



Addis Ababa University School Commerce

Department of Marketing Management



MSc Thesis

**Factors Affecting the Adoption of E-Commerce
Evidences from Selected Hotels
In Addis Ababa**

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August, 2021

Addis Ababa, Ethiopia

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Declaration

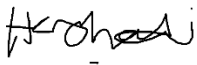
I, **Girum Tekle**, the under signed, declare that this thesis entitled: “**Factors Affecting the Adoption of E-Commerce Evidences from Selected Hotels in Addis Ababa**” is my original work. I have undertaken the research work independently with the guidance and support of the research advisor. This study has not been submitted for any degree or diploma program in this or any other institutions and that all sources of materials used for the thesis has been duly acknowledged.

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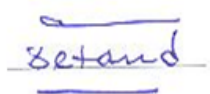
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Certification

This is to certify that the thesis prepared by Girum Tekle, entitled “**Factors Affecting the Adoption of E-Commerce Evidences from Selected Hotels in Addis Ababa**” and submitted in partial fulfillment of the requirements for the Degree of Masters of Art in Marketing Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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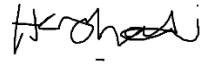
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Acknowledgment

First and foremost, I thank the Almighty God for the wisdom that has been donated upon me during this research paper and indeed throughout my life.

My deepest appreciation goes to my research advisor Hailemariam Kebede (PHD) that provided me with the necessary support, guidance and constructive feedbacks. I would also like to thank the Respondents who were involved directly and/ or indirectly in the survey for this research and I would also like to thank all our families for their special caring and moral support. Without their passionate participation and input, this paper could not have been successfully conducted.

I must express my very profound gratitude to all instructors in for providing us with unfailing support and continuous encouragement throughout our years of study and through the process of researching and writing this research. This accomplishment would not have been possible without them.

More importantly, Praises and Thanks to GOD, the Almighty and his Beloved MOTHER, for their showers of blessings throughout our research work to complete this research successfully.

Thank you All Again.

Girum Tekle
The Researcher

ACRONYMS

ANOVA	Analysis of Variance
B2B	Business to Business
C2C	Consumer to Consumer
COMPAT	Compatibility
COMPLEX	Complexity
ECOMADOP	E commerce Adoption
GER	Government e - readiness
ITC	IT capabilities
MFER	Market forces e - readiness
ORCOMP	Organizational competence
RAD	Relative advantage
SPSS	Statistical Package for Social Science
SUPIND	Support industries
TAM	Technology Acceptance Model
TMS	Total Management Support
TOE	Technology-Organization- Environment
TOL	Tolerance
VIF	Variance Inflation Factor

Abstract

As the tourism industry expands globally, the need for expanding the communication networks to connect the customers and the service providers has increased. E-commerce is a profit-making transaction strategy that enables faster and wider business transaction from wider contexts of economic value and value creation via internet. The hotel industry in Ethiopia was selected as a setting to explore the relative influence of factors in determining the adoption of e-commerce to study the factors that affects the adoption of e-commerce in the hotel industry in Addis Ababa. The model, presented by, was chosen from different scholars as a framework for evaluating factors that affects the adoption of e-commerce in the hotel industry. The study was used both descriptive and exploratory design using a quantitative approach through structured questionnaires that were distributed to 90 selected hotels in Addis Ababa. Descriptive statistics and multiple regression techniques were used for analysis using Statistical Package for Social Sciences (SPSS). factors such top management and IT capabilities have a positive and significant relationship with the e-commerce adoption, whereas organizational competency has negative significant among organizational factors, and technological factors such as perceived relative advantage / benefit and perceived compatibility have a significant impact and while perceived complexity has insignificant effect on e-commerce adoption in the study population. Similarly, among external factors that relate to the pressure or support from the external factors that influence the adoption of e-commerce; market e – readiness, industry e - readiness and government e-readiness all have a positive and significant correlation with the ecommerce adoption in the study population. Recommendations based on findings and suggestions for future study are presented.

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Chapter one

1. Introduction

1.1 Background of the study

As the tourism industry expands globally, the need for expanding the communication networks to connect the customers and the service providers has increased. The World Wide Web (WWW) has been utilized as a means for communication widely over the past decade in the travel and tourism industry. It has been instrumental in helping the tourism sector to expand its markets across the continents and has played a major role in helping the growth of the industry. (L.Shebinand R. Kannan 2016)

At its core, electronic commerce or e-commerce is simply the buying and selling of goods and services using the internet. The ever-increasing demand to enrich the effectiveness of hotel industries, different factors affecting ecommerce adoption such as the constraints and challenges are hindering the adoption of e-commerce in hotel industries in Ethiopia. The policy viability and implementation concerns associated with the adoption of e-commerce application were reported. (Mohamed 2019)

The UNCTAD (2000) background paper on e-commerce and tourism states that “the internet and its inherent interactivity empower people to find information quickly and precisely on any destination or recreation that is capturing their interest”. The internet has also presented the travel and tourism sector with the possibility of both connecting as well as transacting with global customers on a real time basis. The extent of the use of e-commerce by the tourism industry has increased considerably over the years.

E-commerce the short form for electronic commerce over the internet is relatively a mature method of carrying out business activities. In it's approximately seventeen years of existence it has radically altered not only the way business is done, but also other related economic activities and indeed the society in general. The effect and penetration of ecommerce can be felt in such industries as the communications, finance, travel and retail industries. It also holds immense promise of contributing to the health and education sectors. (Desalegn 2020)

Electronic trade has revolutionized distribution, sales and marketing. Scholars and experts analyzed in a comprehensive way these changes introduced into the industry (Law, Leung, & Buhalis, 2009; Line & Runyan, 2012). However, still today, a comprehensive assessment of internet operated commercial transactions and of their impact on hospitality industry is far from being available. A first reason for the ongoing debate over many aspects of electronic trade (“Does it increase competition or opportunities?”; “Does it strengthen the brand or does it damage hotel identity?”) is connected to the complex and changing nature of ecommerce. This is such a “broad phenomenon that”, in order to understand it, “a multidisciplinary perspective is required” (Turban, King, & Lang, 2010).

Studying ecommerce from the point of view of tourism and of the hotel industry in particular makes the task even harder (O'Connor & Murphy, 2004). The evolution of e-commerce activities

in its present form can be described to an integration of diverse technological innovations as well as regulatory reforms. It is widely held that the forerunner to the internet upon which e-commerce activities are driven appeared sometime in the 60s, however, e-commerce driven by the internet only became a commercial reality in the 90s with the innovation of the WWW, and subsequently browsers. (Nega 2016)

The extent of adoption and usage has varied across countries as well as amongst enterprises within a country. It has been observed that the adoption of e-commerce is determined by factors like the size of the enterprise and the target market of the enterprise. A limited number of studies have focused on this aspect in the travel and tourism related literature in other country (Weish et al 2001), Buhalis and Deimezi (2004), and in Ethiopia (Ayana 2014, Desalegn 2016, Nega 2017). The present study looks at the factors that influence the adoption and usage of e-commerce among the enterprises in the hotel industry in Ethiopia.

The hotel industry in Ethiopia is selected as a setting to explore the relative influence of factors in determining the adoption of e-commerce. Ethiopia has developed into a major destination for tourists from around the world, attracting about 7.68 million tourists in the year 2019/20. (Desalegn 2020). Studying the different factors that directly and indirectly affected the e-commerce adoption in our country is the main objective of this study.

1.2 Statement of the Problem

Internet marketing has had many positive effects on the hotel industry. Marketing over the internet has given hotel operators the opportunity to create a positive image and reach more potential customers at a lower price. To this effect; e-commerce has changed the hotel industries through its service and created a new economic period. (Rayport & Jaworski, 2001).

Despite intense dispute amongst researchers on the direction of influence between ecommerce adoption, and hotel industry growth, clear understanding is not yet settled. Most of the studies in this perspective suffer from methodological problems of missing variables, conceptual vagueness, and some provide mixed result. However, the study that tries to resolve these controversies of the direction of influence is argue that there are critical factors affecting the adoption of e-commerce by hotels which are classified into two main categories; internal and external factors. Internal factors are within the hotels and external factors are environmental in nature. Internal factors are IT readiness which refers to the level of IT usage within the hotel. (Mohamed L 2016)

This category includes information and networking security, system interrelation, data conversion, and hardware and software compatibility, adequacy of the hotels, IT infrastructure and migration from legacy system. The second internal factor category refers to the hotel industry financial readiness. The study also argued that financial readiness is reflected by the top management's willingness to fund an e-commerce adoption project. The major cost of e-commerce adoption is the cost of educating and training management and employees to use e-commerce. Another concern of the top management is the losses of productivity due to abuse by IT staff readiness factor category refer to the IT and e-commerce literacy level inside the hotel. (ShebinandL, and Kannan R. 2016).

Dozens of researches were carried out throughout the world. In Ethiopia Researchers have examined the e-commerce and/or e-marketing adoption in the country's tourism and banking businesses sector using different models in Ethiopia that most studies affirmed that the adoption is still lagging (Assegid and Apar 2019, Tesfaye 2019Nega (2019), Ayana (2014, Fikru (2019). To the hotel industries sector as it has been seen in other business sector e-commerce has markedly continued at a low level in Ethiopia. This was mainly not only for the reason that of the organizational, technological and government support but also the infrastructure and monopolistic nature of the telecommunication nature.

In Ethiopia, the acceptance and diffusion of e-commerce were lagging behind not only because of the monopolistic control of the telecom sector. There are also other factors like, IT infrastructure, Owners and/or managers IT knowledge, governmental support, organizational competency, perceived benefits, perceived compatibility, perceived complexity, market e-readiness, supporting industry and government e-readiness among others (Kinfemichael, 2019; Fikru, 2019).

As no detailed and much studies conducted to this matter in Ethiopia, it is, therefore, paramount to analyzing the factors that could impact the adoption of e-commerce in the hotel industry in Addis Ababa.

1.3 Research Questions

In light of the research problem stated in the above section, the researcher has made an attempt to find out answers to the following main and sub sections of research questions:

- i. What determining factors affect e-commerce adoption in the hotel industries in the study population?
- ii. Does an organization factor affect e-commerce adoption in the hotel industries in the study population?
- iii. Does technological factor affect e-commerce adoption in the hotel industries in the study population?
- iv. How external factors influence e-commerce adoption in hotel industries in the study population?

1.4 Objectives of the study

1.4.1 General Objective

- To assess the determining factors that affects the e-commerce adoption in the hotel industry in the study population.

1.4.2 Specific Objectives

- To examine the influence of Relative Advantage, Compatibility and Complexity of technology factors on adoption of e-commerce in the hotel industry
- To determine the influence of top Management support, organizational Competence and IT Compatibility of organization Factors on adoption of e-commerce in the hotel industry

- To investigate the influence of Government e-Readiness, Market forces e-Readiness and Support Industries of external Factors on adoption of e-commerce in the hotel industry

1.5 Significance of the study

The study is expected to provide pertinent information in bring about a significant knowledge on the subject of this study in the study area. Results of this research are also creating a favorable platform for policy makers, interesting parties and group for further researches in this area.

The study also would have to the marketing professionals in the hotel industries to catch basic information on the determinants of positively affects the adoption of e-commerce in the hotel industry in the study population and developing and implementing effective marketing strategy.

1.6 Scope of the study

Despite the fact that there are different determining factor that affect the adoption of e-commerce in the hotel industry in the study population, the research only focus on effect of independent variables; Relative Advantage, Compatibility and Complexity, Top Management Support, Organizational Competence and IT Compatibility, and other external factors such as industry e-Readiness, support of market and government on the Industries towards the adoption of ecommerce in the hotel .The research was also limited to questionnaire and secondary data to selected hotels in the area of Addis Ababa city.

1.7 Limitations of the study

The data collection instruments were limited to questionnaire, and secondary data. Other data collection tools like focus group discussion would also give more insight into this matter but due to time and resource limitation only questionnaire and records were used as data collection tools on the study. The analysis technique employed in this study were restricted the inclusiveness of detail items in the questionnaire and limited the respondents to elaborate their answers.

The key limitations of this study were the questionnaire collected the data from only the service provider and were not from the customer side and constraints due to inadequate time and financial support. Collecting appropriate evidence is essential to analyze the data and various modifications lengthen the period meanwhile the period for the study is short. There is the need for caution due to the fact that the data were drawn from Addis Ababa.

1.8 Operational Definition of Terms.

Business to Business (B2B) is a form of commercial transactions that involve the exchange of products, services, or information between ‘two separate business parties’,

Business to Consumer transactions (B2C) are commercial transactions that involve the exchange of products, services, or information between businesses and the general public typically through catalogues using shopping cart software.

Consumer-to-Consumer transactions also called person-to-person (P2P) is E-Commerce. that takes place between consumers who are no longer totally reliant on corporations but are increasingly looking to conduct their own business transactions mainly in auctions, online

communities, chat rooms, third-party consumer listing services, and Web-based discussion forums where they can buy and sell their products and services via several different payment methods of mailing check or cash to the seller via online payment systems

E-Business is a business that does all or most of its transactions through the internet with the support of telecommunications-based tools to link customers, suppliers, business partners, and employees.

E-commerce adoption - generally refer to the process of conducting business online that depicts the overall process of buying and selling, transferring or exchanging products or services or information via computer networks and internet.

E-commerce (electronic commerce) is the buying and selling of goods and services over the internet.

Government to Consumer/Business/Government - Organizations and consumers can also conduct business with the government via computers and a Web-enabled presence (Evans & Yen, 2005). It is an exchange of products, services, or information between consumers (C2G), businesses (B2G) and the government (G2G) with the government (this can range from procurement to government collecting fees such taxes).

Hospitality industry is a broad category of fields within the service industry that includes lodging, food and drink service, event planning, theme parks, and transportation. It includes hotels, restaurants and bars.

Hotel rating Hotels that are classified according to the hotel size, location, target markets, levels of service, facilities provided number of rooms, ownership and affiliation etc.

1.9 Organization of the study

The research was prepared in five chapters. The introduction part which contains the background, problem statement, objective, significance and scope and limitation of the study were presented in Chapter one. The theoretical and empirical review of literatures of the research was presented in chapter two. The third and fourth chapters contain the methodology and research findings respectively. Finally, chapter five contains conclusions and recommendations of the research.

Chapter Two

2. Review of Literatures

2.1. Introduction

This part of the study reviews related literature on to assess the effect of E commerce adoption in hotel industries in Ethiopia. It elaborately examines theoretical framework and review of empirical studies conceptual framework and other related issues of e-commerce adoption in the hotel industry, factors affecting e-commerce adoption and empirical review for this study are reviewed and presented.

2.2. Theoretical Review

Defining E-Commerce

There has always been a grey area in the difference between Electronic Commerce (E-Commerce) and electronic business (E-Business) (Jones et al., 2000). The transformation and streamlining of an organization's value chain activities through use of Internet technologies' (Holsapple & Singh, 2000, 152); the use of the 'Internet to conduct or support business activities along the value chain' (Zhu & Kraemer, 2005); and 'the marriage between the Internet and supply chain integration' (Johnson & Whang, 2002, 2) Wu et al., (2003, 425) comprehensively define E-Business as the use of Internet technologies to link customers, suppliers, business partners, and employees.

This study views this understanding of E-Commerce as a narrow definition that does not address the contextual needs of developing countries and therefore opts to define E-Commerce as a form of innovation in which parties interact electronically to perform communication, such as delivering information, products/services, or payments via telephone lines, computer networks, or any other means; the application of technology toward the automation of business transactions and workflow; the meeting of the desire of firms, consumers, and management to cut service costs while improving the quality of goods and increasing the speed of service delivery; the provision of the capability of buying and selling products and information on the Internet and other online services (Boateng et al., 2008; Ngai & Wat, 2002).

2.3. Categories of E-Commerce

E-Commerce is divided into four main categories:

2.3.1. Business to Consumer Transactions

Business to Consumer transactions are commercial transactions that involve the exchange of products, services, or information between businesses and the general public typically through catalogues using shopping cart software. The typical user is transformed into a computer user, and the physical store is transformed into a 'phenomenon that is information technology intensive - a Web site' (Koufaris et al., 2001).

2.3.2. Business to Business Transactions

Business to Business (B2B) is a form of commercial transactions that involve the exchange of products, services, or information between 'two separate business parties', such as between a manufacturer and a wholesaler or between a wholesaler and a retailer (Chong et al., 2011). B2B transactions cover all 'transactions that historically had been conducted using relational inter firm exchanges' (Grewal et al., 2010). This category of E-Commerce involves many more participants

than B2C, needs a large infrastructure, and its volume of transactions is usually higher than the volume of B2C transactions.

Such transactions are governed by complex business rules of the buyer and seller, involve higher purchase amounts, and require that order fulfillment be much more certain and predictable than does B2C (Phillips & Meeker, 2000). The core advantage of B2B is not just lower prices but market intelligence, which helps suppliers identify and serve yet unfulfilled market needs, and the supply chain integration which provides improvements in logistical processes (Bloch & Catfolis, 2001).

B2B transactions have traditionally been reserved for large companies that had the necessary resources to implement it. Following the move towards a process-centric B2B approach which lowers the costs involved for B2B adoption, the hotel industries have also been given a chance to adopt B2B instead of its being reserved for larger enterprises that are able to afford the costs (Dorn et al., 2009). (Rong & Ye 2011) caution that by adopting B2B, Hotel's not only 'add e-business factor to the already complicated supply chain resulting in the difficulty in supply chain analyzing, but also import new variable quantity to the risk early warning of supply chain'.

An understanding of these risks is critical if the hotel industries are to survive the competitive business world. This is even more important, given that they do not understand the complementary nature of the organizational drivers such as adoption readiness, constraints and evaluation of investments that support strategic alignment and therefore fail to realize benefits from their web sites' (Lin et al., 2011).

2.3.3. Consumer to Consumer transactions

It is not only organizations that conduct business on the Internet. Consumers can also exchange products, services or information between themselves. This is a form of Consumer-to-Consumer transactions also called person-to-person (P2P) E-Commerce. It takes place between consumers who are no longer totally reliant on corporations but are increasingly looking to conduct their own business transactions mainly in auctions, online communities, chat rooms, third-party consumer listing services, and Web-based discussion forums where they can buy and sell their products and services via several different payment methods of mailing check or cash to the seller via online payment systems (González, 2004). In this manner C2C markets eliminate the 'intermediary who otherwise pockets a certain percentage of the selling price as profitability' (Strader & Ramaswami, 2002). Consumers do not only buy and sell but can also share their past experiences and learn one another's bidding strategies in auctions and forums (Oh, 2002).

2.3.4. Government to Consumer/Business/Government

Organizations and consumers can also conduct business with the government via computers and a Web-enabled presence (Evans & Yen, 2005). It is an exchange of products, services, or information between consumers (C2G), businesses (B2G) and the government (G2G) with the government (this can range from procurement to government collecting fees such taxes. Procurement has been viewed as an opportunity for efficiency gains in government as it has the power to lower prices due to centralized spending and reduce the cost of issuing invoices and other

administrative work for low-value, high- volume goods (Panayiotou et al., 2004). The largest potential saving originates from lower prices thanks to centralized spending. As regards its citizens and other businesses, the government aims to provide better service levels and enhance seamless government services by increasing the convenience and accessibility of government services and information to its citizens (Helbig et al., 2009).

Research has shown that citizens' acceptance of E-government rests on trust, information access, public accessibility, quality of service, time saving, efficiency of service, and social awareness (Scholl et al., 2009). E-government research has, however, been criticized for emphasizing the supply side and playing little attention to the demand-side, especially from the context of their developing world (Luna-Reyes et al., 2007).

2.3.5. Adoption of E commerce

E-commerce is a term used to describe the use of electronic communication networks and services, which enables businesses to work together with their customers. Usually, it involves collaboration between businesses and customers facilitating the supply of goods and services, customer support, and trading. E-commerce is defined in a variety of ways, all of which share similar key premises. Some definition describes ecommerce as 'conducting business transactions online'. This definition identifies that ecommerce concerns the sale of both products and services other defined as 'transactions associated with trading of goods or services, or their development over a telecommunications network'

E-commerce adoption in Ethiopia is quite low with the majority of the population shunning the use of modern ICT in their transactions and banking. Ethiopian's institutions and government are not well placed to adopt e-commerce; the major key obstacles identified were including lack of reliable electronic payment system, lack of laws which support e-commerce processes and which protect its users, lack of awareness amongst stakeholders regarding e-commerce, affordability (high cost of broadband access and PCs) and unfavorable licensing and tax conditions, which deter ecommerce entrepreneurs

The previous assessment of the state of ecommerce readiness in Jordan has revealed that the country scores adequately high in terms of technical preparedness and professional preparedness. It, however, lacks the social impetus to match its ecommerce performance with its technical infrastructure. As studies showed exhibits adequate preparedness for efficient e-commerce technologies. In this sense, the infrastructure to facilitate e-commerce, including telecommunication, government, and institutional support, the readiness of appropriate organizations and the Ethiopian community culture is generally good. The country's level of cultural preparedness is however not good enough for our country to reach the e-commerce readiness stage.

2.3.6 Theoretical Models of E-Commerce

There are different theoretical models that have been developed and used to examine the adoption of e-commerce. That focused on both the external environmental factors and technological factors. These theories are presented below in details

Mapping of Models' characteristics (Source: Abdulhakeem et al 2017)

	TAM	UTAUT	DOI	TOE	TPB	RBT
Perceived usefulness	✓					
Perceived ease of use	✓		✓			
Perceived behavioural control					✓	
Subjective norms					✓	
Attitude toward behaviour					✓	
Performance Expectancy		✓				
Effort Expectancy		✓				
Social Influence		✓				
Facilitating Conditions		✓				
Technological resources				✓		✓
Size of organisation				✓		
Communication process				✓		
Slack				✓		
External technological infrastructure				✓		
Government regulation				✓		
Industry characteristics				✓		
Communication process				✓		
Financial resources						✓

2.3.6. Technology Acceptance Model (TAM)

User acceptance of technology has been an important field of study for over two decades now. Although many models have been proposed to explain and predict the use of a system, the Technology Acceptance Model has been the only one which has captured the most attention of the Information Systems community. Thus, it is essential for anyone willing to study user acceptance of technology to have an understanding of the Technology Acceptance Model.

The technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology. The actual system use is the end-point where people use the technology. Behavioral intention is a factor that leads people to use the technology.

TAM has an advantage of simplicity but has a limited explanatory ability though it has a comprehensive theoretical contribution towards e-commerce adoption researches. Understanding technology acceptance will lead to better prediction of the use of new information resources. The study shows that confidence in the use of technology can lead to increased personal control,

flexibility and competent use of information. Therefore, increased knowledge can lead to better productivity.

2.3.7. Diffusion of Innovation Theory

Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain 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.

As studies revealed the diffusion of innovation theory detects the factors which simplify or deter the adoption of technology it has been used widely to explain the adoption of innovation, but lacks to see other factors such as organizational and environmental factors (Cheung & Lee 2012) and taking the dynamics of inter organizational relationships (IOR) between trading partners (Arash & Jeffrey 2010).

2.3.8. Theory of Technology-Organization-Environment Model (TOE)

The **technology-organization-environment framework**, also known as the **TOE framework**, is a theoretical framework that explains technology adoption in organizations and describes how the process of adopting and implementing technological innovations are influenced by the technological context, organizational context, and environmental context (Tornatzky and Fleischer 1990). TOE measures both the internal and external technologies which are relevant to the organization, and incorporates extant as well as emerging systems and takes account of the various influences on the organizational factors in the adoption of a firm's technological innovation. (Chau & Tam 1997).

The organizational context describes the characteristics of an organization that encourage or discourage the adoption of technological innovation. Examples of these characteristics include owner IT knowledge, cost of ICT adoption firm size, organizational structure, executive support, human resource competencies, and available resources.

The technology-organization-environment (TOE) framework was created by Tornatzky and Fleisher (1990). It describes factors that influence technology adoption and its likelihood. TOE describes the process by which a firm adopts and implements technological innovations are influenced by the technological context, the organizational context, and the environmental context (Tornatzky and Fleisher 1990).

The technological context includes the internal and external technologies that are relevant to the firm. Technologies may include both equipment as well as processes.

The organizational context refers to the characteristics and resources of the firm, including the firm's size, degree of centralization, degree of formalization, managerial structure, human resources, number of slack resources, and linkages among employees.

The environmental context includes the size and structure of the industry, the firm's competitors, the macroeconomic context, and the regulatory environment (Tornatzky and Fleisher 1990).

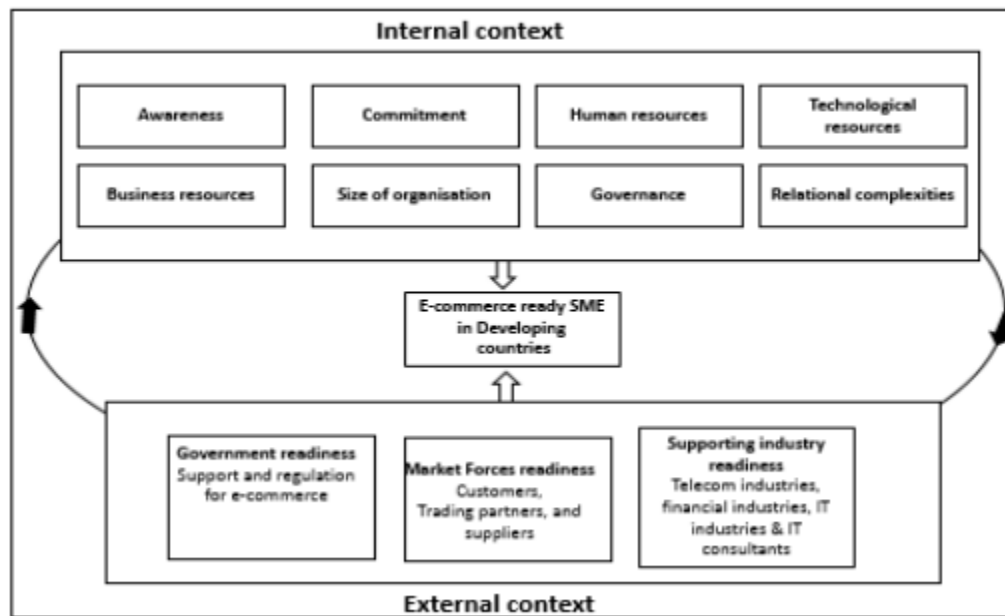
These three elements present "both constraints and opportunities for technological innovation" (Tornatzky and Fleisher 1990). Thus, these three elements influence the way a firm sees the need for, searches for, and adopts new technology.

The external environment includes the firm's industry, competitive pressure, governmental support, and access to external resources. This is consistent with Porter's (1985/1998) arguments that firms strategic decisions depend, in part, on industry structures and members, although the framework differs from DOI theory in its inclusion of environmental factors. Baker (2012) postulated that the TOE framework would remain relevant and continue to direct research on the adoption of innovation. On the other hand, many researchers agreed that technology, organization and environment (TOE) model provide an excellent theoretical foundation for exploring information system adoption behavior within retail businesses.

2.3.9. Perceived Readiness model

The Perceived e-Readiness model (PERM) is used to assess the readiness for e-Business adoption and implementation. It is defined as an organization's assessment of the e-commerce, managerial, organizational, and external situations in making decisions about adopting e-commerce. **E-Readiness** is measured from organizational, managerial, environmental, technical aspects. This model was designed for e-commerce adoption by business in developing countries. e-commerce adoption in this model, is influenced by Perceived Organizational e-Readiness (POER) and Perceived External e-Readiness (PEER) which states to assess and evaluate conducted by the organization with respect to relevant external environmental aspects, such as government e-readiness, market forces e-readiness and support industries e-readiness to trace and manage risk regarding to e-commerce adoption activities. (Molla and Licker 2005)

Figure 2.1 Conceptual Model Modified from PERM (Molla and Licker, 2005b), and TOE framework (Tornatzky and Fleischer 1990)



2.4. Empirical Review

2.4.1. Factors Influencing E-commerce Adoption

Factors that influencing adoption of E-commerce considered two important factors, these are motivational and barriers. Eleven variables are proposed as the factors that influence adoption of E-commerce in adopting of e-commerce. That are organized into four groups, namely: technological factors, organizational factors, environmental factors and individual factors. Based on a survey of 292 Indonesian SMEs, it was found that perceived benefits, technology readiness, owners' innovativeness, owners' IT ability and owners' IT experience are the determinant factors that influence organization in their adopting e-commerce.

The study conducted by Ayana (2014) in banking Industry on Factors that affect adoption of E-commerce has showed that lack of ICT infrastructure, trust, legal and regulatory frame work and competition between local and foreign banks are some factors. further studies also revealed that adoption of e-commerce using technological, organizational and Environmental (TOE) model and Perceived E-readiness Model in tour operation and super markets were confirmed factors such as e competitive pressure, IT infrastructure, Owners or managers IT knowledge and governmental support of which competitive pressure is proved to be the most significant factor. Adoption cost is identified as inhibiting factor in his study.

Other studies examined that factors such as top management support, organizational competency, IT capacity, perceived benefits, perceived compatibility, perceived complexity, market e-readiness, supporting industry and government e-readiness of which Market e-readiness, IT Capability and Perceived Benefit as the major factors (Kinfemichael, 2019) and whereas Emishaw

(2017) mentioned organizational support and readiness, ease of use, usefulness, entrepreneurial orientation and perception of decision makers as factors affecting ecommerce adoption in the banking sector.

Study by Nega (2019) all other factors have significant influence on the adoption of e-commerce had indicated that with the exception of perceived complexity in banking Industry and e-banking(Fikru 2019). All studies revealed that all factors have their own effect but compatibility and infrastructure and compatibility were dominant.

Molla and Licker (2005) have developed a framework for e-readiness that is necessary for initial adoption of e- commerce in developing countries. The model has two major factors: perceived organization e-readiness (awareness, resources, commitment, and governance) and perceived external e-readiness (e-readiness of the government, market forces, and support industries). Tan, Tyler and Manica (2007) extended the model to include business typology, sector, firm size, education level of employees, and technological resources when analyzing B2B e-commerce adoption in China. Other factors for e- readiness of small and medium size enterprises according to Fathian, Akhavan and Hoorali (2008) are ICT infrastructure, organizational features, ICT availability, and security and legal environment. Educational awareness, strong ICT infrastructure, and government support are still significant factors according to a recent study in Saudi Arabia (AlGhamdi, Drew &Al-Ghaith, 2012).

Recently, some studies investigated the factors influencing e- commerce adoption in a strategic view. Li and Xie (2012) suggested a strategic framework for determining e-commerce adoption and showed that managerial attitudes, corporate strategies, external pressures and technological strength of the firms are the main factors of significance in China. Moreover, Saffu, Walker and Mazurek (2012) showed that perceived strategic value, which consists of organizational support, managerial productivity and decision aids, positively affects e-commerce adoption among the SMEs in Slovakia. Some studies have revealed the barriers to e-commerce in different countries and organizations.

Among them, one study by Alwahaishi et al. (2009) in Saudi Arabia identified education (illiteracy and lack of computer related skills), cultural factors (such as confidence on the product and availability of reimbursement) and technical factors (such as speed and efficient payment) as obstacles to e-commerce adoption. Other factors that hinder e-commerce adoption include lack of regulations and legislations; lack of awareness and education about e-commerce, cultural factors such as social approval security, availability of standards, resistance to change, negative attitude, and lack of management commitment; economic issues such as cost, social infrastructure, wage, and interest rate; taxation system; Internet security and privacy issues such as absence of laws on consumer protection, copyright, and digital signature; issue of trust infrastructure in online payment; lack of customer services; preference for actual shops; and cognitive factors such as lack of awareness and knowledge of e-commerce, and lack of valuable and useful content for consumer (Al-Gharbi, Khalfan and Al-Kindi, 2006; Farhoomand, Tuunainen &Yee, 2000; Mingqiang & Xiang 2010).

Financial problems and uncertainty in the e-commerce market was also suggested as two of the most important barriers in e-commerce adoption in a recent study (Solaymani, Sohaili & Yazdinejad, 2012). Apart from studying e-commerce adoption in general, researchers have also studied factors influencing adoption of e-commerce technology in online shopping, Internet banking, B2B transactions, B2C transactions, e-marketplace, websites, mobile commerce, electronic data interchange (EDI), and electronic payment. Factors that have been found to influence the above forms of e-commerce have been discussed by Al-Qirim (2007), Iacovou, Benbasat and Dexter (1995), Jiang & Sun (2009), Wang, Archer and Zheng (2006) and others. A recent study on the Internet banking of developing countries (Varaprasad, Sridharan & Unnithan, 2013) identified a new factor called conspicuousness as the determinant of Internet banking in India. Abou-Shouk, Megicks and Lim (2012) examined the perceived benefits of e-commerce adoption by Egyptian travel agents.

The study showed that marketing, strategic, and business efficiency benefits influence e-commerce adoption. Moreover, the suppliers and competitive pressures were the strong drivers whereas resource limitations, business environments, and technology attributes were key barriers for e-commerce adoption among Egyptian travel agents (Abou-Shouk, Lim & Megicks, 2012). Herrero and San Martín (2012) proposed a new approach to examine the influence of perceived risk on e-commerce adoption. The results show that technology risk is the main determinant of the online purchasing intention, and technology and vendor risk have a negative influence on the attitude towards website use. 31 There are also studies that compare the e-commerce adoption between the two countries.

Kurnia and Ali (2012) compared B2B e-commerce adoption by the grocery industry in Indonesia and Bahrain. The results showed that the differences in the social, economic, technological and political conditions do not create barriers to adoption. As for one of the barriers, the study pointed out that there is very little government intervention to encourage adoption. Asare, Gopolang and Mogothlwane (2012) compared the adoption of ICT in B2B and B2C e-commerce in Botswana and Ghana. The study showed similarities and differences in the challenges in the adoption in both countries. For example, frequent power disruption was a barrier in both countries, but the lack of technical knowhow was not. A study compared the adoption of e-commerce in China and Malaysia (Ooi et al., 2012) and showed that organizational readiness, innovation attributes, and cultural factors significantly influenced the e-commerce adoption in China, but the cultural factors were not as significant for e-commerce adoption in Malaysia. Although research studies on e-commerce in developing countries have become popular, most of the research in Africa tended to be concentrated on South Africa (Barnard & Wesson 2003; Molla & Heeks, 2007; Molla & Licker, 2005b; Moodley, 2003; Pather, Erwin & Remenyi, 2003).

However, the number of recent studies on e-commerce adoption in other parts of Africa has been growing (Boadi et al., 2007; Maswera, Dawson & Edwards, 2008; Migiro 2006; Nasri & Charfeddine, 2012; Asare et al., 2012, Mashanda, Cloete & Tanner, 2012; Taylor, Dorothy &

Owusu, 2012). Some of the studies on e-commerce adoption in African countries investigated and described the status of e-commerce adoption using descriptive surveys and statistics (Boadi et al., 2007; Maswera et al., 2008; Migiro, 2006; Molla & Heeks, 2007). Maswera et al. (2008) compared Web pages of travel and tourism organizations in South Africa, Kenya, Zimbabwe, and Uganda with those of USA and Western European organizations in order to identify the differences in features of Web sites such as product information, reservation, and payment. The results showed that the African websites generally lacked interaction for online transactions.

Migiro (2006) analyzed e-commerce adoption in manufacturing SMEs in Kenya and identified specific barriers using descriptive statistics. The study found the barriers to be high-cost funds and lack of technical expertise. Another study that analyzed e-commerce adoption in South 32 Africa from the perspective of benefit (Molla & Heeks, 2007) did not find any benefits related to transaction cost and strategic management. They suggested some possible causes of this finding; however, more systematic analysis would be required to accurately identify them. Taylor et al. (2012) examined the factors that affect Internet and e-commerce adoption in Ghana. The result showed that perceived benefits of the technology, lack of qualified staff, and limited resources were the internal factors whereas the limited number of Internet Service Providers (ISP), lack of online payment process, and limited availability of online banking services were the external factors that influenced e-commerce adoption in Ghana.

Another recent descriptive study on the African countries is Mashanda et al. (2012) that explores the factors that influence B2C e-commerce adoption by SMEs in Zimbabwe. It showed that environmental factors such as unreliable network infrastructure and the unreliability of electrical power have a huge impact on the decision to adopt e-commerce. Other studies on e-commerce adoption in African countries are based on models that explore factors determining e-commerce adoption (Molla & Licker 2005 Nasri & Charfeddine, 2012). Molla and Licker (2005b) suggested factors that affect e-commerce adoption in South Africa from the perspective of e-readiness. They used factors based on perceived organizational e-readiness (POER) and perceived environmental e-readiness (PEER) as determinants of e-commerce adoption. The results showed that both organizational and environmental considerations were important. Furthermore, Nasri and Charfeddine (2012) explored the factors affecting Internet banking adoption in Tunisia based on the technology acceptance model (TAM) and the theory of planned behavior (TPB).

Agnes W, 2013 has also further discussed on Factors Influencing Adoption of E-Commerce among Youth Entrepreneurs in Nakuru Town, Kenya. The findings established that, the number of small enterprises that had so far adopted some aspects of e-commerce was low. The findings further point to the strong influence of perceived benefits, internet diffusion and security/ privacy concerns on adoption of e-commerce. Internet access patterns influence but not as strongly as the other three attributes. E-commerce in developing countries are highly dependent on various differences of Internet access, availability, affordability and other measures as the 'Internet haves' and 'Internet have not' (Wilson, 1987). According to ITU (2013) E-marketing in developing and developed countries 33 is influenced by ICT readiness (infrastructure, access), use intensity and

ICT skills. The Ecommerce practice and challenges in Ethiopian context presented below; According to Assefa and Wubalem, (2007) ICT can be an extremely powerful enabler in efforts to bring positive and sustainable socio-economic and political development to countries around the globe. Conducting old businesses in new ways and embracing new business opportunities has now become part of any economic transformation. Nonetheless, Ethiopia, traced as the low in network readiness index and in Internet users/internet penetration in the continent. But, the government's effort to improve the ICT infrastructure is encouraging.

According to Belaynew (2012) E-commerce in Ethiopia is still characterized by a low penetration and high cost of Internet services, lack of suitable legal and regulatory framework for E-commerce, monopoly of gov't on the telecom sector are the main impediments to adopt E-business in the country. Some of these challenges are discussed below. The Ethiopian government established ICT policy (FDRE, 2016); nevertheless, the adoption of ICT and E-commerce in Ethiopia remains low in comparison with regional and global peers (FDRE, 2016). According to Mulat and Tadesse (2002) the major challenges of ICT in the country is that low per capita income, prevalence of disease, high population growth, poor ICT infrastructure, and fledging regulation toward governance. All These constraints present challenges, but also opportunities for effective business transaction (which is the central study of this research). E-commerce tools are highly relying on telecom. For the purpose of analyzing the factors affecting the adoption of e-commerce in the hotel industry in the study population, the following relationships are hypothesized,

2.5 Technological Factors

Perceived benefits, compatibility and perceived complexity are commonly considered as technological factors in this research as these factors relay to technology aspects that determine the adoption of e-commerce technology.

The degree of acceptance of the possible advantages that ecommerce technology can provide for the organization is considered as the perceived benefit. Greater managerial understanding of the relative advantages of e-commerce adoption raises the probability of that an organization allotting resources, such as managerial resources, financial resources and technological resources, to adopting e-commerce technology means better managerial considerate of the relative advantages of e-commerce adoption increases.

To what extent e-commerce is suitable with technology infrastructure, culture, value, and work practices that already occur in the organization is what compatibility means. Compatibility between organization policies and technology innovation will make the innovation easier to be pictured in a more familiar context (Rogers, 2003). Cost is also here; cost is considered as a factor that influences adopting e-commerce as the cost is less in a technology it is the more likely adopting and implementing rapidly in a firm.

It is therefore, these justifications lead to the subsequent hypotheses:

H₁: Relative advantages positively affect the adoption of e-commerce in the hotel industry in the study population

H2: Compatibility positively affects the adoption of e-commerce in the hotel industry in the study population

H3: Complexity positively affects the adoption of e-commerce in the hotel industry in the study population

2.6 Organizational Factors

These factors state to the feature of the organization that affect the adoption of e-commerce. Top management support, technology capacity and organizational competency are classified into this category.

The organizational context refers to the characteristics of the firm that might influence the adoption of e-commerce technology. Top management support is one of the organizational contexts proposed in this study as a determinant factor that influences the hotel industry in adopting e-commerce. Reassuring of the usage of electronic commerce require a perfect objective in business operations and widely communicated and understood throughout the organization are some organizational factors that are to be considered. This implies that the more the organizational readiness of an organization is the more probable to adopts IT technology, and the reverse is also true. Thus, in this study it is hypothesized that:

H4: Total management support affects e-commerce adoption positively and significantly in hotel Industry

H5: Organizational competence affects e-commerce adoption positively and significantly in hotel Industry

H6: IT capability affects e-commerce adoption positively and significantly in hotel Industry

2.7 External/Environmental factors

External/Environmental factors relate to the pressure or support from the external factors that influence the adoption of e-commerce. There are three variables included in this factor, which are market, industry and government e-readiness.

The External factors refers to external influences such as pressure from market e-readiness, such as intention to do business on the internet, , supporting industry e-readiness like reliable and efficient telecommunication infrastructure and supporting transactions and local IT industry and the government e-readiness protecting privacy and fighting cyber-crime, and commitment .

From this one can conclude that supports from external factors are high probable to e commerce adoption to maintain competitive platform. These justifications lead to the subsequent hypotheses:

H7: Government e-Readiness affects e-commerce adoption positively and significantly in hotel industry

H8: Market forces e-Readiness affects e-commerce adoption positively and significantly in hotel industry

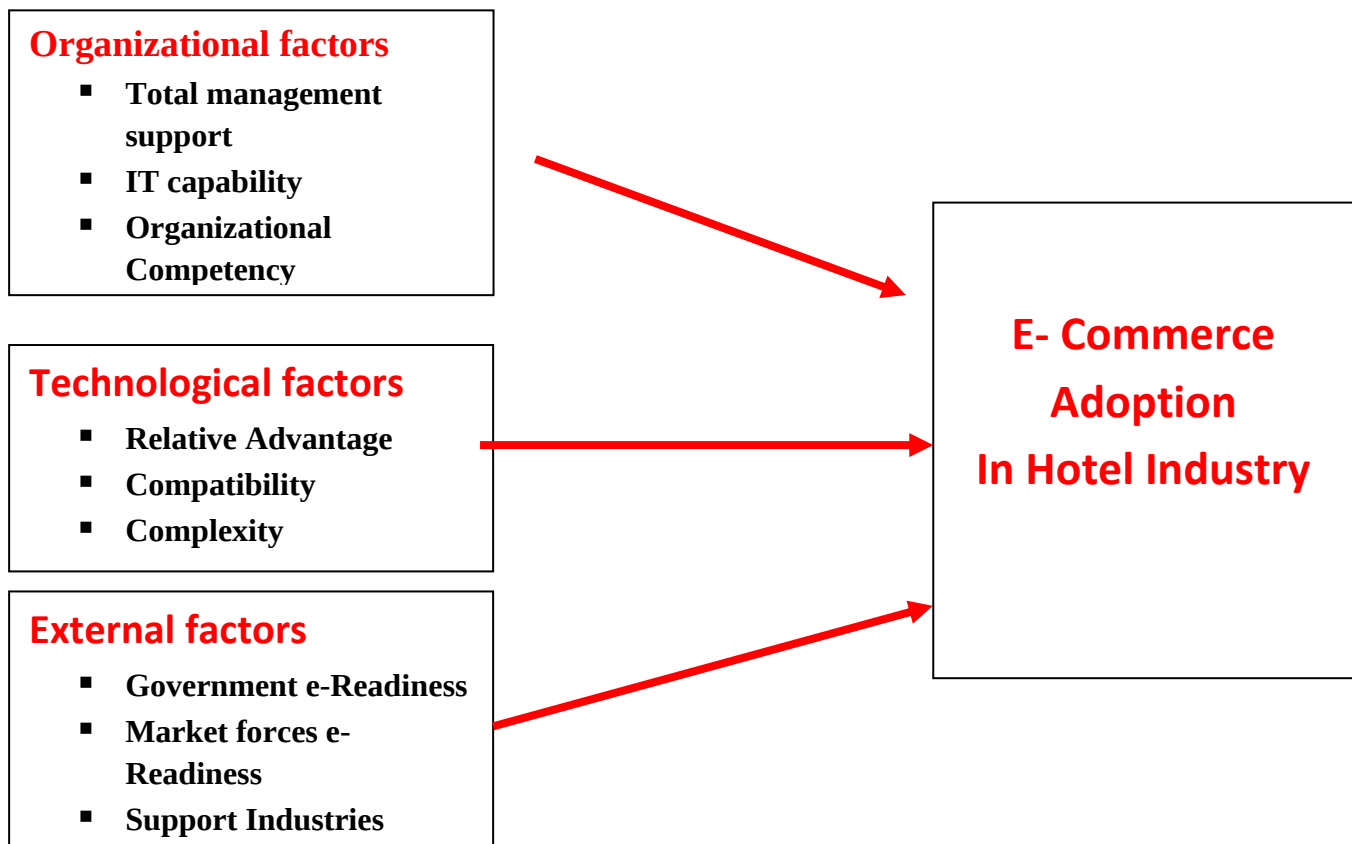
H9: Support Industries affects e-commerce adoption positively and significantly in hotel industry

2.8 Conceptual framework

From the above different contexts that are the theoretical and empirical literature there are different factors evident to the technological challenges and its adoption to effectiveness of ecommerce in the proposed study.

Factors that influence the Hotel industry in their adoption of e-commerce, following the above presentation, is focused and presented through technological, organizational, external/ environmental contexts.

Conceptual framework of the study (compiled by the researcher)



Chapter Three

3 Research Methods

In this section the researcher tries to demonstrate the methodology that was used in the research work. It consists of research design, sample, population and sampling techniques, types of data and instruments of data collection, procedure of data collection and methods of data analysis.

3.1. Description of the Study Area

Electronic commerce (e-commerce) has become an increasingly important initiative among businesses. Businesses adopt e-commerce for various reasons and perceived benefits. Some of these benefits include better sales, better integration of suppliers, more marketing channels, lower transaction costs, better customer communication, and market expansion. The development of e-commerce was at infant stage in Ethiopia for the reason that of the monopolistic control of the telecom sector including the technological, organizational and external factors besides the IT infrastructure, knowledge, and governmental support. Ethiopia has developed into a major destination for tourists from around the world, attracting about 7.68 million tourists in the year 2019/20. (Kinfemichael, 2019 Fikru, 2019).

The hotel industry in Ethiopia is selected as a setting to explore the relative influence of factors in determining the adoption of e-commerce. Therefore, the study was conducted in selected hotels currently providing services in Addis Ababa. There are more than 115 hotels are currently providing services ranging from one to five stars in Addis Ababa.

3.2 Research Design and Approach

Ethiopia is one of the African countries at the horn that has a significant historical and geo-political status. Nevertheless, mainly due to its fast-growing population and other natural calamities, its social and economic development indicators regrettably reveal that it is lagging behind the rest of the world. It is expected that the nation's available resources can be efficiently used for rapid development and economic growth using new technologies. So also, many leaders in governments, businesses and social organizations around the globe have considered how best to harness the power of ICT for development. E-commerce implementation in Ethiopia is owned by state telecommunication sector and remains low compare to other countries even if the internet usage is growing.

This research work, therefore, is desired to investigate determining factors that affect e-commerce adoption in the hotel industry of Addis Ababa. The research was used descriptive and explanatory research designs which aims at describing something, mainly functions and characteristics and providing insights into and an understanding of the problem faced by the researcher.

This type of research aim at, for instance, explaining social relations or events, advancing knowledge about the structure, process and nature of social events, linking factors and elements of issues into general statements and building, testing or revising a study variable. (Creswell et al, 2012). For demographic and other related variables, descriptive design was applied and

explanatory design was used for determining the relationship among the dependent and independent variables, explanatory design was used. (Creswell et al, 2012)

3.3 Population and Sample

Hotels in Addis Ababa were a source of population of the study. The study population were selected proportionally from each grade of the hotels that are currently providing services in Ethiopia.

There are several references to determine the sample size even though no one really standard for it. The sample size was determined by the statistical formula. A total population (N) 115 hotels were currently working in study population, at a confidence level of 95%, the sample size for the analysis is 90. The sample size is determined by the statistical formula (Israel, G.D. 2013).

$$\begin{aligned} n &= N / (1 + N \times e^2) \\ &= 115 / (1 + 115 \times (0.05)^2) \\ &= 115 / 1.28 = 90 \end{aligned}$$

Where N=population, n= sample size and e= level of precision

Stratified random sampling technique was used to include all grades of hotel into six stratum as shown in table 3.1 below

Table 3.1 The Proportional Sample Size by rate in the study population

Sr no	Strata	No of population	Proportionate Ratio	Sample size of each strata
1	Five Star	7	90(7/115)	5
2	Four Star	29	90(29/115)	23
3	Three Star	23	90(23/115)	18
4	Two Star	21	90(21/115)	17
5	One Star	18	90(18/115)	14
6	Non graded	17	90(17/115)	13
Total		115		90

3.4 Data source and types

The study used primary and secondary data. Primary data were gathered through questionnaire and secondary data were official records that were obtained from the annual and quarterly reports of the respective hotels in the studies.

3.5 Procedure for Data Collection

Since the questionnaires would be distributed in the selected hotels in Addis Ababa. These hotels were select using systematic sampling technique and to select the respondent of questionnaires in each hotel are convenient sampling techniques.

3.6 Methods of data collection

The data collection method would be doing using self-administered questionnaire which would be filled by hotel managers, owners or delegates. The questionnaires were design in a five scale likert measurement. The variables are measured using Likert scale with five response categories that stretch from strongly agree to strongly disagree).

3.7 Data Analysis

Data that were collected through questionnaire were used for the data analysis. Results were compiled and arranged in table with percentage using descriptive statistics. Quantitative data were analyzed using the statistical package for social science (SPSS).

The reliability and consistency of the data was analyzed by means of the Cronbach's Alpha (α) analysis. Correlation analysis was used to examine the effects of various factors on the e-commerce adoption. The relationship between dependent and independent variables were performed using regression analysis, and ANOVA test method was used by meeting the ordinary least square (OLS) assumptions of the linear regression.

3.8 Variables of the Research

The dependent variable for this research is the E-commerce adoption and the independent variables are Total management Support, IT capability, Perceived capability, Perceived competence, organizational competency, Market e-readiness, Industry e-readiness and Government e-readiness.

3.9 Model Specification

The model framed for the study is presented below. Several authors were used this model in different settings (Molla. and Licker P.s 2005, Rogers1995, Bemitteh-Amedo 2011, Ghobkhlooand Tang 2013. Abdulhakeem et al 2017)

$$ECAD = a + \beta_1 TMS + \beta_2 ITCAP + \beta_3 PERBEN + \beta_4 PERCOM + \beta_5 ORGCOMP + \beta_6 MEREAD + \beta_7 IEREAD + \beta_8 GOVTEREAD + \beta_9 PERCOMPL + e_i$$

Where:

GOVTEREAD - Government e-readiness,

ITCAP - IT capability

ORGCOMP - organizational competency

PERCOM - Perceived compatibility

TMS - Top management Support

β_1 -9 - is the coefficient

IEREAD - Industry e-readiness

MEREAD - Market e-readiness

PERBEN - Perceived benefit

PERCOMPL - Perceived complexity

a - is a constant,

e_i - the error term

3.10 Reliability and Validity of the Instrument

The key informant interview guidance and pre testing of the questionnaires were conducted to warrant data reliability and validity. The researcher used checklist of questions when making personal interviews with respondents so as to achieve data consistency and completeness.

The internal consistency which is the consistency of people's responses across the items on a multiple-item measure is referred as reliability and Cronbach's α , a value of +.70 or greater will be is considered

as good internal consistency. In the same way, the Validity of the research is considered as the extent to which the scores from a measure represent the variable they are intended to. Content validity in this case is not usually assessed by carefully checking the measurement method against the conceptual definition of the construct.

3.11 Ethical Consideration

To ensure protection of respondents from any possible harm that could arise from participating in the study, the researcher was considered voluntary participation, confidentiality, anonymity by announcing the objective of the study is for Master study programs and taking part in the research was only on a voluntary basis refusal or abstaining from were permitted. Confidentiality of the information given by the respondents would be used only for the intended purposes and result and findings were given latter after accomplishment of the study.

Chapter Four

4. Data presentation, analysis and Discussion

4.1. Introduction

This chapter presents the data presentation, interpretation and discussion for research findings obtained from the questionnaires. It reports the investigation results obtained from the respondents of the study population covered in the questionnaire. The discussion begins with the questionnaires' response rate followed by the descriptive statistics of the respondent's related questions and reliability analysis and the regression assumption test also reported and finally the results of hypothesis testing are presented.

4.2. Response Rate

Seventy-five respondents were responded the questionnaire from ninety questionnaires distributed to selected hotels Addis Ababa that makes the response rate is 83%. The average level of response rate is 52.7% is acceptable for survey so that the response is acceptable. (Baruch and Holtom 2008),

4.3. Profile of respondents

The study showed that male respondents were high from the gender respects and in the hotel industry sector. As shown in table 4.1 it was 68% (51) and the rest 32%(24) were female. Considering the age of respondents 32% were 25 to 35, 29% were 36 - 45 and 23% were 46 - 55 and 16% were above 55 years.

Table 4.1 Respondents general Profile by Gender and Age

Description		N	%
Gender	Male	51	68
	Female	24	32
	Total	75	100
Age	25-35	24	32
	36-45	22	29
	46-55	17	23
	>55	12	16
	Total	75	100

Source: SPSS output 2021

Table 4.2 showed the respondents general Profile by Education, income group and years of Experiences. Majority of respondents are having BA degree, managers in their current position and

had between 10 to 15 years of experiences. It was 55%, 66.7% and 46.6% respectively. This indicates that the respondents are well experienced and in a good position to provide better information for the study.

Table 4.2 Respondents general Profile by Education, income group and years of Experiences

Description		N	%
Education	BA/BSC	41	55
	MA/ MSC	26	35
	PH D	8	10
	Total	75	100
Years of experience	< 5 years	5	6.7
	5-10 years	20	26.7
	10 – 15 years	35	46.6
	>15 years	15	20.0
	Total	75	100
Current position	Owners	15	20.0
	Managers	50	66.7
	Administration and finance	10	13.3
Total		75	100

Source: SPSS output 2021

4.4. Reliability Analysis

As shown in table 4.3 the high Alpha value ($\alpha=0.783$) was obtained indicating that the questionnaire was reliable and consistent, because the Alpha value greater than 0.70 is acceptable.

Table 4.3 Reliability Statistics

No.	Study Variables	Cronbach's Alpha coefficient	Number of items
Technology Factors			
1	Relative Advantage	0.794	4
2	Compatibility	0.774	5
3	Complexity	0.833	4
Organization Factors			
4	Top Management Support	0.803	4
5	Organizational Competence	0.853	3
	IT Capabilities	0.76.	4
External Factors			
7	Government e-Readiness	0.710	5
8	Market forces e-Readiness	0.744	2
9	Support Industries	0.812	3
10	E commerce Adoption	0.751	5
	Total	0.783	39

4.5. Category of questionnaire items

The likert item categories of the study variables were presented below in table 4.4 for the data analysis.

Table 4.4 Likert item categories

No.	Variables of the study	Symbol	Likert items (No)
Technology Factors			
1	Relative Advantage	RAD	4
2	Compatibility	COMPAT	4
3	Complexity	COMPLEX	5
Organization Factors			
4	Top Management Support	TMS	4
5	Organizational Competence	ORCOMP	3
6	IT Compatibility	ITC	4
External Factors			
7	Government e-Readiness	GER	5
8	Market forces e-Readiness	MFER	2
9	Support Industries	SUPIND	3
10	E commerce Adoption	ECADOP	5
Total			39

Source: SPSS output 2021

4.6. Comparison by categories

The variables listed on the questionnaires that were considered to the study are presented in the table. These are technological factors such as perceived Relative advantage, compatibility and complexity; organization factors such as top management support, organizational Competence and IT compatibility and External Factors on adoption of e-commerce such as Government e-Readiness, market forces e-Readiness and support Industries in the hotel industry in Addis Ababa. (Molla, A., & Licker, P.S. 2005, Rogers 2003. Benitez-Amado 2011, Ghobakhloo and Tang 2013). Table 4.5 showed that the mean value and the standard deviation of the study population

Table 4.5 Mean and SD value by categories

No.	No Variable Name	Mean	Standard deviation
1	Relative Advantage	3.34	0.905
2	Compatibility	3.50	0.854
3	Complexity	4.04	0.734
4	Top Management Support	3.48	0.917
5	Organizational Competence	2.94	1.043
6	IT Compatibility	3.82	0.875
7	Government e-Readiness	3.45	0.732
8	Market forces e-Readiness	4.10	0.766
9	Support Industries	2.83	0.643
10	E commerce Adoption	4.20	0.608

Source: SPSS output 2021

Table 4.4 above revealed that top management has high mean score (3.48), relative advantage (3.34) and 4.1 mean score from market e-readiness from organizational, technological and external factors respectively during the study.

4.7. Perceived Relative Advantage/Benefits

Table 4.5 below showed the mean and the standard deviation of perceived relative advantage in the study population. Out of five items developed to see the extent of relative advantage/perceived benefits in ecommerce adoption, increase ability to compete a 3.9 and Reap operational benefits (3.5), reduce cost of business operations (3.2) and improve customer services (3.4) and 3.0 for Improve distribution channels. The overall mean of perceived benefits is 3.34 in contributing the adoption of e-commerce in the study population

Table 4.6 Relative Advantage /Perceived Benefits

Sr. No	Description	Mean	SD
1	Reduce cost of business operations	3.2	0.817
2	Improve customer service	3.4	0.912
3	Improve distribution channels	3.0	1.015
4	Reap operational benefits	3.5	0.864
5	Increase ability to compete	3.6	0.921
Total		3.34	0.905

Source: SPSS output 2021

4.8. Perceived Compatibility

Table 4.6 showed the five items that were used to measure the Perceived compatibility. Organization has a strong relationship with suppliers and customers which contributes high mean value 3.65, next Existing technology infrastructure which is 3.63, the third rank mean is Communication is very open in our organization was 3.41 indicating that perceived compatibility contributes to the adoption of e-commerce the mentioned in hotel industry at the mean score of 3.50.

Table 4.7 Perceived Compatibility

Sr. No	Description	Mean	SD
1	Organizational beliefs and practices	3.23	0.851
2	Existing technology infrastructure	3.63	0.782
3	Communication is very open in our organization	3.41	0.896
4	Our organization has a strong relationship with suppliers and customers	3.65	0.945
5	Our organization has a positive attitude towards electronic commerce	3.50	0.799
Total		3.50	0.854

Source: SPSS output 2021

4.9. Perceived Complexity

Table 4.7 indicates that the four items were used to measure the perceived complexity. Learning to operate electronic commerce is/would be easy which contributes high mean value 4.08, next interacting with electronic commerce would be flexible which is 4.03, the third rank mean score is my interaction with electronic commerce is/would be clear and understandable which is 4.01 and the lowest mean score was for It would be easy for me to become skillful at using electronic commerce. Generally, the statement of criteria set for the indicators that mean values are highly contribute the adoption of e-commerce in hotel industry.

Table 4.8 Perceived Complexity

Sr. No	Description	Mean	SD
1	Learning to operate electronic commerce is/would be easy	4.18	0.738
2	Interacting with electronic commerce is/would be flexible	4.03	0.710
3	My interaction with electronic commerce is/would be clear and understandable	4.01	0.750
4	It would be easy for me to become skillful at using electronic commerce	3.95	0.741
Total		4.04	0.734

Source: SPSS output 2021

4.10. Top Management Support

Table 4.7 showed the top management support in identifying e commerce adoption in the study area. The mean was 3.48 with a standard deviation of 0.917 of which Management is interested in the use of electronic commerce the mean value was 3.66 with a standard deviation of 0.821, in Management is supportive of the use of electronic commerce in business operations the mean value is 3.48 with a standard deviation of 1.006 for Our business has a clear vision on electronic commerce the mean value is 3.42 with a standard deviation of 0.919, and Our vision of electronic commerce activities is widely communicated and understood throughout the organization 3.38 with a standard deviation 0.925 of the study population.

Table 4.9 Top management support

Sr No	Item	Mean	SD
1	Management is interested in the use of electronic commerce	3.66	0.821
2	Management is supportive of the use of electronic commerce in business operations	3.48	1.006
3	Our business has a clear vision on electronic commerce	3.42	0.919
4	Our vision of electronic commerce activities is widely communicated and understood throughout the organization	3.38	0.925
Total		3.48	0.917

Source: SPSS output 2021

4.11. Organizational Competence

The mean (M) and the standard deviation (SD) of the result of the descriptive statistics of items of organizational competence is shown in relatively low mean score value (2.94). As shown in table 4.9 below. Three essential organizational competencies attributes were used to investigate the extent of these items on e-commerce adoption. In view of this, our organization has a good understanding of electronic commerce business models that are applicable to our business scored a mean value of 2.81 our organization has the necessary technical, managerial and other skills to implement electronic commerce(3.02). The item our organization has a good understanding of electronic commerce business models that are applicable to our business has also shown low score of 3.01. Low Organizational Competence was indicating that the organization has not a good understanding of E-commerce and business models that are applicable to our business and the necessary technical, managerial and other skills to implement electronic commerce

Table 4.10 Organizational Competence

Sr No	Description	Mean	SD
1	Our organization has a good understanding of e business	2.81	1.132
2	E-commerce business models that are applicable to our business	3.01	0.998
3	Our organization has the necessary technical, managerial and other skills to implement electronic commerce	3.02	1.001
Total		2.94	1.043

Source: SPSS output 2021

4.12. IT Capabilities

The means and standard deviations of the IT capability statement of criteria is displayed in table 4.10 as per the magnitude of their means. As shown in table 4.10 the average response of the respondents relatively equal/above the grand mean of 3.82. This indicates that majority of respondent agree that their companies well computerized with LAN & WAN (3.92), access with high band width connectivity(3.87) and further confirm their employees have the skills and experience in network-based application(3.74). This showed that the respondents were in consent that this variable is strongly affecting e-commerce adoption in the case industries. But, the enterprise-wide IT infrastructure show average/moderate i.e., 3.69 as compare to the grand mean.

Table 4.11 IT Capabilities

Sr. No	Description	Mean	SD
1	Our organization is well computerized with LAN and WAN	3.92	.813
2	We have high bandwidth connectivity to the Internet	3.87	.898
3	We have an established enterprise-wide IT infrastructure	3.69	.946
4	We have sufficient experience with network based	3.74	.845
Total		3.82	.875

Source: SPSS output 2021

4.13. Market e-readiness

The mean (M) and the standard deviation (SD) of the result of Perceived market e-readiness is shown in the table 4.11 below. Table 4.11 indicates the market e-readiness in hotel industries. Accordingly, the group means of the statement of criteria in this variable is 4.1 which is near to average/moderate factor affecting e-commerce adoption with respect to the overall measures taken into consideration. The above figure showed that the markets are ready to use if hotels are ready to provide reliable e-commerce application service in the hotel sector.

Table 4.12 Market e-readiness

Sr No	Description	Mean	SD
1	We believe our customers are ready to do business on the internet	4.20	0.799
2	We believe our business partners are ready to conduct business on the Internet	4.01	0.725
Total		4.10	0.762

Source: SPSS output 2021

4.14. Supporting Industries

The mean (M) and the standard deviation (SD) of the result of supporting industries is shown in the table 4.12 below. As shown in table below concerning supporting Industries that there is efficient and affordable support from the local IT industry to support our move to the Internet a mean score of 3.12 which is the higher mean score, and the mean score shown in the existing telecom infrastructure is reliable 2.73 and discussed about the financial institutes are fully engaged with technology infrastructure in order to support the e-commerce transaction i.e., 2.65. This indicate that the telecommunication & the technology infrastructure of commercial and **financial institutions are not supporting the e-commerce adoption in a given for the adoption of e-commerce in hotel industries in Ethiopia.**

Table 4.13 Supporting Industries

Sr No	Description	Mean	SD
1	The telecommunication infrastructure is reliable and efficient	2.73	0.597
2	The technology infrastructure of commercial and financial institutions is capable of supporting electronic commerce transactions	2.65	0.511
3	We feel that there is efficient and affordable support from the local IT industry to support our move to the Internet	3.12	0.821
	Total	2.83	0.643

Source: SPSS output 2021

4.15. Government e-readiness

The mean (M) and the standard deviation (SD) of government e-readiness is shown in the table 4.13 below. As shown in table 4.13 below the Government e-readiness in hotel industries the government demonstrates strong commitment to promote electronic commerce with the mean score of 3.45, the respondents believe there are effective laws to protect consumer privacy and the legal environment is conducive to conduct business on the Internet shows higher mean score of equally 3.85 respectively. However, the mean score of the item label Government regulations allows electronic settlement of electronic commerce transactions showed moderate mean value which is 3.03 and effective laws to combat cybercrime (3.01). This indicates that effective laws to combat cybercrime and government electronic settlement of electronic commerce transactions now a days is not yet strong enough currently to maintain the desired outcomes, considering the fact that the IT security and related issues simply at infant stage.

Table 4.14 Government e-readiness

Sr No	Description	Mean	SD
1	We believe there are effective laws to protect consumer privacy	3.85	0.625
2	We believe that there are effective laws to combat cyber crime	3.01	0.819
3	We believe the legal environment is conducive to conduct business on the Internet	3.85	0.625
4	We believe that the government demonstrates strong commitment to promote electronic commerce	3.54	0.701
5	Government regulations allow electronic settlement of electronic commerce transactions	3.03	0.901
Total		3.45	0.734

Source: SPSS output 2021

4.16. E-commerce adoption

The mean (M) and the standard deviation (SD) of E-commerce adoption is shown in the table 4.14 below. As shown in table 4.14 below the average mean score was between 3.51 and 4.98 High mean score were registered on the criteria. E-commerce adoption is part of technical innovation. (4.98) showed that the hotel industries are giving great attention and apply maximum effort for e-commerce adoption in the hotel industries. The next high mean value registered on the criteria/facets e-commerce could help you to achieve your organization strategic plan (3.94). This showed that almost all hotel industries understood the important of ecommerce for their business in the study population.

Table 4.15 E-commerce adoption

Sr No	Description	Mean	SD
1	All in all, do you believe e-commerce Adoption is feasible in Ethiopia, with current situation?	3.51	0.801
2	Do you believe, e-commerce could help you to achieve your organization strategic plan?	3.94	0.876
3	Do you believe e-commerce adoption is part of technological innovation?	4.98	0.071
4	Government regulations allow electronic settlement of electronic commerce transactions	3.68	0.674
Total		4.02	0.605

Source: SPSS output 2021

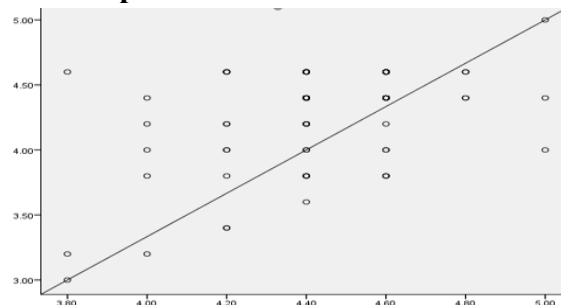
4.17. Assumptions of Regression analysis

In order for the results of the regression analysis to be interpreted meaningfully, conditions must be met: These are

4.17.1. Linearity

There must be a linear relationship between the dependent and independent variables. In linear regression, a straight line is placed through the data. This straight line should represent all points as good as possible. If the relation is nonlinear the straight line cannot fulfill this requirement. The linearity assumption tested with scatter plots is presented in figure 4.1.

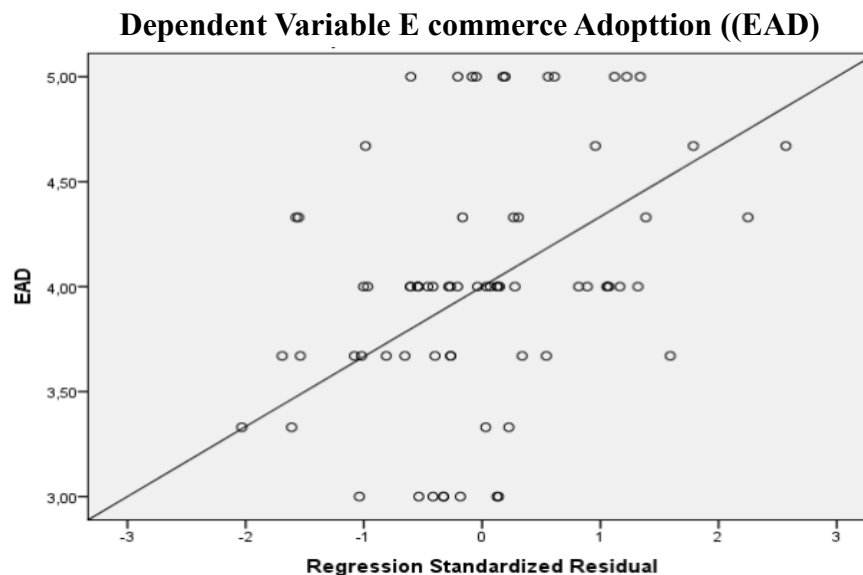
Figure 4.1 Scatter plot : Independent variables



4.17.2. Homoscedasticity

The residuals must have a constant variance. A assumption for linear regression is that the residuals have a constant variance. Since the regression model never exactly predicts your dependent variable in practice, you always have an error. the assumption of homoscedasticity is met as the variances are constant and the results are scattered as shown infigure 2.

Figure 4.2 Scatter plot: Dependent variable



4.17.3. Normality

The residuals must be normally distributed. One assumption of linear Regression is that the error epsilon must be normally distributed, to check this there are two ways, one is the analytical way and the other is the graphical way. For the sample data of grater than hundred the Kolmogorov-Smirnov tests were used for interpretation. The Data were not distributed normally. because p-value was less than 0.05 so that a Z-Score test was run .

Table 4.16 Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
E coommerce adoption	.287	125	.000	.807	125	.000

Z test

		Statistic	Std. Error
E commerce Mean adoption		4.4345	.01525
95% Confidence Interval for Mean	Lower Bound	4.4043	
	Upper Bound	4.4648	
5% Trimmed Mean		4.4444	
Median		4.4000	
Variance		.026	
Std. Deviation		.15995	
Minimum		4.00	
Maximum		5.00	
Range		1.00	
Interquartile Range		.20	
Skewness		-.433	.230
Kurtosis		1.863	.457

Based on the table 4.12 a Z-Score test was run using the skewness results. The Skewness statisic divided by the skewness standard error is the result of the Z-Score test. Originally, the Z-Score results violated the normal range. Therefore, outliers were deleted and a Z-Score was run again. $-.0.433/0.230=1.883$. The new Z-Score result is 1.863. In order for normality, the cut-off point for a Z-Score test should be between -3.29 and +3.329. The value is now in range and the violation is not bad making the data normal.

4.17.4. Multicollinearity

No high correlation between the independent variables. One can assess multicollinearity by examining tolerance and the Variance Inflation Factor (VIF) that are two collinearity diagnostic factors that help to identify multicollinearity. Tolerance is a measure of collinearity reported by most statistical programs depicted as is $1-R^2$. A small tolerance value indicates that the variable under consideration is almost a perfect linear combination of the independent variables already in the equation and that it should not be added to the regression equation. All variables involved in the linear relationship will have a small tolerance. Some suggest that a tolerance value less than 0.1 should be investigated further. If a low tolerance value is accompanied by large standard errors and non-significance, multicollinearity may be an issue.

The Variance Inflation Factor (VIF) measures the impact of collinearity among the variables in a regression model. The Variance Inflation Factor (VIF) is $1/\text{Tolerance}$, it is always greater than or equal to 1. There is no formal VIF value for determining presence of multicollinearity. Values of VIF that exceed 10 are often regarded as indicating multicollinearity, but in weaker models values above 2.5 may be a cause for concern. In many statistics programs, the results are shown both as an individual R^2 value (distinct from the overall R^2 of the model) and a Variance Inflation Factor (VIF). When those R^2 and VIF values are high for any of the variables in the model, multicollinearity is probably an issue. When VIF is high there is high multicollinearity and instability of the b and beta coefficients. It is often difficult to sort this out.

As shown in table below the model is free from multicollinearity problem between the independent variables.

Table 4.17 Tolerance and VIF

Variables	Collinearity Statistics	
	Tolerance	VIF
Relative Advantage	.295	3.386
Compatibility	.342	2.920
Complexity	.451	2.216
Total management support	.425	2.351
Organizational competence	.610	1.640
IT capability	.412	2.426
Government e-Readiness	.313	3.194
Market forces e-Readiness	.463	2.158
Support Industries	.299	3.34

Source: SPSS Output 2021

4.17.5. Autocorrelation Test

A common method of testing for autocorrelation is the Durbin-Watson **test** that depicts for a systematic correlation exists between one observation of the error term and another error term. The Durbin-Watson tests produce a test statistic that ranges from 0 to 4. Values close to 2 (the middle of the range) suggest less autocorrelation, and values closer to 0 or 4 indicate greater positive or negative autocorrelation respectively. In this research the value was 2.314 that refer the absence of correlation between error terms.

Table 4.17 The Durbin-Watson statistic

Variables	Durbin-Watson
E commerce adoption	2.314

Source SPSS output 2021

4.18 Correlation analysis

Pearson 's correlation coefficient between the nine factors that affect e-commerce adoption were showed in table below. correlation coefficient was considered as weak if r is 0.1 to 0.29, moderate if 0.3 – 0.49 and strong if it is greater than 0.5. The results indicated that all the E-commerce adoption indicators have positive high correlation effect on e-commerce adoption Cohens (1988).

Table 4.18 Correlation coefficient

VARIABLES	ECOMADOP	RAD	COMPAT	COMPLEX	TMS	ORCOMP	ITC	GER	MFER	SUPIND
ECOMADOP	1									
RAD	.736***	1								
COMPAT	.297*	.701***	1							
COMPLEX	.605***	.677***	.701***	1						
TMS	.801***	.641***	.505***	.610***	1					
ORCOMP	.722***	.726***	.665***	.561***	.571***	1				
ITC	.797***	.297*	.234**	.089	.297*	.239**	1			
GER	.653***	.648**	.733***	.521***	.633***	.091	.576***	1		
MFER	.742***	.699***	.601***	.648***	.591***	.405**	.652***	.672***	1	
SUPIND	.567***	.605***	.590***	.468**	.543***	.141*	.615***	.649***	.575***	1

Source: SPSS Output, 2021

4.19 Regression Analysis

The study variables that are grouped into three main factors, namely technological factors which contain perceived benefit, compatibility and, perceived complexity; organizational factors which consist of Top management support, IT capabilities and organizational competency; environmental factors which are market e-readiness, supporting industry and government e-readiness and the dependent variable in this research is e-commerce adoption were analyzed through multiple regression analysis. This measure was also used by Teo and Pian (2004), Ghobakhloo and Tang (2013), and Sila (2013).

4.20 Model Summary

As shown in the Model Summary table 4.20 R value is the absolute value of the Pearson correlation between the dependent variable and independent variable (Kinnear and Gray, 2010). In this study the R^2 value is .621. R^2 closer the value to one infers the higher portion of the dependent variable variances are explained by the model.

R^2 value of as shown in table below 62.1% showing the dependent variables are explained by the independent variable means the model of this research explains 62.1% of the variance of e-commerce adoption. It revealed that the model of this research explains the variance of e-commerce adoption.

Table 4.19 Model Summary

Model	R	R square	Adjusted R square	Standard of the estimates
1	.780 ^a	.621	.590	.46243

a. **Dependent Variable:** E commerce adoption **b. Predictors: (Constant),** Relative Advantage, Compatibility, Complexity, Total management support, Organizational competence IT capability Government e-Readiness, Market forces e-Readiness and Support Industries

4.21 ANOVA Test

The table below presents the F test result aimed to certify whether the independent variables involved in the model have significance correlation to the dependent variable and also reflects the statistical significance of the whole model (Bryman, 2005). The significance value of F changes is below 0.05 showed that the independent variables are significantly correlated with the dependent variable.

As shown in table below the value of F changes produced by multiple regression procedure is greater than the value of F and this is also supported by the significance value that less than 0.05, which is 0.000. Therefore, this model is fit that the independent variables included in this model have a significance correlation to the dependent variable.

Table 4.20 ANOVA F test

Model	Sum of square	Df	Mean square	F	Sig.
Regression	41.023	6	15.613	38.076	.000b
Residual	33.029	236	.182		
Total	74.042	242			

a. Dependent Variable: E commerce adoption b. Predictors: (Constant), Relative Advantage ,Compatibility, Complexity, Total management support, Organizational competence IT capability, Government e-Readiness , Market forces e-Readiness and Support Industries

Source: SPSS Output, 2021

Regression coefficients

Table 4.21 showed the significance of the independent variables to E commerce adoption

Table 4.21 Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)					
Constant	.379	.136		2.790	.006
Relative Advantage	.327	.036	.381	9.156	.000
Compatibility	.210	.035	.256	5.971	.000
Complexity	-.018	.038	-.016	0.460	.001
Total management support	.144	.044	.170	3.304	.001
Organizational competence	-.102	.042	-.106	-2.445	.015
IT capability	.238	.036	.319	6.683	.000
Government e-Readiness	.036	.040	.047	0.916	.001
Market forces e-Readiness	.162	.049	.164	3.274	.001
Support Industries	.053	.034	.063	1.535	.007

Source: SPSS Output 2021

The standardized coefficients were applied to compare the contribution of each independent variable in the predicting of the dependent variable, though, the unstandardized coefficients are used to generate the multiple regression equation, (Pallant, 2013).

As shown in table 4.21 the Perceived relative advantage/benefit (RAD) had Beta value of 0.381, indicating that high contribution to explaining the e-commerce adoption, The second largest is the IT capability (ITC) with the coefficient value of 0.319, then followed by the perceived compatibility (COMPAT), which is 0.251; market e-readiness (MFER), which is 0.164; Top management support (TMS), which is 0.170; and support industries 0.063.

The result above is transformed into the equation below:

$$ECADOP = B_0 + B_1 RAD + B_2 COMPAT + B_3 COMPLEX + B_4 TMS + B_5 ORCOMP + B_6 ITC + B_7 GER + B_8 MFER + B_9 SUPIND + e_i$$

$$ECADOP = 0.379 + .381 RAD + .256 COMPAT + .016 COMPLEX + .170 TMS - .106 ORCOMP + .319 ITC + .047 GER + .164 MFER + .063 SUPIND + 0.136$$

The sign + ve / - ve in the equation indicates the direction of the correlation between variables. Then and there, the value of regression coefficients reflects the value of the decreasing or increasing of variables. The β coefficient value point out that a one-degree change in independent variables degree of importance with regard to the e commerce adoption. The greater value of beta and less value of significant level ($p < 0.05$) of each independent variable shows the strongest importance to the dependent variable (Pallant, 2013).

The hypothesis tests based on the β coefficient value of the regression analysis are presented below

1. Organizational factors (Top management support (H₁), IT capability (H₂) and organizational competency (H₃) positively affect the adoption of e-commerce in the hotel industry in the study population

IT capacity has a positive 0.319 for its coefficient regression, indicating that every unit increase in IT capacity, it is expected that 0.319-unit increase in e-commerce adoption, holding all other variables constant. The coefficient of regression for organizational competency is negative - 0.106, which implies that for every unit decrease in firm organizational competency, a 0.106-unit decrease is expected in e-commerce adoption, holding all other variables constant. The coefficient of regression for top management support is positive 0.17 for its regression coefficient, which implies that for every unit increase in top management support, a 0.17-unit increase is expected in e-commerce adoption, holding all other variables constant. (Table 4.21)

The significance values for each variable are 0.001 for the Top management support, 0.015 for organizational competency and IT capacity 0.000. It implies that in Top management and IT capacity has a positive and significant relationship with the e-commerce adoption, whereas

organizational competency has negative and moderate significant. Therefore, in this case H₁, H₃ are accepted and H₂ are not accepted.

2. Technical factors (perceived Relative advantage/benefits (H₄), compatibility (H₅) and perceived complexity (H₆) positively affects the adoption of e-commerce in the hotel industry in the study population

Technological factors relate to technology aspects that influence the adoption of e-commerce technology. In this research, perceived relative/benefits, compatibility and perceived complexity are categorized as technological factors. The result of multiple regressions in table 4.22 shows that the coefficient of regression for perceived relative advantage/benefit is positive 0.381 which means for every unit increase in perceived benefits, it is expected that there would be a 0.381-unit increase in e-commerce adoption, holding all other variables constant.

The coefficient of regression for compatibility is 0.251 indicating that every unit increase in perceived compatibility, a 0.251-unit increase is expected in ecommerce adoption, holding all other variables constant. As well as the previous two variables, the coefficient of regression for perceived complexity is also negative at 0.016. The perceived complexity is 0.016 which means every unit decrease in perceived complexity will affect a 0.016 decrease in e-commerce adoption, holding all other variables constant.

Among the technological factors, perceived relative advantage/benefit has the highest value of coefficient regression; and the perceived complexity has the lowest value. However, the greater or the smaller regression coefficient value cannot be used to determine whether the coefficient has significant impact on dependent variable or not. The t value/significance value is below than 0.05, it means the coefficient is significant and vice versa. Table 4.22 shows that the significance value for each technological factor; perceived relative advantage/benefits, compatibility and complexity was 0.000, 0.000, and 0.001. It can be seen that the perceived benefit and perceived compatibility have a significance value below 0.05; while the perceived complexity is above 0.05. This means that perceived relative advantage/benefit and perceived compatibility have a significant impact on e-commerce adoption. Therefore, in this study H₄ and H₅ are fully accepted, while H₆ is not accepted.

3. External factors (market e-readiness (H₇), supporting industry e-readiness(H₈) and the government e-readiness (H₉) positively affect the adoption of e-commerce in the hotel industry in the study population

External factors relate to the pressure or support from the external factors that influence the adoption of e-commerce. There are three variables included in this factor, which are market e-readiness, supporting industry e-readiness and the government e-readiness. The regression analysis result shows the three variables have a positive regression coefficient; the positive 0.164 is shown on the market e-readiness, in which every unit increase in market e readiness, a 0.164unit increase is expected in e- commerce adoption, holding all other variables constant. In the same way, the positive sign is also shown on the regression coefficient support industry e-readiness, which is positive .063.

This implies that every unit increase in supporting industry, a .063-unit increase is expected in e-commerce adoption, holding all other variables constant. Positive sign is also shown on the regression coefficient government e-readiness, which is positive .047. It implies that every unit increase in government e-readiness, a .047-unit increase is expected in e-commerce adoption, holding all other variables constant. In order to know whether the variables above have significant relationship with the e-commerce adoption or not, the significance value of each factor should be considered. All these variables, market e-readiness, Industry e-readiness and government support have significance below 0.05, which are 0.001, 0.007 and 0.007 respectively. It means the market e-readiness; industry e-readiness and government e-readiness have a positive and significant correlation with the ecommerce adoption. Hence, in this research the H7, H8 and H9 are fully supported

Table 4.22 Summary of Hypothesis Test Result

Hypothesis	Results	Implications
H ₁ Perceived Benefits/Relative Advantage affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that Perceived Benefits/Relative Advantage had positive effect on E-commerce adoption other things held constant
H ₂ Compatibility affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that Compatibility had in significant relationship between on E-commerce adoption other things held constant
H ₃ Complexity affects E-commerce adoption positively and significantly in Hotel Industry	Rejected	This implies that Complexity had negative and insignificant effect on E-commerce adoption other things held constant
H ₄ Total management support affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that Total management support has positive and significant on E-commerce adoption other things held constant
H ₅ Organizational competence affects E-commerce adoption positively and significantly in Hotel Industry	Rejected	This implies that Organizational competence has negative and insignificant on E-commerce adoption other things held constant
H ₆ IT capability affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that capability has positive and significant on E-commerce adoption other things held constant
H ₇ Government e-Readiness affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that Government e-Readiness has positive and significant on E-commerce adoption other things held constant
H ₈ Market forces e-Readiness affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that Market forces e-Readiness has positive and significant on E-commerce adoption other things held constant
H ₉ Support Industries affects E-commerce adoption positively and significantly in Hotel Industry	Accepted	This implies that support industries have insignificant effect on E-commerce adoption other things held constant

Chapter Five

5. Major Findings, Conclusion and Recommendation

The summary of the findings of the study, the conclusions and recommendations forwarded is presented in this chapter.

5.1 Summary of the findings

Factors affecting e-commerce adoption in the hotel industries in Addis Ababa was studied in this research. Specifically, the study examines the influence of Technology Factors such as Relative Advantage, Compatibility and Complexity, Organization Factors such as top management Support, organizational Competence and IT Compatibility and External Factors such as Government e-Readiness, Market forces e-Readiness and support Industries in the hotel industry in Addis Ababa.

The response rate is 83% and acceptable to take the survey. The larger portions of the respondents are of 25 to 35 years of age, had a master's degree, managers and. were above 15 years work experienced.

The high Alpha value of ($\alpha=0.783$ indicated that the data were reliable and consistent as the Cronbach Alpha value go greater than 0.70 is acceptable.

The groups mean value of perceived benefits is 3.34, Perceived relative Advantage 3.34, Compatibility, 3.50, complexity 4.04, top Management Support 3.48 IT compatibility 3.82, government e-Readiness 3.45 and market forces e-Readiness 4.10 whereas organizational competence 2.94 and support Industries 2.83 that all variable has low average mean score in contributing the adoption of e-commerce in the study population.

The multiple regression analysis showed that top management and IT capabilities have a positive and significant relationship with the e-commerce adoption, whereas organizational competency has negative significant among organizational factors. Similarly, regarding technological factors perceived relative advantage/benefit and perceived compatibility have a significant impact and while perceived complexity has negative insignificant effect on e-commerce adoption in the study population

External factors relate to the pressure or support from the external factors that influence the adoption of e-commerce. From this study finding the market e-readiness, industry e-readiness and government support e-readiness all have a positive and significant correlation with the ecommerce adoption in the study population.

5.2 Conclusion

Emergence of the internet, particularly electronic commerce application brings new landscape in conducting business. E commerce is becoming an important factor in day-to-day activities. This study tried to deliver an understanding some factors affecting which led to the adoption of e-commerce in hotel industries in Addis Ababa using a wide range of literatures, and theoretical model of organizational, technological and external factors influencing e-commerce adoption and implementation.

Factors affecting e-commerce adoption in the hotel industries in Addis Ababa was studied in this research. Specifically, the study examines the influence of Technology Factors such as Relative Advantage, Compatibility and Complexity, Organization Factors such as top management Support, organizational Competence and IT Compatibility and External Factors such as Government e-Readiness, Market forces e-Readiness and support Industries in the hotel industry in Addis Ababa.

The groups mean value of perceived benefits is 3.34, Perceived relative Advantage 3.34, Compatibility, 3.50, complexity 4.04, top Management Support 3.48 IT compatibility 3.82, government e-Readiness 3.45 and market forces e-Readiness 4.10 whereas organizational competence 2.94 and support Industries 2.83 that all variable has low average mean score in contributing the adoption of e-commerce in the study population.

From these statistical result of the study, therefore, factors such top management and IT capabilities have a positive and significant relationship with the e-commerce adoption, whereas organizational competency has negative significant among organizational factors, and technological factors such as perceived relative advantage/benefit and perceived compatibility have a significant impact and while perceived complexity has insignificant effect on e-commerce adoption in the study population.

Similarly, among external factors that relate to the pressure or support from the external factors that influence the adoption of e-commerce; market e-readiness, industry e-readiness and government e-readiness all have a positive and significant correlation with the ecommerce adoption in the hotel industries in Ethiopia.

5.3 Recommendations

Based on the findings of the study the researcher would recommend that

The industries should work hard to investigate the influence of Relative Advantage, Compatibility and Complexity of technology factors on adoption of e-commerce

The industries should strengthen to understand the influence of top Management support, organizational Competence and IT Compatibility of organization factors on the respected hotel industries

The industries should work closely with the government on the intention on Government e-Readiness, Market forces e-Readiness and Support Industries of external Factors on adoption of e-commerce in the hotel industry.

The government should support all hotel industries to adopt e-commerce technology to fully exploit the potential of the internet and e-commerce in hotel industries

At the organizational level, the hotel industries should set e-commerce goals and objectives that are tied to their strategies.

Training on e-commerce should be provided that minimize resistance of new changes in the hotel industries.

Managements should demonstrate the importance of business owners and management in developing e-commerce during the adoption and implementation process. In fact, without the knowledge and commitment of management, and their willingness to share the responsibility of the implementation process with employees and middle management, e-commerce has not been successfully adopted and implemented.

High quality internal information technology (IT), infrastructure, and access to financial resources, has help hotel industries in our country to adopt e-commerce. The government needs to improve IT infrastructure by liberalizing Internet services and allowing a wide range of companies to operate services rather than allowing a monopoly on computation services.

The government has to encourage private sector to establish logistics services that can facilitate e-commerce up take in the country.

The government should support the hotel industries since without government support in our country; the hotel industries have not embraced e-commerce, particularly in Ethiopia, where the people trust the government more than private enterprise.

Costs of Internet connectivity should be made affordable which would further encourage penetration of Internet for the customers and the hotel industries.

The government should implement in full the ICT Master Plan and enforce its overall policy statement on Internet pertaining to technical, economic and political perspectives. This has, among other things, create an enabling environment for e-business in general and the hotel industries in particular.

A legal framework and regulatory guidelines for commercial transactions to handle cyber-crimes should be enacted and implemented in liaison with the other countries to ensure conformity

Moreover, it is essential for management in hotel industries to trust and encourage their employees in using new technology. In addition, high quality internal information technology (IT) infrastructure as accesses to financial resources the hotel industries to adopt e-commerce.

The government needs to improve IT infrastructure by liberalizing Internet services and allowing a wide range of companies to operate services rather than allowing a monopoly on computation services.

5.4 Suggestion for the future study

The study had had some limitations such as sample size and geographical locations and all domains of E-commerce adoption factors and outcome were not investigated. Factors affecting E-commerce adoption other than mentioned in this study such as financial and human resources, prioritization of e-commerce. Further researches, therefore, are needed in the area of all ecommerce adoption taking in to consideration all the determinant factors in the hotel industries in general.

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Appendix I

Questionnaire

Addis Ababa University School of Commerce
Department of Marketing Management
Post Graduate Program

Data Collection Form

Collected By

This questionnaire is prepared for the study entitled as ‘Factors that affects the adoption of e commerce in the hotel industry in selected hotel in Addis Ababa. The results will be used to inform policy makers and development planners in the country with practical facts about study the factors that affect the adoption of e commerce in the hotel industry in Ethiopia. All the information you provide is totally sought for academic purposes and shall be kept strictly confidential. Your answers will be combined anonymously with other participants. Please kindly give your genuine response and share your experiences regarding the information requested on the following information. Please read each statement carefully and put the tick (✓) mark under the choice and no need of writing your name.

Part- I. General Information of the Respondent

1.1 Sex:

_____ **Male** _____ **Female**

1.2 Age:

1.3 What is the highest educational level you attained?

_____ Grade 1-8 _____ High School (Grade 9-12) _____ TVET Certified
_____ Diploma _____ First Degree _____ **Masters and above**

1.4 How long have you worked in Hotel Sector?

_____ Have no experience _____ Less than One year _____ < 5Years _____ 5-10 years
----- More than 5 years

1.5 When was your hotel established? _____

1.6 How many employees does your firm have?

_____ Fulltime _____ part time _____ Total

Part II. Main Research Questions

Please indicate on a five point scale the extent to which you agree/disagree with the following statements by ticking the appropriate answers on the box in the columns.

Please rate each of the statements by using a rating scale of 1 -5. 1= strongly disagree 2 =Disagree
3= neutral 4= Agree 5=strongly agree

1. Top management support

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	Management is interested in the use of electronic commerce					
2	Management is supportive of the use of electronic commerce in business operations					
3	Our business has a clear vision on electronic commerce					
4	Our vision of electronic commerce activities is widely communicated and understood throughout the organization					

2. IT Capability

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	Our organization is well computerized with LAN and WAN					
2	We have high bandwidth connectivity to the Internet					
3	We have an established enterprise-wide IT infrastructure					
4	We have sufficient experience with network based					

3. Perceived Benefits

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	Reduce cost of business operations					
2	Improve customer service					
3	Improve distribution channels					
4	Reap operational benefits					
5	Increase ability to compete					

4. Perceived Compatibility

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	Organizational beliefs and practices					
2	Existing technology infrastructure					
3	Communication is very open in our organization					
4	Our organization has a strong relationship with suppliers and customers					
5	Our organization has a positive attitude towards electronic commerce					

5. Perceived Complexity

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	Learning to operate electronic commerce is/would be easy					
2	Interacting with electronic commerce is/would be flexible					
3	My interaction with electronic commerce is/would be clear and understandable					
4	It would be easy for me to become skillful at using electronic commerce					

6. Organizational Competence

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	Our organization has a good understanding of electronic					
2	E- commerce business models that are applicable to our business					
3	Our organization has the necessary technical, managerial and other skills to implement electronic commerce					

7. Market e-readiness

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	We believe our customers are ready to do business on the internet					
2	We believe our business partners are ready to conduct business on the Internet					

8. Supporting Industries (SI)

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	The telecommunication infrastructure is reliable and efficient					
2	The technology infrastructure of commercial and financial institutions is capable of supporting electronic commerce 80 transactions					
3	We feel that there is efficient and affordable support from the local IT industry to support our move to the Internet					

9. Government e-readiness

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	We believe there are effective laws to protect consumer privacy					
2	We believe that there are effective laws to combat cyber crime					
3	We believe the legal environment is conducive to conduct business on the Internet					
4	We believe that the government demonstrates strong commitment to promote electronic commerce					
5	Government regulations allow electronic settlement of electronic commerce transactions					

10. E – commerce adoption

Sr. No	Description	Level of Agreement				
		1	2	3	4	5
1	All in All, do you believe e-commerce Adoption is feasible in Ethiopia, with current situation?					
2	Do you believe, e-commerce could help you to achieve your organization strategic plan?					
3	Do you believe e-commerce adoption is part of technological innovation?					
5	Government regulations allow electronic settlement of electronic commerce transactions					

Thank you once again for completing the questionnaire

Appendix II
List of star-rated Hotels in Addis Ababa

LIST OF STAR-RATED HOTELS IN ADDIS ABABA

No	NAME OF HOTEL	STAR	No. of Rooms	No. of Beds	TEL NO	E-Mail
1	Sheraton Addis Hotel	5	294	323	011 5171717	reservationsaddisethiopia@luxurycollecti on.com
2	Capital hotel	5	114	114	011 6 67 2100 0930100714 0911639122 0116672100	sales@capitalhotelandspa.com www.capitalhotelandspa.com
3	Ellele international hotel	5	155	163	0115587777 0911202904 0922728318	info@elillyhotel.com/ info@elillyhotel.com
4	Marriott Executive Hotel	5	108	128	011 518 4600	reservation@marriothotel.com
5	Radison Blue hotel	5	114	128	0115157600 0115170400 0115544412/13	info.addisababa@radissonblu.com
6	Golden Tulip Hotel	5	90	115	0116183333 0116612828	gm@goldentulipaddisababa.com www.goldentulipaddisababa.com
7	Gatefam Hotel	5	115	130	0116673175 0935402055	info@getfamhotel.com reservation@ getfamhotel.com
8	Debredamo hotel	4	102	102	0115509828 0116612630	reservation@debredamohotel.com
9	Dreamliner Hotel	4	96	110	011 467 4000-7	marketingmanager@dreamlinerhotel.co m
10	Friendship hotel	4	104	104	0116670201 0116670202	marketing@friendshiphotel.com.et
11	Harmony Hotel	4	150	176	0116183100 0116612389	info@harmonyhotelethiopia.com
12	Intercontinental Hotel	4	151	190	011 550 5066 0115180444 0115540090	reservation@intercontinentaladdis.com
13	Jupiter int. Hotel (kazanchis)	4	102	112	0115527333	info@jupiterinternationalhotel.com
14	Jupiter Int. Hotel (Bole)	4	40	52	0116616969	info@jupiterinternationalhotel.com
15	Momona Hotel	4	60	80	0116672201/07	reservation@momonahotel.com
16	Nazra hotel	4	24	27	0114674465 0114666676	It0@nazra hotel. com

17	Nexus hotel	4	66	66	0111112345 01116670067	Info@nexusaddis.com Info@nexus hotel.com
18	Saromaria hotel	4	87	87	01116672167/75	info@saromariahotel.com/reservation@s aromariahotel.com stay@saromari hotel.com
19	Sarem International Hotel	4	43	62	011262087/0911 518807	reservation@sarehotel.com
20	Washington hotel	4	70	85	0911855738 0116392183 0116392239	info@washingtonaddis.com/reservations @washingtonaddis.com
21	Tegen Guest Accommodation Hotel	4	32	64	011 618 2870 0116182871	info@tegenhotel.com info(at)tegen hotel.com
22	Addis Regency Hotel	3	33	41	0913141583 0111550000 0911615600	info@addisregency.com
23	Addis View Hotel	3	18	23	0111249766	addisview@ethionet.et
24	Addissinia Hotel	3	60	60	0911511569 0116623634	info@addissinihotel.com reservation@addissinihotel.com
25	Caravan hotel	3	37	37	0911522744 0116612297	caravanhotel@caravanaddis.com wwwcarvan addis.com
26	Aphrodite hotel	3	52	52	0912502256 0115522228	marketing@aphroditeaddis.com/info@ap hroditeaddis.com
27	Ararat Hotel	3	94	116	011 6461166	info@ararathotelethiopia.com
28	Beer Garden Inn	3	32	36	0116182595 0116182591	info@beergardeninn.com
29	Beshale Hotel	3	64	80	0116478181/88	Info@beshalehotel.com
30	Ambassador Hotel	3	52	60	0116188284 0118296364	reservation@ambassadorhotelethiopia.co m / info@ambassadorhotelethiopia.com
31	Crown Hotel	3	71	110	011 4391444 0114391430/31/ 44/45/46	Info@crownhoteladdis.com/ booking@crownhoteladdis.com
32	Cyan city hotel	3	40	45	0911207900 0911517901 0116622121	info@cyancityhoteladdis.com
33	Embilta Hotel	3	39	49	0112758787/56/ 57 0922444612 0911219421	info@embilta-hotel.com / embiltahotel@yahoo.com
34	Global Hotel	3	50	70	011 4663906 011 4664766	globalhotel@ethionet.et global hoteladdisababa@gmail.com
35	Hilton Addis Ababa	3	400	705	011 5170000 011 5518400	reservation.addisababa@hilton.com

36	Kaleb Hotel	3	64	84	011 6622 200	reservation@kalebhotel.com
37	King's Hotel	3	34	54	011 3711300 0911699499	kingshotelethiopia.com
38	Monarch Hotel	3	80	80	0116672480/22 0116672472 0118637107	info@monarchaddis.com
39	Panorama Hotel	3	65	85	0116616070 0911836692	panoramahotel@ethionet.et
40	Sidra Hotel	3	26	31	0116617777 0116618888	info@sidrahotel.com
41	Reliance Hotel	3	31	38	0116672024 0116672002 0116672069	info@reliancehotelapartment.com
42	Siyonat Hotel	3	40	50	0911237070 0116626372 0116629746/44	reservation@hotelsiyonat.com
43	Solo Te Hotel	3	35	45	0116670021	info@solotehotel.com
44	The residence Hotel	3	18	21	0115571025 0911503125	info@theresidenceaddis.co
45	Wassamar Hotel	3	66	71	0116610055/59 0118950489	info@wassamarhotel.com
46	Umma Hotel	3	33	45	0113719445 0911214399 0113728440	request@ummahotls.com
47	Top Ten Hotel	3	48	56	0116464449 0116460266	gmanager@toptenethiopia.com
48	Southern Addis Hotel	3	38	38	0116610505 0116610515	reservation@southernaddishotel.com
49	Zola International Hotel	3	24	32	0116733333 0911243966	hotelzola@yahoo.com Zola hotel.net
50	Abyssinia Renaissance Hotel	3	39	59	0116292485	info@abyssiniarenaissance.com
51	Adotina Hotel	2	32	32	0116474101 0114673939 0913146431	reservation@adottinahotel.com www.adottinahotel.com
52	Astara Hotel	2	45	51	0116461166 0114160153 0911056912	Astarabusiness.plc@yahoo.com astaraapl@yahoo.com www.haimihotel.com
53	Axum Hotel	2	60	72	0116613916 0915736296	Axum.d@ethionet.et
54	Churchil Hotel	2	53	53	0111568648 0111111212	contactus@churchilhoteladdis.com
55	Damu Hotel	2	20	20	0115509828	damuhotel@ethionet.et

56	Desalegne Hotel No.2	2	28	25	011 6624524 0116183030	rooms@desalegnhotel.com/ conference@desalegnhotel.com
57	Destiny Addis Hotel	2	33	40	0115521795 0911202904	info@destinyaddis.com
58	Edna Addis Hotel	2	33	37	0910646962 0115507003 0115507727	reservation@ednaaddis.com
59	Empire Addis inter. hotel	2	39	39	0116614523 0116614525/25 0116614524	info@empireaddis.com wwwempireaddis.com
60	Lobelia Hotel	2	31	35	251116673850/5 1/52/53 0911692054 0116673854	@hotell0beliaaddis.com
61	Ghion Hotel	2	190	298	011 5513222 0115510240	info@ghionhotel.com
62	Haimi Apartment hotel	2	28	28	0116161888 0116181834 0116181837	info@haimihotel.com wwwhaimihotel.com
63	Homage hotel	2	20	25	0115516341/093 0033910	info@homagehotel.com /reservation@homagehotel.com
64	Louvera Hotel	2	12	16	011 618 7755	info@louvregrandhotel.com
65	KZ Hotel	2	32	42	011 661 1206 011 662 1607	kzhotel08@yahoo.com
66	Kenenisa Hotel	2	51	51	0911888468	stay@kenenisahotel.com
67	Pacific Hotel	2	45	55	011 645 6371	reservation@pacifichotelet.com
68	Queen of Sheba	2	32	56	011 6615400 011 6180000	Queensheba hotel@ethionet.et
69	Ras Amba Hotel	2	25	25	011 1228080	rahot@ethionet.et / rasambahotel@hotmail.com
70	Trinity Hotel	2	21	27	0911620224	info@trinityaddis.com
71	Soramba Hotel	2	87	87	011 1565 633	Sorambahotel@ethionet.et www.sorambahotel.com
72	AG palace hotel	1	19	19	0911405885	agpalacehotel@gmail.com Booking@agpalacehotel.com