. Accordingly, a conceptual framework was developed, hypothesis formulated and appropriate research designs were implemented to reach at the conclusions.

The study was conducted in Addis Ababa on customers of e-hailing establishments with a total of 384 valid responses compiled from the respondents participating in answering a structured questionnaire distributed throughout the main digital questionnaire platforms. Descriptive and inferential statistical techniques were used to analyze the primary data collected using SPSS software.

Based on the demographic profile it was found that the majority of e-hailing customers were males, slightly out numbering the females which had 52.3% and 47.7% respectively, most customers were in the age range of 18-29 years. The majority of the customers have bachelor's degree and are private sector employees which work in IT/ Engineering with a monthly income of more than 10,000 birr.

As per the survey, most of the e-hailing customers used the service 1 to 3 times per week with a share of 49.7%. In regards to the time it took for the ride-hailing to arrive from the time the request is made, majority of passengers which are 36.7% of the total waited from 5-7 minutes. A four-seat vehicle was predominately the favorite of the users with a percentage of close to 80%.

The result of the survey indicated the effect of e-marketing determinant factors (infrastructure availability, rules and regulations from government, customers e-hailing access and know how; services provider's availability, e-hailing adoption, e-marketing access & know-how, on ride-hailing are presented using descriptive statistics. Respondent's perception towards the factors and their effect on e-hailing service, with the mean scores, Pearson correlation and regression results are presented in a summary here under:

- The summed up mean for the effect of infrastructure on e-hailing is 3.74, representing that the respondents replied a more than satisfactory level to the questions asked for the specific case.
- The total mean for the effect of government rules and regulation on e-hailing is 3.82, in result from the respondent's answers being with near agreement responses for the questions on the item.
- The mean for the effect of customers on e-hailing is 3.68, which shows the majority of respondents are towards agree level for the questions raised for the variable.
- The mean for the perception of service provider's effect on e-hailing is 3.66, indicating that the majority of respondents answered to the agree level for the statements specified in the study.

The Pearson correlation result indicates that of the four independent variables three of them were significantly and positively correlated with their effect on e-hailing. The most positively correlated variable being infrastructure ($r = 0.717$, $p < .05$), then customers ($r = 0.627$, $p < .05$) followed by service providers ($r = 0.567$, $p < .05$) and finally rules and regulations ($r = 0.478$, $p < .05$).

The regression analysis indicates level of effect each variable has on the dependent variable. The highest beta value of Infrastructure $B = 0.515$, indicating that the variable has relatively a strong degree of effect on e-hailing service than any other variables in the study, followed by customers $B = 0.218$, third service providers $B = 0.093$. The fourth rule and regulations has statistically insignificant value. Three of the hypotheses have resulted in a positive effect that are infrastructure, customer and service providers while the remaining rules and regulations has a negative and non-significant beta value.

5.3 Conclusion

According to the research findings, of the four tested variables, three independent variables, which are determinants of e-marketing have a positive and significant effect on e-hailing. Infrastructure that includes, internet and e-marketing applications had the highest positive effect on e-hailing followed by customers which includes their obligations and duties, requirements to access e-hailing, e-marketing access and know-how, came second in order that affect e-hailing. Service providers which contains their availability, service accuracy, market fairness, and e-marketing access and know-how had the third effect on e-hailing. The remaining tested variable that is, rules and regulations had an insignificant negative effect on e-hailing.

The overall results indicate that internet and mobile based applications (Infrastructures) have the highest effect on e-hailing. Which is supported by the fact that e-hailing is one of the many fruits reaped from the technological advancements in internet and mobile based software developments.

5.4 Recommendations

Accordingly, given the significant and positive relationships between the predictor variables and the outcome variable, the following recommendations are provided for the advancement of e-hailing and further study.

- Internet providers should focus in improving the current internet infrastructure as it is the back bone of e-marketing. As having a stable, faster and well encompassing internet connection will make e-hailing usage and experience better and accessible. Since, there is a growth in e-hailing market demand, internet providers should work in upgrading their coverage across the country.
- Service providers should make their application more user friendly and also add local languages in their online interface, according to the study a faction of customers prefer calling the service center instead of using the application. Which means there is a lot of work to do from the service providers to make the application more fitting.
- Service providers should work on their call center reachability and customer handling.
- E-marketing regulators has to layout rules and regulations that work in harmony with what the current digital business requires. It has to raise its involvement in creating the needed framework for e-hailing to operate.

- The government should engage e-hailing business owners while drafting proclamations for the sector, as to not be seen as having a negative dragging effect towards the e-hailing business.
- Government should clearly state the consequences of violating the safety of both users and service providers. In the meantime, law enforcers should work in assuring the safety of the market engagers.
- E-hailing customers should constantly rate e-hailing vehicles and companies; in order to minimize the unsafe, expensive and unprofessional e-hailers from the market.

5.5 Limitations and Future studies

The study is restricted to the perspective of customers of e-hailing within Addis Ababa, due to resource, time and access constraints. Even though as most of the e-hailing companies operate within the city of Addis Ababa gave the investigation a strong study sample.

As the study sample is restricted to the response of e-hailing customers due to the constraints, further researches should be done to incorporate and analyze the outlook of e-hailing service providers and government regulators. Further studies can also, analyze the effect of the determinants by taking other cities that accommodate e-hailing as their research setting.

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Appendices

Annex 1: Questionnaires For Ride Users

E-marketing Ride Hailing Service User's Experience

Dear users;

This study is conducted in partial fulfillment of the requirements for the Masters of Business Administration at St. Mary's University School of Graduate Studies. The objective of this questionnaire is to gather information on the Effects of determinant factors of e-marketing on ride hailing in the case of Addis Ababa.

All information you will provide will be kept strictly confidential and shall be used for academic purpose.

DIRECTIONS: The questioner has two parts. Questions 1 to 9 are background information about you and ride. Questions 10 to 23 are related to your opinions, perceptions and comments you observed while using e-marketing based ride hailing service. Please select the option that best matches your judgment.

Thank you very much in advance for your cooperation and time!

Rahwa Desta

Email: rahwish58@gmail.com

*** Required**

Part 1, 1. Please select the category that best describes your profession: *

Choose ▼

2. Age *

- 18 - 29
- 30 - 39
- 40 - 49
- 50 years & above

3. Gender *

- Female
- Male

4. Monthly income (In Birr) *

- 5,000 and below
- 5,001 - 7,500
- 7501 - 10,000
- 10,001 and above

5. Education level *

- Certificate and below
- Diploma
- Bachelor's Degree
- Master's and above

6. Current occupation *

- Self employed
- Private sector
- Public sector
- Other

7. How many times per month do you use ride hailing transportation means? *

- 1 - 3 times
- 4 - 6 times
- 7 - 10 times
- 11 and above

8. On average how long did you wait for your ride (from the time you made the request to the time the vehicle arrived)? *

- 2 - 4 min
- 5 - 7 min
- 8 - 10 min
- Over 11 min

9. Which vehicle type do you mostly use? *

- 4 seat vehicle
- 7 seat vehicle
- 11 seat vehicle
- Other

Part 2. Please mark in the box relating to the opinion that identifies your response. 10. I have acquired adequate knowledge to use the application. *

- Not at all
- Slightly
- Moderately
- Very
- Extremely

11. E-marketing interface language is user friendly and directs appropriately. *

- Not at all
- Slightly
- Moderately
- Very
- Extremely

12. I could save time by using E-marketing to call for ride. *

- Never
- Seldom
- Sometimes
- Often
- Always

13. I will definitely recommend others to use e-marketing ride hailing services. *

- Never
- Seldom
- Sometimes
- Often
- Always

14. My safety is guaranteed while using ride. *

- Never
- Seldom
- Sometimes
- Often
- Always

15. Do you believe the government is involved in regulating ride-hailing service is adequate *

- Never
- Seldom
- Sometimes
- Often
- Always

16. How has the government impacted your ride-hailing use? *

- Not at all
- Extremely
- Moderately
- Very
- Slightly

17. Internet provides necessary support and information to use e-marketing while accessing a ride application. *

- Never
- Seldom
- Sometimes
- Often
- Always

18. How do you consider the impact ride-hailing has brought to taxi-service? *

- Very Poor
- Not satisfactory
- Average
- Satisfactory
- Excellent

19. E-marketing system enables me to call ride more quickly than calling the agents. *

- Strongly Disagree
- Disagree
- Undecided/ Neutral
- Agree
- Strongly Agree

20. E-marketing system easily makes adjustments related to scheduling and using the ride application. *

- Strongly Disagree
- Disagree
- Undecided/ Neutral
- Agree
- Strongly Agree

21. The advertising on the internet frequently introduce, suggest and guide the society into being familiar with ride hailing services. *

- Strongly Disagree
- Disagree
- Undecided/ Neutral
- Agree
- Strongly Agree

22. I have stable and fast internet connection to access ride-hailing system. *

- Very Poor
- Not satisfactory
- Average
- Satisfactory
- Excellent

23. How do you perceive the impact of e-marketing on ride-hailing service? *

- Moderately
- Very
- Slightly
- Extremely
- Not at all

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የራይድ ኢ-ማርኬቲንግ አገልግሎት የደንበኞች መጠይቅ

ውድ ደንበኞች፣

ይህ ጥናት የሚከናወነው በቅድስት ማርያም ዩኒቨርሲቲ የድህረ ምረቃ ት/ቤት በቢዝነስ እድሜነስትራጅን ማስተርስ ትምህርት ማጠቃለያ ኮርስ ማግኘት ነው። የመጠይቁ ተልእኮ የራይድ ኢ-ማርኬቲንግ አገልግሎት ተጠቃሚ የሆኑ ደንበኞች አገልግሎቱን ሲጠቀሙ ያላቸውን ልምድ ለመስተባባይ ነው። በአዲስአበባ ውስጥ በሚሰሩ የራይድ ኢ-ማርኬቲንግ አገልግሎት ተፅዕኖ አሳዳሪዎች ላይ ትኩረት ያደርጋል ። የሚሰጡት ሙሉ መረጃ ሚስጥርነቱ ተጠብቆ ለትምህርታዊ መርምር ስራ ብቻ የሚውል ይሆናል።

መመርያ፡- መጠይቁ ሁለት ክፍሎች አሉት ጥያቄ 1-9 ስለእርሶ ጠቅላላ መረጃ እና ስለ ራይድ አገልግሎት ። ከጥያቄ 10-23 እርሶ በኢ-ማርኬቲንግ የራይድ አገልግሎት ሲጠቀሙ ያሉትን አስተያየት ፣ እመለካከት እና ጥቆማ ለማወቅ ያግዛሉ።

እባክዎትን ትክክለኛነው የሚሉትን መልስ ይምረጡ።
በቅድሚያ ለትብብርዎ እና ጊዜዎ አመሰግናለሁ።

ራሀዋ ደስታ
ኢ-ሚይል፡- rahwish58@gmail.com

* Required

ክፍል 1 ፣ 1. እባክዎን ሞያዎን የሚገልፁውን ምድብ ይምረጡ፤ *

- ስነጥበብ / መዝናኛ
- የትምህርት ዘርፍ
- የጤና ዘርፍ
- ማዲያ
- ፋይናንስ / የባንክ ሰራተኛ
- ሽያጭ / ግብይት
- ተማሪ
- አይቲ / ኢንጂነሪንግ
- የመንግስት ሰራተኛ
- ግብርና
- ሌላ

2. ዕድሜ *

- 18 - 29
- 30 - 39
- 40 - 49
- 50 ዓመት እና ከዚያ በላይ

3. ፆታ *

- ወንድ
- ሴት

4. ወርሃዊ ገቢ (በብር) *

- 5,000 እና ከዚያ በታች
- 5,001 - 7,500
- 7,501 - 10,000
- 10,001 እና ከዚያ በላይ

5. የትምህርት ደረጃ *

- የምስክር ወረቀት እና ከዚያ በታች
- ዲፕሎማ
- የመጀመሪያ ዲግሪ
- ማስተር እና ከዚያ በላይ

6. አሁን የሚሰሩት ስራ *

- የግል ስራ
- የግል ድርጅት ተቀጣሪ
- የመንግስት መ/ቤት
- ሌላ

7. በወር ለስንት ጊዜ የራይድ የትራንስፖርት አገልግሎት ይጠቀማሉ? *

- 1-3 ጊዜ
- 4-6 ጊዜ
- 7-10 ጊዜ
- 11 እና ከዚያ በላይ

8. በአማካይ የራይድ አገልግሎት ጠርተው እርሶ ጋር እስኪደርስ ለስንት ደቂቃ ጠብቀዋል? *

- ከ2-4 ደቂቃ
- ከ5-7 ደቂቃ
- ከ8-10 ደቂቃ
- ከ11 ደቂቃ በላይ

9. በአብዛኛው የትኛውን የራይድ ተሽከርካሪ ይጠቀማሉ? *

- ባለ 4 መቀመጫ ተሽከርካሪ
- ባለ 7 መቀመጫ ተሽከርካሪ
- ባለ 11 መቀመጫ ተሽከርካሪ
- ሌላ

ክፍል 2. ከምርጫዎ ጋር የሚሄድውን የእርሶን አስተያየት በሳፕኑ ውስጥ ምልክት ያድርጉ
:: 10. የራይድ መተግበሪያ (ኦፕሊኬሽን) ለመጠቀም በቂ እውቀት አለኝ: *

- በጭራሽ
- በትንሹ
- በመጠኑ
- በጣም
- እጅግ በጣም

11. የኢንተርኔት ማርኬቲንግ አገልግሎት ለአጠቃቀም ምቹ እና በአግባቡ አትጣጫችን
ጠቋሚ ነው: *

- በጭራሽ
- በትንሹ
- በመጠኑ
- በጣም
- እጅግ በጣም

12. የራይድ ኢ-ማርኬቲንግ በመጠቀም ጊዜ ልቆጥብ ችያለው: *

- መቼም
- አልፎ አልፎ
- አንዳንድ ጊዜ
- ብዙ ጊዜ
- ሁል ጊዜ

13. የራይድ ኢ-ማርኬቲንግ አገልግሎትን እንዲጠቀሙ ለሌሎች በእርግጠኝነት እጠቁማለሁ፤ *

- መቼም
- አልፎ አልፎ
- አንዳንድ ጊዜ
- ብዙ ጊዜ
- ሁል ጊዜ

14. የራይድ አገልግሎት ስጠቀም ደህንነቴ የተረጋገጠ ነው፤ *

- መቼም
- አልፎ አልፎ
- አንዳንድ ጊዜ
- ብዙ ጊዜ
- ሁል ጊዜ

15. መንግስታት በራይድ አገልግሎት ላይ የሚተላለፉትን ደንብች ላይ ተገቢውን ተጽዕኖ እያሳደረ መሆኑን አምናለሁ፤ *

- በጭራሽ
- በትንሹ
- በመጠኑ
- በጣም
- እጅግ በጣም

16. መንግስት በራይድ አገልግሎት አጠቃቀም ላይ ተገቢውን ተፅኖ አድርጓል። *

- በጭራሽ
- በትንሹ
- በመጠኑ
- በጣም
- እጅግ በጣም

17. የራይድ አ.ማርኬቲንግን እንደጠቀም አንተርቴት ተገቢውን ድጋፍ እና መረጃ ይሰጣል። *

- መቼም
- አልፎ አልፎ
- አንዳንድ ጊዜ
- ብዙ ጊዜ
- ሁል ጊዜ

18. ራይድ አገልግሎት በታክሲ አገልግሎት ላይ ያመጣውን ተጽኖ እንዴት ተመለከቱት? *

- በጣም ደካማ
- አጥጋቢ አይደለም
- አማካይ
- አጥጋቢ
- በጣም አጥጋቢ

19. በኢ-ማርኬቲንግ ሲስተም ራይድን መጠቀም የራይድ አፕራተሮች ጋር ከመደወል የተሻለ ፍጥነት አለው፣ *

- በፍፁም አልስማማም
- አልስማማም
- አልወሰንኩም
- እስማማለሁ
- በደንብ እስማማለሁ

20. የኢ-ማርኬቲንግ ሲስተም የራይድ አፕሊኬሽንን ለመጠቀም እና የቀጠሮ ለውጥ ለማድረግ በቀላሉ ተለዋዋጭ ነው፣ *

- በጭራሽ
- በትንሹ
- በመጠኑ
- በጣም
- እጅግ በጣም

21. ኢንተርኔት ላይ የሚገኙ ማስታወቂያዎች የራይድ ትራንስፖርት አገልግሎትን የማስተዋወቅ፣ የመጠቀም እና ሕብረተሰቡን በየጊዜው የመምራት ስራ ይሰራሉ፣ *

- በጭራሽ
- በትንሹ
- በመጠኑ
- በጣም
- እጅግ በጣም

22. ራይድን ለመጠቀም የሚያስችል ፈጣን እና አስተማማኝ የሆነ የኢንተርኔት ግንኙነት አለኝ? *

- በጣም ደካማ
- አጥጋቢ አይደለም
- አማካይ
- አጥጋቢ
- በጣም አጥጋቢ

23. የኢ-ማርኬቲንግ በራይድ አገልግሎት ላይ ያሳደረውን ተጽዕኖ እንዴት ተመለከቱ? *

- በጣም ደካማ
- አጥጋቢ አይደለም
- አማካይ
- አጥጋቢ
- በጣም አጥጋቢ

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Annex 2: Result Figures

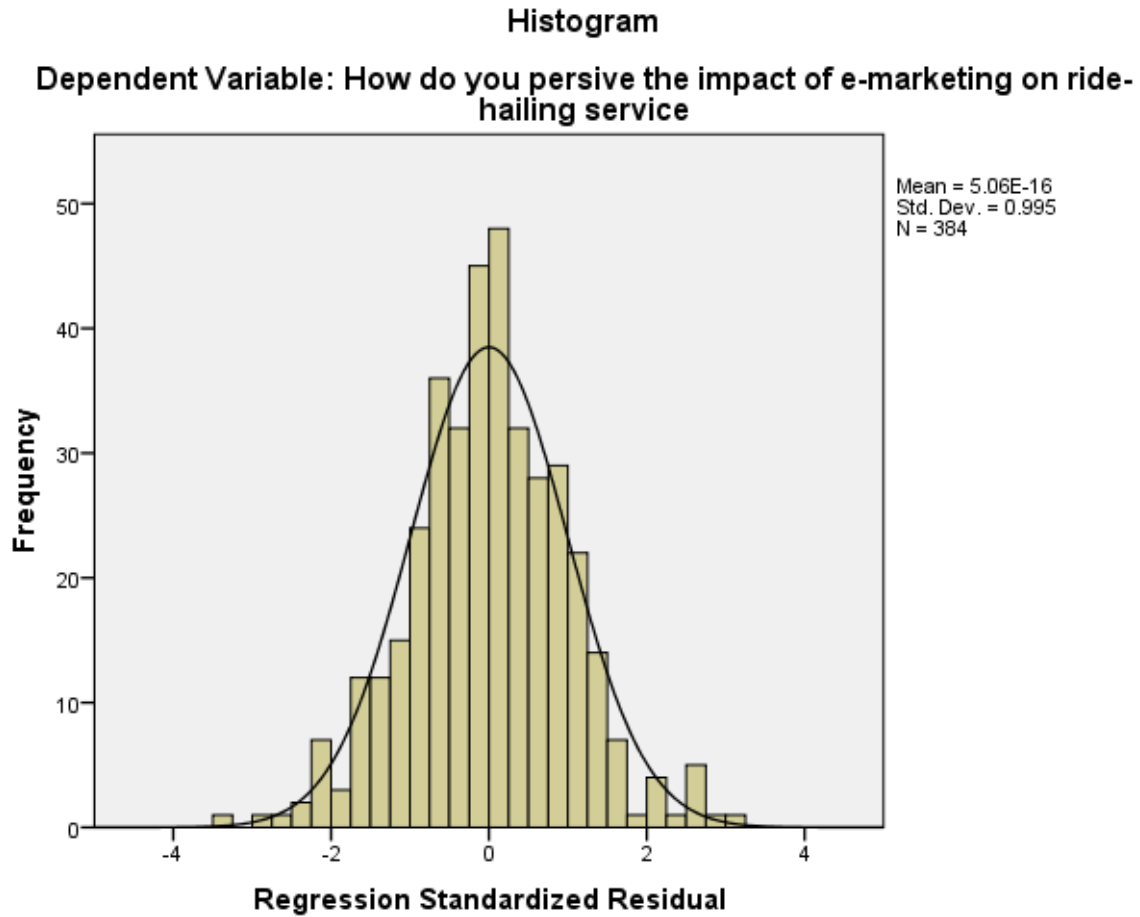


Fig.1 SPSS output; Histogram of Regression Standardized Residual

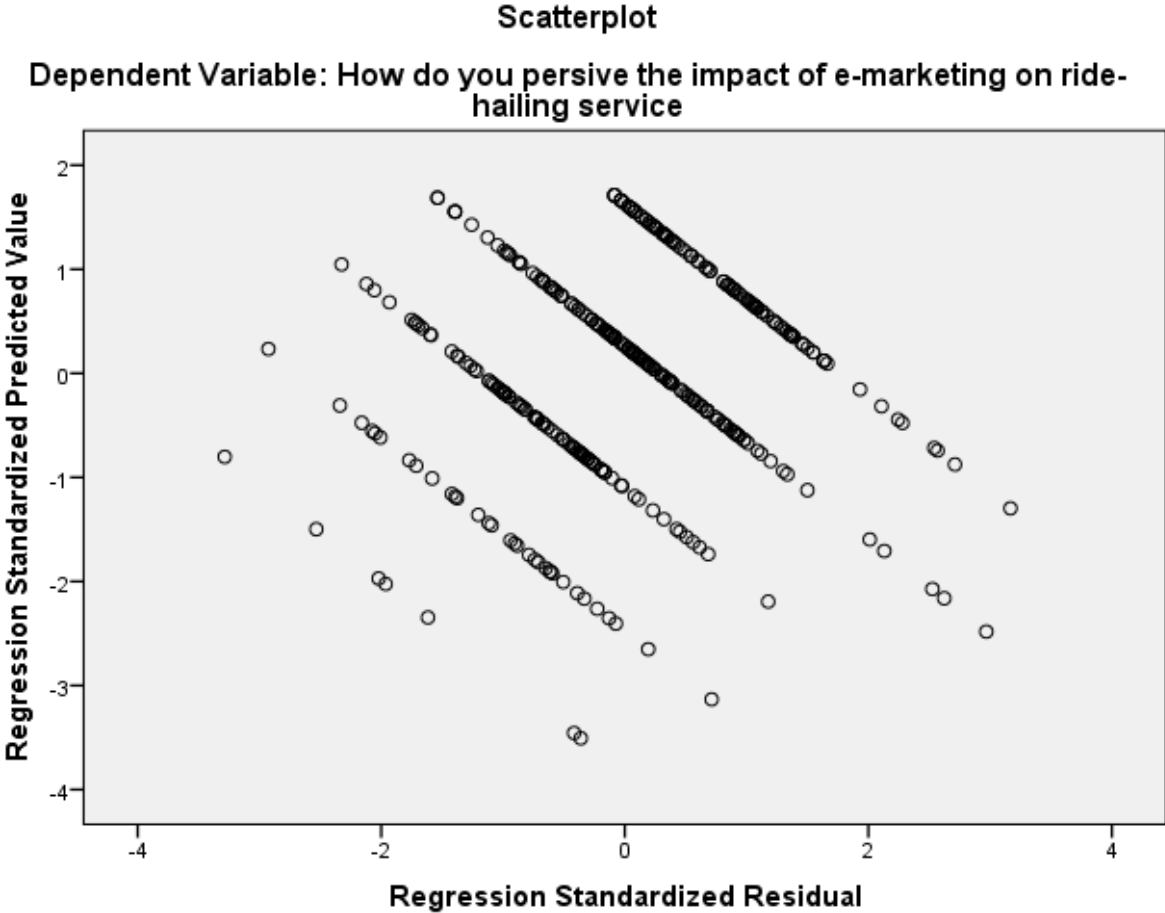


Fig.2 SPSS output; Linearity scatter plot

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: How do you persive the impact of e-marketing on ride-hailing service

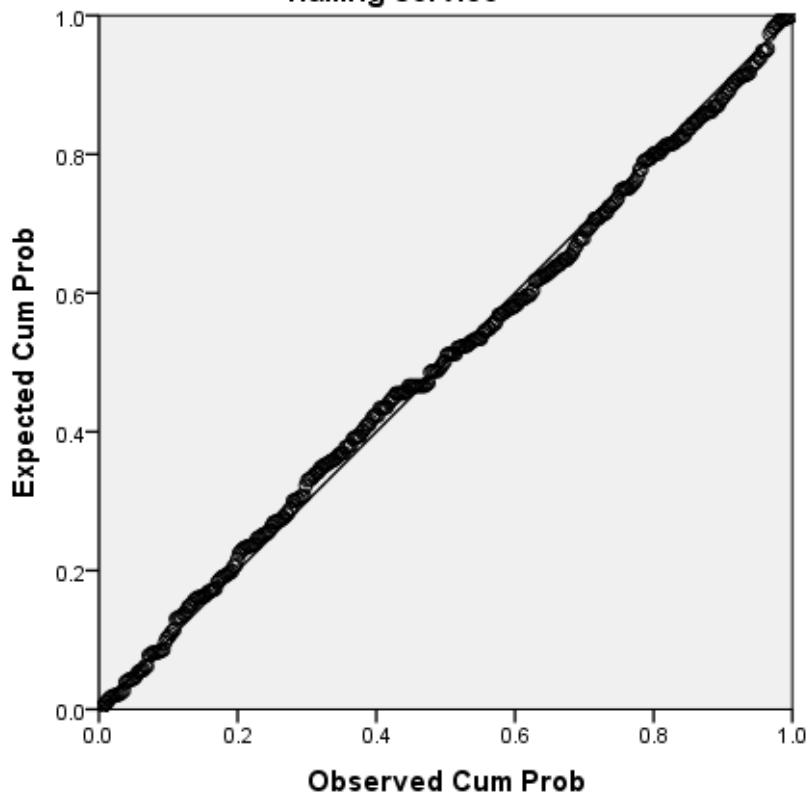


Fig.3 SPSS output; Normal P-P plot