

**T.C.
ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF GRADUATE STUDIES**



**FACTORS AFFECTING E-COMMERCE ADOPTION IN SMEs
IN TURKEY**

MASTER'S THESIS

Ahmad Taki Al Din Al SHEHADAT

**Department of Business
Business Administration Program**

JUNE, 2023

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APPROVAL PAGE

DECLARATION

I hereby declare with respect that the study “Factors Affecting E-Commerce Adoption In Smes In Turkey”, which I submitted as a Master thesis, is written without any assistance in violation of scientific ethics and traditions in all the processes from the Project phase to the conclusion of the thesis and that the works I have benefited are from those shown in the Bibliography. (14/06/2023)

Ahmad Taki Al-Din Al Shehadat.

FOREWORD

I would like to thank my mother and my father for their support to complete my master's degree. Throughout my studies, I am grateful to my professor, who has always paved the way for me by sharing her knowledge and experience and broadening my horizons, as well as for her wise counsel. I would like to express my sincere thanks to Assoc. Prof. Dr. Burçin Kaplan. Also, I want to thank Assoc. Prof. Dr. Vildan Gülpınar Demirci for her support after the first defense through advising and directing.

June, 2023

Ahmad Taki Al-Din Al Shehadat.

FACTORS AFFECTING E-COMMERCE ADOPTION IN SMEs IN TURKEY

ABSTRACT

E-commerce adoption is now increasing day after day because of its global importance. SMEs are trying to find the best tool to expand their businesses, and, it is obvious that in today's world one of the best tools is using e-commerce. The research discussed the factors affecting e-commerce adoption of SMEs in Turkey. The study aims to find if there is a significant effect of the factors organizational, technological, and environmental in the adoption of e-commerce in SMEs in Turkey. Theoretical work is basically from the literature review about factors affecting e-commerce adoption in previous studies focusing on organizational, technological, and environmental factors. Also, the study was basically done by the quantitative method. Data was collected by senior managers, mid-level managers, and employees of SMEs in Turkey. The total sample size is 384, and convenience sampling was used to reach the intended respondents for data collection. SPSS tool used to analyze the information gathered. The main findings reveal that top management support, financial resource organizational competence and perceived complexity have an effect on e-commerce adoption in Turkey. In addition, no effects on e-commerce adoption according to perceived benefits and government regulations

Keywords: E-commerce Adoption, Small and Medium-Sized Enterprises, Türkiye

TÜRKİYE'DEKİ KOBİ'LERDE E-TİCARET BENİMLENMESİNİ ETKİLEYEN FAKTÖRLER

ÖZET

E-ticaretin benimsenmesi, küresel önemi nedeniyle her geçen gün artmaktadır. KOBİ'ler her zaman işlerini büyütmek için en iyi aracı bulmaya çalışmaktadırlar ve bugünün dünyasında en iyi araçlardan birinin e-ticaret olduğu açıktır. Bu araştırma, Türkiye'deki KOBİ'lerin e-ticareti benimsemesini etkileyen faktörleri tartışmıştır. Çalışma, Türkiye'deki KOBİ'lerde e-ticareti benimsemeye organizasyonel, teknolojik ve çevresel faktörlerin etkisinin olup olmadığını bulmayı amaçlamaktadır. Teorik çalışma temel olarak organizasyonel, teknolojik ve çevresel faktörlere odaklanan önceki çalışmalarda e-ticaretin benimsenmesini etkileyen faktörler hakkında literatür taramasından alınmıştır. Ayrıca çalışma temel olarak nicel yöntemle yapılmıştır. Veriler, üst düzey yöneticiler, orta düzey yöneticiler ve bu kuruluşların çalışanları tarafından toplanmıştır. Toplam örneklem büyüklüğü 384 olup, veri toplamaya yönelik hedef katılımcılara ulaşmak için rastgele örnekleme benimsenmiştir. Toplanan veriler SPSS'de analiz edilmiştir. Ana bulgular, üst yönetim desteğinin, finansal kaynak örgütsel yeterliliğinin ve algılanan karmaşıklığın Türkiye'de e-ticaretin benimsenmesinde etkili olduğunu ortaya koymaktadır. Ek olarak, algılanan faydalar ve hükümet düzenlemelerine göre e-ticaretin benimsenmesinde hiçbir etkisi yoktur.

Anahtar kelimeler: E-ticaretin Benimsenmesi, Küçük ve Orta Ölçekli İşletmeler, Türkiye

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ABBREVIATIONS

ARPANET	: Advanced Research Projects Agency Network
BTYK	: Science and Technology High Council, (Bilim ve Teknoloji Yüksek Kurulu)
DSI	: Data Service & Information
EC	: Electronic Commerce
EDI	: Electronic Data Interchange
ETID	: Electronic Turn-in Document
ETKK	: Electronic Commerce Coordination Commission, (Elektronik Ticaret Koordinasyon Kurumu)
GDP	: Gross domestic product
ICT	: Information and Communications Technology
IMF	: International Monetary Fund
ODR	: Online Dispute Resolution
OECD	: Organization for Economic Co-operation and Development
PCI	: Payment card industry
SMEs	: Small and medium-sized enterprises
TCP/IP	: Transmission Control Protocol/Internet Protocol
TMS	: Top Management Support
TÜBİTAK	: Scientific and Technological Research Council of Turkey, (Türkiye Bilimsel ve Teknolojik Araştırma Kurumu)
VIF	: Variance inflation factor

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I. INTRODUCTION

A. Background of the Study

The entire world has seen many developments and changes, as the speed of completion of work has become important in all aspects of life. The work style in SMEs changed because of information technology. The Internet has provided countless information and products of thousands of different companies can be viewed. Hence, world became like a small village and this is called globalization. Internet has enabled access to at any point in the world, at a tremendous speed without limits, restrictions, fatigue, and effort to shift and move without spending financial costs. Nowadays, no one can deny that people have become very passionate about using the internet almost 24 hours every day. So, when the internet becomes a main part of life, people do not need to go anywhere to buy their needs. Everything became related to the internet from buying stage until delivering stage and not only that, customers can buy from the area that lives within. Also, customers can buy from all around the world, and then web-based platforms delivering these products to the customers. Modern technology created a better world. Life become easy and year by year, no need to buy or to do daily needs traditionally. Everything will be related to e-commerce. (Wu and Hisa, 2004) stated that rapid advances in information and communication technologies, such as the web and mobile computing, have significantly altered the landscape of both established and emerging commercial worlds over the last decade. So, when the users try to buy or make any process on the internet through an e-commerce application, they need to find security and flexibility in the application. With over five billion internet users worldwide, online shopping is becoming more and more popular as global internet access and adoption keep rising. Retail e-commerce sales have been forecast to reach 5.7 trillion dollars worldwide in 2022, and this amount is anticipated to rise even further in later years (Statista, 2023). Large companies have related to e-commerce since its evolution. But medium and small companies still face the problem to transfer part of their goods and services to web-based platforms. The researcher will discuss factors that affecting the

adoption of e-commerce in SMEs in Turkey.

B. SMEs, E-Commerce, and Adoption

SMEs, as well as large companies, can benefit from adopting e-commerce. SMEs become a significant sector of the economy during this economic cycle because they contribute to economic growth, social structure, jobs, and regional development. Moving towards globalization and rapid technological changes, such as e-commerce, will open new doors for SMEs (Scupola, 2009).

SMEs help to ease poverty and create jobs, allowing for long-term economic growth. E-commerce allows for immediate and advanced communication services to complete business transactions using electronic devices and using a logistics provider as an example (Pavrin et al., 2021).

C. E-commerce in Turkey

The first connection to the internet in Turkey was in 1993 by Mustafa Akgul and Attila Ozgit, two of the internet pioneers who played a main role in the first connection and development of the internet in Turkey (Internet Society, 2015).

Despite the devaluation of the TL and the pandemic's ongoing effects, Turkey's e-commerce market is expanding at rates that are noticeably faster than in previous years. The eCommerce market grew an additional 30% in 2020 and again in 2021, reaching \$42.9B, after a record-breaking year of 90% growth in 2019. Virtual marketplaces are among the e-commerce platforms in Turkey that are expanding the quickest. Turkish e-commerce platforms like Trendyol, Hepsiburada, and Getir have experienced rapid growth in recent years. Istanbul has as a result been listed among the top 20 of the world's 100 best startup ecosystems in the gaming and e-commerce industries (Trade.gov, 2022).

By 2026, the market will reach 400–450 billion TRY levels and surpass 22% penetration in total retailing due to increased adoption of e-commerce solutions by the sellers and persistent changes in consumer behavior. In 2026, 45 million people are anticipated to shop online, accounting for more than 70% of all potential customers in Turkey (PWC, 2022).

By 2023, Turkey will surpass Thailand as the 18th-largest market for

eCommerce, with predicted sales of US\$22,983.4 million. Revenue is anticipated to grow at a 14.5% compound annual growth rate (CAGR 2023-2027), with a market size of US\$39,441.6 million predicted by 2027. The Turkish eCommerce market contributed to the global growth rate of 17.0% in 2023 with an anticipated increase of 40.9%. Global eCommerce sales are anticipated to grow over the coming years, just like they did in Turkey (EcommerceDB, 2022).

The Turkish eCommerce market consists of five markets. The largest market and source of 42.4% of eCommerce sales in Turkey is electronics and media. Following it are Fashion (22.6%), Toys, Hobby & DIY (16.6%), Furniture & Appliances (9.8%), and Food & Personal Care (8.5%). (EcommerceDB, 2022).

D. The problem of the study

The lack of success stories, lack of e-commerce experience, and lack of knowledge about the potential effect of e-commerce implementation on business results led to that SMEs were still hesitant to adopt e-commerce. A lot of researchers wrote about why until now SMEs don't prefer to adopt e-commerce (Salwani et al., 2009).

So, in this study, the researcher will investigate deeply in the factors affecting e-commerce adoption in SMEs in Turkey and find the best results compared with previous studies related to this topic.

E. Purpose of the study

At present, many SMEs do not seek to develop their businesses, to keep up with digital technology and an example about this is e-commerce. Many SMEs know the role of e-commerce for their business success, but they deal with some factors affecting the adoption of e-commerce.

Study's goal is to find an answer to the following question:

-Is there an effect of factors (organizational, technological, and environmental) on adopting e-commerce in medium and small-sized companies in Turkey?

F. Research Objectives

- To investigate various of organizational factors, affect e-commerce adoption on SMEs in Turkey.
- To investigate various of technological factors, affect e-commerce adoption on SMEs in Turkey.
- To investigate various of environmental factors, affect e-commerce adoption on SMEs in Turkey.

G. Determinants of the Study

This study will determine the impact of factors (organizational, technological and

environmental) on the adoption of e-commerce in Turkey. The worth of this research is based on following:

The fact that SMEs overlook the importance of e-commerce, which is one of the most vital factors affecting success of companies at present. The study seeks to determine impact of factors (organizational, technological, and environmental) on the adoption of e-commerce of the companies through:

- 1) Identify the most important factors affecting the adoption of e-commerce from the point of view of SMEs in Turkey.

H. Thesis Structure

The Study consists of 5 chapters:

Chapter 1 gives a general overview of the major subject of the thesis by giving a brief background of e-commerce and especially in Turkey. In addition, highlighting the following points:

- Problem definition
- Purpose of the study
- Research objectives

- Determinants of study

Chapter 2 presents an extended literature review for e-commerce adoption and factors that affect it.

Chapter 3 discusses the theoretical perspective on factors, and the chosen methodology and framework are described.

Chapter 4 gives detailed information about the data and describes the data analysis and results.

Chapter 5 contains the conclusions of the study and the recommendations.

II. LITERATURE REVIEW

A. E-commerce Adoption

The characteristics of e-commerce refers to any business process that is carried out with the help of computer technology and the Internet. E-marketing, e-trading, e-banking, e-insurance services and e-money are all examples of electronic commerce and among the major components of e-commerce (Malitska & Melnyk, 2018).

Electronic commerce, or e-commerce, is the exchange of goods or services over computer networks such as the Internet. Internet marketing, supply chain management, online transaction processing, Electronic Data Interchange (EDI), inventory management systems, and automated data collection systems are all examples of e-commerce technologies (Shahriari et al., 2015).

The buying and selling of goods and services over the Internet is known as e-commerce. Before making a purchase, many people use the Internet to compare prices and see what's new, whether online or in a physical store (Lindsay, 2002).

Internet is low-cost and reliable for people all over the world to communicate and exchange information, which connects a vast number of global networks using a standard collection of protocols. Importantly, with over 1.6 billion Internet users and a relatively vast amount of knowledge available, the Internet is the best environment for global e-commerce expansion (Zaied, 2012).

B. Evolution of E-commerce

The Internet began in the 1960s to facilitate information exchange between researchers in the USA. Advanced Research Projects Agency Network (ARPANET) was established in response to the need for information sharing within the US Army, and its beneficiaries included a small group of researchers and companies that had contracts with the Department of Defense. A slew of other networks sprang up because of the first's success. The Internet was born on January 1, 1983, when the

Transfer Control Protocol/Inter-network Protocol (TCP/IP), a communication protocol between existing networks was created, allowing networks to communicate using a common language (Poladian et al., 2017).

In the 1990s, the Internet grew in popularity and that has been achieved through the development of security protocols (SSL) and (DSL), which made it possible to connect to the network quickly and reliably. The establishment of the Payment Card Industry Security Standards Council was the next important step in the security of online payment systems (PCI). The preceding steps resulted in the infrastructure's establishment for the improvement of e-commerce and its component, e-tail and the subject of examination. It was only a matter of time before entrepreneurs realized their true potential with these technologies like Amazon.com, Inc. (USA, 1995), Otto (Germany, 1995), and JD.com are among the pioneers in e-commerce (1999). These firms are now among the most profitable businesses on the planet in terms of revenue (Poladian et al., 2017).

The internet and e-shopping significantly advanced from the mid-1990s to the early 2000s. One of the examples is Amazon. In 1995, Amazon started as a small bookstore and has since grown to be the world's largest online retailer. Their product range is now one of the largest and most diverse in the industry. The website includes a variety of features, such as user feedback, rating scales and all of which are well-presented to attract customers. In 2010, the online retailers received an average of 65 million monthly visits to its US website. These sites are eBay, Zappos, and Victoria's Secret (Tian and Stewart, 2008).

The growing popularity of the internet, as well as the rapid growth of a variety of smart devices such as the PC, tablet, mobile, and other handheld devices, improve and expand online shopping and transacting opportunities. E-commerce website development services offer better content and more practical shopping experience. The role of e-commerce websites became more entrenched by new technology and mobile devices, allowing customers to purchase something from any location and anytime. The market of mobile payments has been estimated to touch \$630 billion in 2014 and the growth has been predicted to be several times higher soon (Tian and Stewart, 2008).

C. Strategic Benefits of E-Commerce Adoption

There are many benefits to adopt e-commerce and previous researchers mention these benefits. Increasing customer base: The primary concern of any business, whether online or offline, is its customer base. People from all over the world can access and return their belongings when the company is online, so they don't have to waste time looking for the best property in town (Franco et al., 2016).

With effective marketing, any customer on the planet will be able to find the company's website, products, and information. Recurring payments made easy: any business can set up recurring payments. Choose the right company for your requirements, billing will be consistent; payments will be collected in similar way (Franco et al., 2016).

Companies have grown in recent years, and their adoption of electronic commerce into their procedures has increased significantly to improve their international market presence, break down barriers, and cut costs by eliminating intermediaries in the value chain. Before the Internet's widespread adoption, electronic commerce was a part of everyday life. It should be noted that, within e-commerce, mechanisms have been developed to ensure that information technology is used to speed up transactions because it has a powerful presence when doing business in real-time (Vargas-Hernández, 2015).

Companies that can successfully integrate information and technology into their processes will be able to compete in the market. One way technology is applied to enhance business competition and product sales is through the use of electronic commerce to advertise a variety of goods and services in both physical and digital formats. The technology's deployment involves investors, consumers, and governments all at once (Kedah, 2023).

D. Barriers for small and medium-sized enterprises to adopting e-commerce

Insufficient security systems protecting consumer and organizational information, rapid change in technological growth, failure to capture new opportunities, and enormous competition from both local and global firms are all obstacles restricting SMEs' involvement in the e-commerce market (Jebur et al., 2012).

SMEs in developing countries face more problems in doing business in the electronic industry, for example, low-speed internet connectivity, low Internet use, and a lack of advance (Shah et al., 2011).

Information and communication technology (ICT) are the most common obstacles that stop SMEs from participating in the e-commerce sector in developing countries. Inadequacy of qualified staff or specialists, low credit card use, legalities, inadequate distribution infrastructure, and weak delivery facilities are all factors to consider (Karami, 2007).

The limitations of the necessary technical infrastructure, the weak legal infrastructure, the high cost, the absence of the necessary skills and expertise, the lack of faith in the payment system, and issues with rules and regulations all contribute to the lack of adequate knowledge about e-commerce technology and its advantages (Lawrence, 2011).

Environmental barriers (lack of external support, lack of state support, lack of preparedness partners), organizational barriers (lack of awareness of e-commerce, lack of knowledge of information systems), and technical barriers (cost of e-commerce, incompatibility, risk) are all examples of barriers (Ghobakhloo, 2013).

E. History of e-commerce in Turkey

On August 25, 1997, in a meeting of the Science and Technology High Council, “Bilim ve Teknoloji Yüksek Kurulu” (BTYK), it was decided to form a working group, with the Foreign Trade Secretariat as the organizer and “Türkiye Bilimsel ve Teknolojik Araştırma Kurumu” (TÜBİTAK) as the secretariat, to create an "Electronic Trade Network" and spread electronic commerce in Turkey. The Electronic Commerce Coordination Commission, “Elektronik Ticaret Koordinasyon Kurulu” (ETKK), chaired by the Undersecretariat for Foreign Trade and attended by related organizations, held its first meeting on February 16, 1998, in accordance with this decision, ETKK organized legal, scientific, and financial working groups. The aforementioned working groups' financial, technological, and legal reports were presented at a BTYK meeting on June 2, 1998, and the government's four key long-term responsibilities for the growth of electronic commerce in Turkey were decided. The long for key responsibilities are: The first step is to ensure that the necessary

technical and administrative infrastructure is in place. The second step is to create a legal framework. Third, measures to promote electronic commerce are being taken. Fourth, ensuring that national policies and practices are compliant with international standards. (Demirdogmez, 2015).

F. E-commerce During coronavirus pandemic in Turkey

Globally, the economy has been impacted by the COVID-19 pandemic due to changes in how people work, socialize, shop, and more. As more people began working from home and implementing self-quarantine-like practices, the changes they made in their lives inevitably shaped a new norm in which they altered their daily routines, including their shopping habits (Türkmen, 2020).

While governments continued to adjust to the "new normal," the general public and individuals also had to alter their way of life. Many people are avoiding crowded areas, staying home unless absolutely necessary, and donning facemasks at work and in public. Given that the pandemic affects everyone's social, professional, and daily lives, it is reasonable to anticipate that consumer behavior will change as well. As a result, the precautions, curfews, and other factors that prevent consumers from mobilizing should be visible in the daily visits to e-commerce sites (Türkmen, 2020).

Since the start of the twenty-first century, the rapidly shifting needs and demands have caused the global e-commerce ecosystem to grow steadily, particularly in light of the unique circumstances brought on by the coronavirus (COVID-19) pandemic. One of the markets with the fastest growth rates worldwide was the online market for Turkish goods and services. Turkish consumers made an online purchase in 2021 at a 64 percent rate. As a result, the volume of e-commerce transactions in the nation has significantly increased. (Statista, 2023).

The COVID-19 pandemic is largely to blame for the recent changes in the dynamics between various segments of the e-commerce ecosystem. In Turkey, the household appliances industry recorded revenue of over 30 billion Turkish lira in 2020, outpacing the airline sector, which saw the biggest revenue decline in 2020 compared to before the pandemic (Statista,2023).

G. Organizational factors

The organizational factors are the internal factors that influence the adoption of innovation in a company. The size of a business has a big impact on e-commerce adoption. Larger companies, when referring to the cost of technological implementation, have more financial capital available to introduce emerging technologies. This will also be important when it comes to recruiting experts to help operate the technology more efficiently (Bagale, 2014).

Organizational cultures and styles, organizational communication, organizational structures, organizational process assets, and enterprise environmental factors are the five categories of organizational influences. Organizational culture includes shared values, common understanding, interpretation, and assumptions that influence project performance behavior and action, as well as shared values, common understanding, interpretation, and assumptions (Zidane et al., 2016).

Organizational culture research is a recurring theme among organizational behavior research. The culture of an organization describes the shared values, norms, and practices that distinguish one organization from others in the same industry. An organization's culture shapes employee perceptions, and they behave accordingly. Employee behaviors, attitudes, organizational activities, and organizational performance are all influenced by organizational culture. As a result, it required research into the effects of organizational culture on other organizational variables (Ahmed et al., 2018).

1. Top management support

If a company's political climate supports change, it's a good sign, IT innovation will be more likely. As a result, whether e-commerce will be adopted will be determined by whether TMS is available. TMS is a critical process of acquiring and disseminating new ideas (Myers, 2013).

Top management comprises individuals with the authority to make strategic decisions; as a result, top management will develop a specific e-commerce vision and plan, as well as signal the importance of e-commerce to various departments within the company (Ahmed et al., 2014).

Because resources are limited and there are so many competing projects, top management support ensures that an e-commerce innovation project receives the resources and capabilities it requires. Support from the top has a positive impact on innovation acceptance. Since e-commerce has the potential to affect an organization's competitive capacity and corporate relationships. To gain a thorough understanding of the issues and mobilize organizational stakeholders, top management must be involved (Epstein, 2004).

TMS is a leading factor in project success, and it has been studied as one of the captious success factors in various studies. Top management can assist teams in overcoming challenges, demonstrating dedication to the job, and motivating subordinates. The timely availability of financial resources is usually a result of top management support. For successful project completion, project leaders and project teams allocate human and other physical resources, as well as delegating necessary power (Rehman et al., 2014).

A critical recommendation for project success is top-level management support. Because top management cannot adequately support every project in the organization, it is necessary to acknowledge the existence of project leaders who are directly involved in the project's day-to-day activities. However, only a small amount of research has been done in the spirit of top management's support with project leadership. The researchers have a limited understanding of what top management support entails in practice (Young and Poon, 2013).

2. Financial Resources

Because of the high upfront costs of hardware, software, and employee training, the cost has been a major factor affecting firm operations. Financial resources are adequate by allowing businesses to make the requisite investments in creating greater e-business functionalities and e-business worth. Financial resources are one of the important facilitators of e-business worth development (Zhu et al., 2003).

Advancements in digital finance, such as online payment technology, are critical to the smooth process of e-commerce. It can also be seen that as e-commerce grows, it inevitably brings with it a slew of financial issues, such as credit availability, payment transactions, and capital management. Even so, only a few

studies have been looked into whether the adoption of e-commerce can efficiently relieve their exclusion from the digital financial market and increase their contribution, particularly in the areas of digital credit and digital wealth management (Su et al., 2021).

Matter of fact, the use of virtual financial products may be linked to e-commerce transactions, either directly or indirectly. Alipay, WeChat, and Bestpay, among other digital payment services, have become the primary tools for users' consumption and online transactions. Furthermore, apps for insurance, securities, funds and Yu'e Bao, for example, provides wealth management services and there are effective management tools that help users manage their liquidity, capital reserves, and property appreciation (Su et al., 2021).

Increased online sales would help sellers gain more internet knowledge, improve their online social relationships and improve their financial literacy. This would be helpful in reinforcing people's faith in digital finance and reawakening their enthusiasm for using digital financial products and services (Navickas et al., 2014).

Because e-commerce businesses are businesses, their financial strategies and goals must consider. However, when compared to traditional businesses, e-commerce businesses' customer goals and business processes have changed dramatically, with sharing and transferable electronic information resources becoming the norm. Electronic information's constant increase, update, spread, and application has had a significant impact on various aspects of enterprise production, operation, and management (Tu, 2016).

Electronic commerce has opened up new opportunities for businesses because financial transactions are no longer limited to a single country or region. Instead, it was created in a global, precise, computerized, and networked manner. Considering this new situation, research on financial management in e-commerce businesses should be well-developed and given more attention. At the moment, research into financial management in e-commerce businesses is principally focused on the development of new financial management goals and methods (Tu, 2016).

3. Organizational Competence:

The efficiency with which the quality and capitalization of the organization's human resources deliver and determine is an organization's services. The high level

of preparation, discipline, and labor put in by the employees in the company does not imply that they can perform at a high level of quality. Workers' competence entails a set of skills, expertise, and experience that are needed by the quality and specificity of their work. Individual competence is capitalized, however, not just by linking people's training to the method and technology used, as well as the criteria of the result got, but also within a certain framework of official and unofficial relationships and a certain level of worker participation in the company (Nickles et al., 2008).

Competence is result of presence and operation of a specific culture placed on a particular management framework that includes a specific organizational structure at organizational level. In different cultures, information, experience, technology, technique, manufacturing recipes, and so on do not produce the same results. Organizational culture denotes a specific structure in which individual competencies relate to and complement one another, as well as strengths, without which the organization's operation will have different content and quality (Scupola, 2003).

At the organizational level, competence results from a complex process that includes attracting human resources suitable for the organization's operation from the labor market; their application following existing technological requirements, as well as the discipline required by specific services. The improvement of organizational competence is mainly the responsibility of the organization's management, who must ensure that the customer receives the high-quality services that he or she expects. Second, the organization's employees must increase their professional preparation and experience to achieve the degree of individual competence needed for their career growth and integration. Finally, the consistency of services provided, as well as operation continuity, growth, and adaptation to the business climate, cause the alignment of individual competencies at the company level, as well as additional and replaceable staff training (Câmpeanu and Sonea, 2006).

E-commerce skills, such as experience and spare resources, are unique to the development and management of web-based businesses. Because e-commerce transactions can be completed using the Internet and Web, the skills needed to complete an e-commerce transaction successfully can be divided into three categories: (1) basic word processing applications, (2) Web designs and Web development, and (3) electronic payment systems (Abdullahi, 2018).

The lack of adequate e-commerce technologies in such a way obstructs the acquisition of e-commerce skills. While learning e-commerce skills is important, using e-commerce technologies to improve the teaching and learning environment is critical for delivering learner-centered instruction (Dahbi and Benmoussa, 2019).

4. Technology factors

The technical foundation explains the aspects that drive the adoption of e-commerce, such as perceived benefits, compliance, and costs. Perceived value is the recognition of the potential benefits that e-commerce technology might bring to a company. Technology is inextricably linked to e-commerce adoption because it is required as support. E-commerce technology section includes questions about employee perceptions for the role of technology nowadays (Tiago and Maria, 2010).

The technical background refers to the collection of technologies that a company can use. These may include both commercially available technology and the firm's current equipment. The decision to implement technology basically based on how well integrates with existing technologies, as well as what is available in the market (Scupola, 2009).

During the decade of the 2010s, rapid technological advancements fueled the growth of online commerce. Consumers used to shop across online retailing, electronic channels, and hardware alternatives e-channel and online (e.g., laptops, computers, tablets, smartphones, and internet-enabled television) mobile shopping apps, for example, are touch points or software components (Kang et al., 2021).

(Han and Kim, 2019) discover the underlying mechanism that explains why and how international clients realize overseas purchasing opportunities. The findings show that awareness of a wide range of attributes, such as seller, price, products, and processes, has a significant impact on purchase decisions. It validates the link between information technology consumer characteristics, consumer awareness, and usage patterns, which serves as the foundation for cross-border online purchases.

Technology will never stop growing, and there will always be something new to discover. However, businesses mustn't jump on the next big thing simply because it is trending. Instead, businesses must investigate technologies in-depth and develop a strategic rollout plan. Companies can't afford to rush into adopting new technology without thoroughly testing and rolling it out, or they risk enraged customers, a poor

user experience, and a loss of brand loyalty (Clemes et al., 2014). To maximize consumer satisfaction value, the website's product information must be upgraded in terms of both quality and quantity, as well as providing a dynamic product presentation by presenting in multiple forms, such as written descriptions and multimedia of product-related information. In terms of privacy and security, website will also offer dependable security features, like email addresses and dedicated phone services, as well as consumer privacy statements (Gaikwad et al., 2018).

5. Perceived benefits:

The advantages that result from current techniques of performing commercial transactions utilizing e-commerce software are known as perceived benefits. The gains that businesses have realized as a result of implementing e-commerce are known as realized benefits. Profits that contribute to economic progress as assessed by a quantitative goal monetary value. Also, the development of positive trading partner relationships, such as commitment and satisfaction, are two of them (as in rational value, qualitative and subjective). Perceived benefits were divided into three categories in this study: Benefits in terms of technology, organization, and relationships (Tiago and Maria, 2010).

Technology benefits include e-commerce applications with automated processes that result in indirect cost and time savings. The goal of technology benefits is to automate manual processes in order to reduce administrative costs. Technological advancements are measured when it comes to faster delivery. The amount of time it takes for a company for delivering its goods or services to business partners is referred to as delivery speed. If it is expected that e-commerce implementation would reduce the overall time to produce a product, the advantages of technology will be recognized. Market reach is defined as an organization's ability to communicate with a larger number of trading partners and consumers (Scupola, 2009).

E-commerce can help small businesses improve cash flow, productivity, and competitiveness by allowing them to reach out to new customers. It can also serve as a foundation for providing better customer service and increasing potential efficiency. It can also help them gather data, improve their image, and promote themselves; increase sales and find new partners; gain a competitive advantage, and

provide organizational support, boost managerial productivity, and make strategic decisions easier (Abou-Shouk et al., 2012).

6. Complexity

The perceived complexity of an invention refers to how difficult it is to comprehend and use it. The technology's complexity increases the risk of using it because it creates uncertainty about its ability to be implemented successfully. It's crucial to look into the extent to which technology changes and innovations affect a company's ability to derive value from its strategy configuration (Gono et al, 2016).

Simple-to-use tools include computer or IT infrastructure, technical skills among organizational staff, and training programs that enable the installation and maintenance of EC technologies (Chong, 2004).

Businesses are becoming more aware of the importance of sustainability as internet usage continues to grow, and having a web presence and engaging in e-commerce is a competitive necessity. Thus, the number of commercial websites has skyrocketed, resulting in fierce competition for online customers. Because of the abundance of websites offering similar identical products and functionalities. Thus, new strategies for e-commerce websites have been developed in order to stay competitive, attract, keep customers, and increase sales. In e-commerce, paying close attention to aesthetics in website interface design is critical in predicting a customer's perception, emotion, and action toward the website, in addition to improving the user experience. It's critical to develop a body of knowledge about how to use webpage aesthetics to support e-commerce (Deng and Poole, 2012).

Many websites offer both local and international online shopping services. In most cases, there is a shopping cart where potential buyers can select which goods they want to purchase. Aside from shopping carts, online store creation services and online store manufacturers offer buyers the option of contacting the seller directly for direct transactions via phone or by email (Budyastuti and Iskandar, 2018).

Customer perceptions of a Web shopping site's convenience and user-friendliness are referred to as user interface quality. Product or service information's relevance, timeliness, sufficiency, understandability, consistency, and playfulness are all factors to consider. Relational benefit refers to the advantages a customer gains from using the site, while information satisfaction is defined as an "emotional

response to the overall information service's experience (Park and Kim, 2003).

If users accept recommender technology, it can significantly increase the likelihood of customers purchasing the items that have been recommended to them. Customers can be enticed to buy products that have been recommended to them using recommender systems technology. Their complete satisfaction will increase the likelihood of them returning to the site and recommending it to their friends, resulting in repeat purchases (Pu et al., 2011).

H. Environmental factors

The atmosphere is the setting in which a company conducts operations, and with SMEs adopting e-commerce, it involves economic demands and pressure from trading partners. The SME's external climate also influenced some barriers. It outlines the firm's business engagement. This includes things like government position, business partner association and priorities, value chain existence and characteristics, economic and political unrest, human-rights concerns Infrastructure for logistics and telecommunications, macroeconomic policies, business culture, natural disasters such as earthquakes and floods, and so on (Scupola, 2009).

A key factor in IT adoption has been identified as government policies. Policy interventions include things like better telecommunications infrastructure, financial incentives, fair taxation of online transactions, financial incentives, national e-commerce strategy, and increased government e-commerce usage (Zhu and Thatcher, 2010).

The government's role as a public organization should be more focused on providing public services. The government uses a tool called bureaucracy to carry out its role as a provider of public services (Elanga and Imran, 2013).

The efficient implementation and delivery of public services to citizens is aided by the successful adoption of new technologies. In recent years, the goal of various e-government initiatives has shifted to creating services that are more responsive to citizens' needs and more accessible. Therefore, a well-founded theoretical framework is needed to measure the success of such initiatives (Saha, 2008).

1. Government regulation:

Government assistance could take the form of loosening rules for regional SMEs. Providing financial and technical assistance through institutions, developing e-commerce infrastructure, and enacting favorable e-commerce legislation are all examples of what can be done (Nakhleh, 2017).

Since governments are generally preoccupied with problems of poverty and hunger eradication, this is often missing in developed countries. Governments, particularly in developing countries, should work to establish welcoming, empowering, and promising policies, as well as laws that serve as guidelines for e-commerce and its practices. Having healthy competition as a reason for e-commerce growth is also important, so policies that can attract new entrants who are modernized and IT capable can increase the need for e-commerce among locals (Li et al., 2018).

Singapore sets an example for the government's role in e-commerce growth by taking deliberate steps to strengthen e-commerce infrastructure and enacting e-commerce-friendly legislation. SMEs' ingenuity was stifled by unfavorable government and regional policies, jeopardizing their continued presence in the economy (Chan and AlHawamdeh, 2002).

Many e-commerce customers are still dissatisfied with their purchases, but do nothing about it. Consumers are still considering several factors to take further action following their unhappiness with the e-commerce, trade process, including the cost of going to court, which will be more expensive than the loss of products, and the consumer's desire to avoid a lengthy legal process. Besides pursuing matters outside the courtroom, many consumers are unfamiliar with the process and where to register a complaint (Liemanto et al., 2021).

This rise in transactions must have several negative consequences, one of which being transaction disappointment and discontent. If, however, complaints or conflicts arising from e-commerce transactions must also be handled traditionally, it is not due to present circumstances or the passage of time. Therefore, reformulation regulations and laws are required for allowing the use of ODR, particularly online arbitration and online resolution of client complaints, as a forum for resolving disputes arising from e-commerce transactions. Because ODR outperforms

traditional approaches and can be used even if the parties are in different areas or nations, it can be utilized even if the parties are merely at home (Liemanto et al., 2021).

Electronic transactions have shown an unequal relationship between business operators and customers. Standard contracts are frequently included by businessmen who offer goods or services online, resulting in unequal bargaining power. The merchant decides on the terms and conditions of the ordinary contract on his own. They employ a standard contract on the website and eliminate the option for clients to bargain. Because the format and contents have been set unilaterally, the unequal application of an agreement that provides profit for business actors frequently arises in the shape of a standard agreement/standard clause. This type of agreement is usually incorporated in every agreement document created by one side that is more powerful than the other. It's called standard since neither the agreement nor the clause can be negotiated by third parties. Standard clauses are defined in Article 1 point 10 of the Consumer Protection Law (UUPK), which states: Any rules or terms and conditions prepared and determined unilaterally by the business actor as stated in a document and/or agreement binding and must be met by consumers (Sugeng and Fitria, 2021).

III. RESEARCH METHODOLOGIES

"How" of a research study is simply referred to as research methodology. More specifically, it pertains to the methodical process by which a researcher designs a study to guarantee valid and trustworthy findings that address the goals, objectives, and research questions of the study. How the researcher made the following decisions, in particular:

- What information to gather, such as qualitative or quantitative information.
- Who should provide it? (i.e., the sampling plan).
- How to gather it (i.e., the process for gathering data).
- How to analyze it (i.e., the techniques for data analysis).

A. Research Model

As is mentioned in other chapters, and by reviewing the done studies on e-commerce adoption, the factors that can be considered in EC adoption in small businesses are organizational, technological, and environmental factors.

(Al-Alawi & Al-Ali, 2015) have introduced an e-commerce adoption model as figure (3-1) in which factors are defined as below:

- Organizational factors: top management support, finance resource, organizational competence
 - Technological factors: perceived benefits, perceived complexity
 - Environmental factors: government regulations
1. same model is going to be studied in this survey to examine the factors which have a significant influence on adoption of e-commerce in Turkey. model is adapted from the study “Factors affecting e-commerce adoption in SMEs in the GCC: An empirical study of Kuwait”

Proposed Model

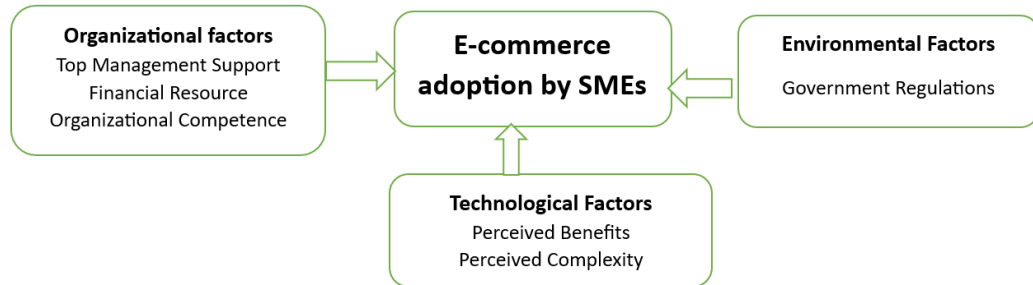


Figure 1. Proposed model of E-commerce adoption

(Al-Alawi & Al-Ali, 2015) describe the studied factors as the number of slack resources (level of availability of a resource), the degree of control, managerial structure, human resources, and employee linkages are some of the organizational factors. The technological factors include both internal and external technologies that are relevant to the firm. Technologies can include both types of equipment and processes. The size and structure of the industry, the firm's competitors, the macroeconomic environment, and the regulatory environment are all environmental factors.

B. Hypothesis

H1: There is a relationship between top management support and e-commerce adoption.

H2: There is a relationship between financial resource and e-commerce adoption

H3: There is a relationship between organizational competence and e-commerce adoption

H4: There is a relationship between perceived benefits and e-commerce adoption

H5: There is a relationship between perceived complexity and e-commerce adoption

H6: There is a relationship between government regulation and e-commerce

adoption

C. Research method

This research study revolved around the factors affecting adoption of e-commerce in SMEs in Turkey. This research is descriptive, and its interest lies when describing a population's characteristics

In this study, hypothesis testing was also used to determine the impact of the three backgrounds: Top management support, financial resources, and organizational competence are among the organizational factors. Perceived benefits and perceived complexity are two technology factors. Government regulations governing the adoption of e-commerce by SMEs in Turkey are among the environmental factors.

Qualitative and descriptive research techniques have been used in various fields, including education, social sciences, and psychology and these types of studies are becoming more popular in teaching and learning second languages (Nassaji, 2015).

A descriptive study's goal is to identify a phenomenon and its characteristics. This study is more interested in what happened than in how or why it happened. As a result, data is frequently gathered using observational and survey methods (Gall et al., 2007).

In such studies, statistics may be obtained qualitatively, but they are frequently analyzed quantitatively, with percentages, frequencies, averages, and other statistical analyses being used to evaluate relationships. Qualitative research is more comprehensive and involves a large amount of data from various sources in order to gain a better understanding of individual participants, including their perspectives, opinions, and attitudes. A qualitative study gathers data qualitatively, and the analysis process is primarily qualitative. This usually entails using the data to deduce common patterns, themes, or concepts, and then explaining and analyzing those categories. Of course, data gathered qualitatively in qualitative research can be analyzed quantitatively. When a researcher carefully examines qualitative data to identify key patterns and ideas before converting them to numerical data for comparison and evaluation, (Nassaji, 2015).

D. “Research Design “

The primary goal of this research is to look into the factors that influence SMEs' adoption of e-commerce in Turkey. To answer the research questions and achieve the study's goal, a model for e-commerce adoption in SMEs was used, and the survey questionnaire was designed based on related previous studies to collect the required data. This is a quantitative study in which data is gathered from two different sources:

The researcher used the 5-point Likert scale from (Al-Alawi & Al-Ali, 2015) study.

The questionnaire is divided into two sections. Part A consisted of five demographic questions that were used to gather general information from the participants. Part B, on the other hand, is divided into groups of fundamental questions. They were questioned about the factors and items that influence e-commerce adoption in SMEs within their companies, using a five-point Likert scale ranging from "1 as strongly disagree" to "5 as strongly agree" (Al-Alawi & Al-Ali, 2015)

Table 1. Number and order of items (independent variables)

E-commerce factors	Environmental factors	Organizational factors	Technological factors
Number of items	5	10	9
Order of items	1-5	6-15	16-24

Table 2. Number and order of items (dependent variables)

	E-commerce adoption
Number of items	5
Order of items	25-29

E. Population

The study's target population was small-medium businesses, which account for the majority of Turkey's businesses.

F. Sample and sampling

Probability sampling is the type of sampling used. The data was gathered using a convenience sampling method. Sample for the study of the population was taken in Turkey. The sample was from business organizations in Turkey from small and medium size of companies. Data was collected by senior managers, mid-level managers, and employees of those organizations. Number of respondents was calculated based on the sampling formula is 384. Many of the limitations associated with research can be overcome with convenience sampling. (Taherdoost, 2018).

G. Sample size

According to the Union Chambers and Commodity Exchanges of Turkey, Currently, Turkey has an estimated 3.5 million active SMEs (Tobb, 2020).

According to (Thompson, 2012), as he explained in his book how we can calculate the sample size based on the formula that mention it below.

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2 \right) \right] + p(1-p) \right]}$$

Figure 2. Sample size formula

Source: Steven K. Thompson, (2012). Sampling, Third Edition, p:59-60.

Where N (Population Size) = 3,500000, Z (Confidence level) =0.95, d (Margin of Error) =0.05, and P = Sample Proportion - uncertain = 0.5.

H. Data collection

Data was gathered by using a research instrument that consisted of closed-ended questionnaires. In Turkey, the tool was implemented in SMEs. Managers, mid-level managers, and critical workers from the sampled organizations were the respondents for the data collection process. The duration of collecting the data is between February 2020 till Augustus 2020 during the Covid-19 Pandemic and it was difficult to distribute the survey to the respondents as a hard copy.

I. Data analysis

The data were analyzed using the SPSS 27.0 version, and all demographic questions were subjected to descriptive statistics (Frequency). In the beginning of the analysis, the researcher started to test the distribution of the data which is normal distributed or non-normally distributed. It's one of the important assumptions to apply either the parametric tests or non-parametric tests. If data is normally distributed, the researcher should apply the parametric tests. If the data is not normally distributed, the researcher should apply the non-parametric test. In the study, the data was not normally distributed, So the researcher applied the non-parametric tests. One of the best tests to fit and the nature of the data is Spearman correlation, Kruskal-Wallis and Mann-Whitney tests. Also, the researcher, applied the descriptive statistics such as mean and standard deviation for continuous variables in addition to factor analysis and reliability analysis.

J. Nature of Questions Asked in the Survey

By splitting the questionnaires into two parts, the researcher could identify factors influencing e-commerce adoption. Part A of these questions was designed to elicit general information about the company's owners/managers or the most qualified individuals, such as job title, qualifications, years of experience, and age. Part B looks at the impact of organizational factors on e-commerce adoption, as well as technical factors and a measure of environmental factors that are positively linked to e-commerce adoption.

IV. DATA ANALYSIS

A. Normality Test

Before start analyzing the data, the researcher needs to check whether need to apply for the study parametric tests or non-parametric tests by applying the Normality test.

Table 3. Normality Test

Tests of Normality	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Government Regulation Top Management Support Organizational Competence Financial Resource Perceived Benefits Perceived Complexity E-Commerce Adoption	.106	384	.000	.941	384	.000
	.244	384	.000	.837	384	.000
	.144	384	.000	.903	384	.000
	.278	384	.000	.869	384	.000
	.268	384	.000	.820	384	.000
	.203	384	.000	.845	384	.000
	.157	384	.000	.908	384	.000

Based on the results, the significance value is less than 0.05 for both Kolmogorov-Smirnova and Shapiro-Wilk test, which means that data is not normally distributed. So, if the data is not normally distributed, it means that the researcher should conduct the non-parametric tests.

B. Descriptive statistics

Simple summaries of the sample and findings are provided by descriptive statistics. These summaries could be numerical (for example, summary statistics) or visual (for example, simple graphics). These summaries could serve as the

foundation for a preliminary description of the data in a larger statistical study, or they could be sufficient for independent research (Kaushik and Mathur, 2014).

1. Frequencies

Frequencies generate statistics and graphs that can be used to describe a variety of variables. When it comes to data analysis, the frequencies process is a good place to start. In a frequency report and bar chart, you can order the individual values in ascending or decreasing order, or you can order the categories by their frequencies. The frequencies report can be turned off when a variable has a lot of different values. To label charts, you can use frequencies (the default) or percentages.

Table 4. Frequency responds for (Job)

	Frequency	Percent
Accounting	96	25.0
Administrative	87	22.7
Engineering	71	18.5
Technical	89	23.2
Top management	41	10.7
Total	384	100.0

The table represents 5 different type works. Total response based on the number of respondents was 384. Table shows the frequency of the accounting position is 96, the percentage is 25%. The second item is administrative, the frequency is 87, percentage is 22.7%. The third item is engineering, the frequency is 71, the percentage is 18.5%. The fourth item is technical, the frequency is 41, the percentage is 10.7%. Table shows that respondents who work in accounting are most persons who took part in the study, then who works in the technical area, then who works in the administrative area, then who works in the engineering area. The least people who took part in the study work in the top management area.

Table 5. Frequency responds for (Working Experience)

	Frequency	Percent
11-15 years	99	25.8
6-10 years	129	33.6
Less than 5 years	94	24.5
More than 15 years	62	16.1
Total	384	100.0

The tables show the total number of employees who participates in the second demographic question (Working Experience) was 384. 11-15 years, the frequency is

99, the percentage is 25.8%, that reflect 99 employees who are working under the range of 11 till 15 years. 6-10 years, the frequency is 129, the percentage is 33.6%, that reflect 129 employees who are working under the range of 6 till 10 years. Less than 5 years, the frequency is 94, and the percentage is 24.5%, that reflects 94 employees who are working under less than 5 years. More than 5 years, the frequency is 62, the percentage is 16.1%, that reflect 62 employees who are working under More than 15 years. From that table, most of the respondents answering on the second option which is 6-10 years which means that in the middle of their career.

Table 6. Frequency Responds for (Qualifications)

	Frequency	Percent
Bachelor	222	57.8
Graduate	96	25.0
Less than Diploma	66	17.2
Total	384	100.0

The table of qualifications consists of 4 items. The first item is Bachelor, the frequency is 222, the percentage is 57.8%. The second item is Graduate, the frequency is 96, the percentage is 25%, the cumulative percentage is 96.9. The third Item is less than Diploma, the frequency is 66, the percentage is 17.2%, the cumulative percentage is 100%. From the table, more than half of the members who participate in the research obtained a bachelor's degree.

Table 7.: Frequency Responds for (Age)

	Frequency	Percent
25 to 30	61	15.9
31-35	85	22.1
36-40	60	15.6
41-45	70	18.2
Less than 25	33	8.6
More than 45	75	19.5
Total	384	100.0

The last demographic question is age. The table of age consists of 6 items. The first item age between 25 to 30, the frequency is 61 the percentage is 15.9%. The second item is the age between 31 to 35, the frequency is 85, the percentage is 22.1%. The third item is the age between 36 to 40, the frequency is 60, the percentage is 15.6%. The fourth item is the age between 41 to 41, the frequency is 70, the percentage is 18.2%. The fifth item is the age less than 25, the frequency is 33, the percentage 8.6%. The last item is the age more than 45, the frequency is 75,

the percentage is 19.5%. From the table, the percentage ages of participants who participated in the study are close.

2. Descriptives (Mean and Std. Deviation)

Table 8. Mean and Std. Deviation

Variables	Mean	Std. Deviation
Perceived Complexity	4.3008	0.73006
Organizational Competence	4.1866	0.71102
Perceived Benefits	4.1479	0.94030
Top Management Support	4.0851	0.79980
Government Regulations	3.8406	0.84755
Financial Resource	3.2813	1.18258
Mean value	3.97	

The results of the questionnaire have been analyzed based on mean and Standard Deviation (SD) to determine the respondent's score level of factors influencing the adoption of e-commerce, as shown in Table 4.5. The study has taken the position that any mid-point value for the 5-point scale was 3.0 of the interpretive scales mentioned; however, the majority of the respondents were above that value. The respondents were given options ranging from a five-point scale. The findings indicate that the mean value ranges range between 4.30 and 3.28. 3.97 was the average response. Overall, the respondents viewed the predictors (top management support, financial resource, organizational competence, government role, perceived benefits, and perceived complexity) as "agree" or "support the statement," and it is crucial for the adoption of e-commerce.

C. Factor Analysis

The relationship between a large number of variables for example (questions on a questionnaire) is investigated using factor analysis to see if they can be grouped and summarized using fewer factors.

Table 9. KMO and Bartlett's Test result

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.778
Approx. Chi-Square	6892.014
Df	276
Sig.	.000

The Kaiser-Meyer-Olkin test of sampling adequacy, for example, determines

whether the sample size is adequate for factor analysis. If the sample size is less than 0.5, the sample is too small. In this case, KMO equals.778, indicating that sample size is adequate.

The second statistic is Bartlett's sphericity test, which determines whether there are enough correlations between variables to perform factor analysis. The researcher is looking for a significance value of less than 0.05 and p-value in this case is <.000, indicating that there are enough correlations for factor analysis.

Table 10.: Rotated component matrix:

	Variables	Factor Loading	% Variance
Factor 1 (Perceived Benefits)	PB1: Improve customer service	.930	17.223%
	PB5: Improve distribution channels	.894	
	PB4: Reap operational benefits	.888	
	PB2: Reduce cost of business operations	.853	
	PB3: Increase ability to compete"	.790	
Factor2 (Government Regulations)	GR1: We believe that there are effective laws to combat cyber-crime	.874	15.185%
	GR5: Government regulations allow electronic settlement of e-Commerce transactions	.851	
	GR4: We believe that the government demonstrates strong commitment to promote e-Commerce	.847	
	GR3: We believe there are effective laws to protect consumer privacy	.822	
	GR2: We believe the legal environment is conducive to conduct business on the Internet	.807	
Factor 3 (Perceived Complexity)	Complexity 4: My interaction with e-Commerce is/would be clear and understandable	.893	13.615%
	Complexity 3: It would be easy for me to become skillful at using e-Commerce	.857	
	Complexity 2: Learning to operate e-Commerce is/would be easy	.850	
	Complexity 1: Interacting with e-Commerce is/would be flexible	.844	
Factor 4 (Top Management Support)	TMS3: Our vision of e-Commerce activities is widely communicated and understood throughout the organization	.939	10.032%
	TMS4: Our business has a clear vision on e-Commerce	.913	
	TMS1: Management is supportive of the use of e-Commerce in business operations	.901	
Factor 5 (Financial Resource)	FR2: Hardware, software, and employee training cost encourage the success of e-commerce adoption	.969	8.125%
	FR1: Financial feasibility on SMEs affecting the rate of e-Commerce adoption	.968	
Factor 6 (Organizational Competence)	OC3: Our organization has a positive attitude towards e-commerce	.916	7.553%
	OC1: We have a good understanding of e-Commerce application solutions that are applicable to our business"	.864	
	OC2: Our organization has a good understanding of electronic commerce business models that are applicable to our business	.579	

The Rotated Factor Matrix table is crucial to comprehending the analysis' findings. Factors are rearranged to make them easier to understand. Rotation ensures that different items are explained or predicted by different underlying factors as much as possible, and that each factor explains more than one item.

The results of analysis have been sorted 22 items into 6 factors. The items cluster into 6 factors characterized by the highest loading on each item. From the results, 0.40 or higher of the factor load is an excellent choice. So, “twenty-two items can be accepted”. Two “items with less than” 0.40 excluded from the output. The first item was excluded from the fourth factor “top management support”. The second item was excluded from the fifth factor “financial resource”.

The scale factors' eigenvalues ranged from 7.553 to 17.223 percent, with six factors clarified for 71.732 percent of the total variance. The first factor, which is made up of five items, is perceived benefits. Government regulations comprised the second factor, which included five items. Perceived complexity, which is made up of four factors, is the third factor. The fourth factor, which is made up of three components, is top management support. The fifth factor, which is made up of two components, is financial resources. Organizational competence is the sixth factor, which consists of three items.

D. Reliability Analysis

The qualities of measuring scales and the items that make up the scales can be investigated using reliability analysis. The Reliability Analysis technique calculates a variety of scale reliability metrics as well as scale item correlations.

Table 11. General Reliability Analysis

Cronbach's Alpha	N of Items
.800	27

From the results of the reliability analysis for all factors of dependent and independent variables, we conclude that all the Cronbach's Alpha result was good and acceptable and all Cronbach's Alpha values greater than 0.7. So, all factors can be accepted and analyzed.

Table 12. Reliability Coefficient Analysis

Variables	Number of items	Cronbach's Alpha of Reliability
Financial Resource	2	.998
Perceived Benefits	5	.926
Top management Support	3	.920
Government Regulation	5	.897
Perceived Complexity	4	.888
E-commerce Adoption	5	.791
Organizational Competence	3	.725

The table above shows the reliability statistics of the variables based on the items for each variable. The Cronbach's Alpha range values between .998 to .725 which means that the items have an excellent validity since the values close to 1.

E. Kruskal-Wallis Test

The Kruskal-Wallis H test (sometimes also called the "one-way ANOVA on ranks") is a rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable.

Table 13. Kruskal-Wallis Test based on government regulations according to (Job)

Job	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
Accounting	96	193,28	0.017	12.068	0.05
Administrative	87	197,72			
Engineering	71	154,89			
Technical	89	214,81			
Top management	41	196,30			
Total	384				

From the table above, the assymp.sig is 0.017 and the significance level is 0.05, thus there is statistically significant differences in the government regulations according to the job. So, the researcher will conduct Mann-Whitney U test to compare pairs of groups to identify the exact group that differ between (Accounting,

Administrative, Engineering, Technical, Top Management).

Table 14. Kruskal-Wallis Test based on Top management support according to (Job)

Job	N	Mean	Asymp. Sig.	Chi- Square	Significance Level
Accounting	96	160,10	0.001	59.757	0.05
Administrative	87	141,05			
Engineering	71	243,37			
Technical	89	217,18			
Top management	41	235,87			
Total	384				

From the table above, the assymp.sig is 0.001 and the significance level is 0.05, thus there is statistically significant differences in the Top Management Support according to the job. So, the researcher will conduct Mann-Whitney U test to compare pairs of groups to identify the exact group that differ between (Accounting, Administrative, Engineering, Technical, Top Management).

Table 15. Kruskal-Wallis Test based on E-commerce Adoption according to (Job)

Job	N	Mean	Asymp. Sig.	Chi- Square	Significance Level
Accounting	96	179,99	0.001	19.471	0.05
Administrative	87	162,03			
Engineering	71	188,70			
Technical	89	229,82			
Top management	41	212,00			
Total	384				

From the table above, the assymp.sig is 0.001 and the significance level is 0.05, thus there is statistically significant differences in the e-commerce adoption according to the job. So, the researcher will conduct Mann-Whitney U test to compare pairs of groups to identify the exact group that differ between (Accounting, Administrative, Engineering, Technical, Top Management).

Table 16. Kruskal-Wallis Test based on government regulations according to (Working Experience)

Working Experience	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
11-15 years	99	192.09	0.346	3.311	0.05
6-10 years	129	182.08			
Less than 5 years	94	209.13			
More than 15 years	62	189.62			
Total	384				

From the table above, the assymp.sig is 0.346 and the significance level is 0.05, thus there is no statistically significant differences in the government regulations according to the working experience.

Table 17. Kruskal-Wallis Test based on Top Management Support according to (Working Experience)

Working Experience	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
11-15 years	99	184.25	0.028	9.137	0.05
6-10 years	129	202.98			
Less than 5 years	94	171.14			
More than 15 years	62	216.26			
Total	384				

From the table above, the assymp.sig is 0.028 and the significance level is 0.05, thus there is statistically significant differences in the government regulations according to the working experience. We will conduct Mann-Whitney U to compare between the groups (11-15 years, 6-10 years, less than 5 years, more than 15 years).

Table 18. Kruskal-Wallis Test based on E-commerce Adoption according to (Working Experience)

Working Experience	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
11-15 years	99	192.92	0.838	0.847	0.05
6-10 years	129	186.71			
Less than 5 years	94	200.44			
More than 15 years	62	191.83			
Total	384				

From the table above, the assymp.sig is 0.838 and the significance level is 0.05, thus there is no statistically significant differences in the e-commerce adoption according to the working experience.

Table 19. Kruskal-Wallis Test based on government regulations according to (Qualifications)

Qualifications	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
Bachelor	222	181.13	0.053	5.861	0.05
Graduate	96	204.08			
less than Diploma	66	213.89			
Total	384				

From the table above, the assymp.sig is 0.053 and the significance level is 0.05, thus there is no statistically significant differences in the e-commerce adoption according to the qualifications.

Table 20. Kruskal-Wallis Test based on Top Management Support according to (Qualifications)

Qualifications	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
Bachelor	222	206.26	0.001	17.982	0.05
Graduate	96	193.70			
less than Diploma	66	144.47			
Total	384				

From the table above, the *assymp.sig* is 0.053 and the significance level is 0.05, thus there is statistically significant differences in the e-commerce adoption according to the qualifications. So, the researcher will conduct Mann-Whitney U test to compare pairs of groups to identify the exact group that differ between (Bachelor, Graduate, less than Diploma).

Table 21. Kruskal-Wallis Test based on E-commerce adoption according to (Qualifications)

Qualifications	N	Mean	<u>Asymp.</u> Sig.	Chi-Square	Significance Level
Bachelor	222	197.40	0.489	1.433	0.05
Graduate	96	190.27			
less than Diploma	66	179.26			
Total	384				

From the table above, the *assymp.sig* is 0.489 and the significance level is 0.05, thus there is no statistically significant differences in the e-commerce adoption according to the qualifications. We will conduct Mann-Whitney U to compare between the groups (Bachelor, Graduate, less than Diploma).

Table 22. Kruskal-Wallis Test based on government regulations according to (Age)

Age	N	Mean	<u>Asymp.</u> Sig.	Chi-Square	Significance Level
25 to 30	61	199.00	0.564	1.433	0.05
31-35	85	176.76			
36-40	60	202.02			
41-45	70	193.70			
Less than 25	33	214.52			
More than 45	75	186.63			
Total	384				

From the table above, the *assymp.sig* is 0.564 and the significance level is 0.05, thus there is no statistically significant differences in the government regulations according to the age.

Table 23. Kruskal-Wallis Test based on top management support according to (Age)

Age	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
25 to 30	61	168.87	0.128	8.565	0.05
31-35	85	211.68			
36-40	60	182.04			
41-45	70	193.98			
Less than 25	33	175.33			
More than 45	75	204.52			
Total	384				

From the table above, the assymp.sig is 0.128 and the significance level is 0.05, thus there is no statistically significant differences in the government regulations according to the age.

Table 24. Kruskal-Wallis Test based on e-commerce adoption according to (Age)

Age	N	Mean	Asymp. Sig.	Chi-Square	Significance Level
25 to 30	61	193.82	0.771	2.536	0.05
31-35	85	187.84			
36-40	60	186.73			
41-45	70	185.11			
Less than 25	33	218.03			
More than 45	75	196.98			
Total	384				

From the table above, the assymp.sig is 0.771 and the significance level is 0.05, thus there is no statistically significant differences in the government regulations according to the age.

F. Mann-Whitney U

When a continuous level variable is measured across all observations in two groups and we want to test whether the distribution of this variable differs between the two groups but we are unable to assume normality in both groups, we use the Mann-Whitney test. An ordered categorical variable measured on two groups can also be compared using it.

According to tables (4.17, 4.18, 4.19), Since there is a statistically

significant differences between groups (Job), as a result, the Mann-Whitney U test will discover significant levels between the groups.

- **(Government Regulations) according to the job**

- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the accountants were significantly lower than the administrates (Asymp sig.=0.821>0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the accountants were significantly higher than the Engineers (Asymp sig.=0.026<0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the accountants were significantly lower than the technical (Asymp sig.=0.172>0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the accountants were significantly lower than the top management (Asymp sig.=0.862>0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the administrates were significantly higher than the Engineers (Asymp sig.=0.021<0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the administrates were significantly lower than the technical (Asymp sig.=0.346>0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the administrates were significantly lower than the top management (Asymp sig.=0.874>0.05).

- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the Engineering were significantly lower than the technical (Asymp sig.=0.001<0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the Engineering were significantly lower than the top management (Asymp sig.=0.047<0.05).
- It is seen that the GR scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the GR averages of the technical were significantly higher than the top management (Asymp sig.=0.373>0.05).

- **(Top Management Support) according to job**

- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the accountants were significantly higher than the administrates (Asymp sig.=0.273>0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the accountants were significantly lower than the Engineers (Asymp sig.=0.001<0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the accountants were significantly lower than the technical (Asymp sig.=0.001<0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the accountants were significantly lower than the top management (Asymp sig.=0.001<0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was

determined that the TMS averages of the administrates were significantly lower than the Engineers (Asymp sig.=0.001<0.05).

- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the administrates were significantly lower than the technical (Asymp sig.=0.001<0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the administrates were significantly lower than the top management (Asymp sig.=0.001<0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the Engineering were significantly higher than the technical (Asymp sig.=0.061>0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the Engineering were significantly higher than the top management (Asymp sig.=0.522>0.05).
- It is seen that the TMS scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the technical were significantly lower than the top management (Asymp sig.=0.283>0.05).

- **(E-commerce adoption) according to job**

- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the accountants were significantly higher than the administrates (Asymp sig.=0.319>0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the accountants were significantly lower than the Engineers (Asymp sig.=0.680>0.05).

- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the accountants were significantly lower than the technical (Asymp sig.=0.002<0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the accountants were significantly lower than the top management (Asymp sig.=0.126>0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the administrates were significantly lower than the Engineers (Asymp sig.=0.123>0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the administrates were significantly lower than the technical (Asymp sig.=0.001<0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the administrates were significantly lower than the top management (Asymp sig.=0.017<0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the Engineering were significantly lower than the technical (Asymp sig.=0.020<0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the Engineering were significantly lower than the top management (Asymp sig.=0.307>0.05).
- It is seen that the EA scale differs significantly according to occupational groups. All groups were compared with the Mann-Whitney U test and it was determined that the EA averages of the technical were significantly higher

than the top management (Asymp sig.=0.429>0.05).

According to Kruskal-Wallis test tables (4.20, 4.22), Since there is no statistically significant differences between groups (Working Experience), thus the researcher will not discover the differences between groups but for table (4.21) there is statistically significant differences between groups (Working Experience), As a result, the Mann-Whitney U test will discover significant levels between the groups.

- **(Top Management Support) according to Working Experience**

- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience between 11-15 years were significantly lower than the working experience between 6-10 years (Asymp sig.=0.171>0.05).
- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience between 11-15 years were significantly higher than the working experience with less 5 years (Asymp sig.=0.324>0.05).
- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience between 11-15 years were significantly lower than the working experience with more than 15 years (Asymp sig.=0.043<0.05).
- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience between 11-15 years were significantly lower than the working experience with more than 15 years (Asymp sig.=0.043<0.05).
- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience between 6-10 years were significantly higher than the working experience with less

than 5 years (Asymp sig.=0.030<0.05).

- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience between 6-10 years were significantly lower than the working experience with more than 15 years (Asymp sig.=0.443>0.05).
- It is seen that the TMS scale differs significantly according to working experience. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the working experience with less 5 years were significantly lower than the working experience with more than 15 years (Asymp sig.=0.009<0.05).

According to Kruskal-Wallis test tables (4.23, 4.25), Since there is no statistically significant differences between groups (Qualifications), thus the researcher will not discover the differences between groups, but for table (4.24) there is statistically significant differences between groups (Qualifications), As a result, the Mann-Whitney U test will discover significant levels between the groups.

- **(Top Management Support) according to Qualifications**

- It is seen that the TMS scale differs significantly according to Qualifications. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the Qualifications who obtained bachelor were significantly higher than the who was graduate (Asymp sig.=0.302>0.05).
- It is seen that the TMS scale differs significantly according to Qualifications. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the Qualifications who obtained bachelor were significantly higher than the who obtained less than diploma (Asymp sig.=0.001<0.05).
- It is seen that the TMS scale differs significantly according to Qualifications. All groups were compared with the Mann-Whitney U test and it was determined that the TMS averages of the Qualifications who obtained graduation degree were significantly higher than the who obtained less than

diploma graduate (Asymp sig.=0.002<0.05).

According to Kruskal-Wallis test tables (4.25,4.26,4.27), Since there is no statistically significant differences between groups (age), thus the researcher will not discover the differences between groups.

G. Spearman Correlation

The degree of association between two variables is measured by Spearman's rho. The Spearman correlation coefficient is comparable to the Pearson correlation coefficient as a result.

Table 25. Spearman Correlation

	Government Regulation	Top Management Support	Organizational Competence	Financial Resource	Perceived Benefits	Perceived Complexity
E-commerce Adoption	,011	,320**	,136**	,179**	-,063	,712**
**P<.005	,835	,000	,007	,000	,217	,000
N	384	384	384	384	384	384

from the result above the focus will be on e-commerce adoption (Dependent Variable). If the p-value is less than 0.05, then researcher have evidence of a statistically significant bivariate association between the two variables. If the p-value is more than 0.05, then researchers have evidence that there is not a statistically significant association between the two ordinal variables. From the results, the p-value for top management support, organizational competence, financial resource and perceived complexity is less than 0.05 according to the e-commerce adoption which means that there is a relationship between these variables and e-commerce adoption. But there are two variables the p-value more than 0.05 which includes government regulations and perceived benefits.

Table 26.:Hypothesis Testing

H	Hypothesis	P Value	Result
H1	“There is significant relationship between top management support and the adoption of e-commerce”	P Value is 0.000	Supported
H2	“There is significant relationship, between financial resource and the adoption of e-commerce “	P Value is 0.000	Not Supported
H3	“There is significant relationship, between organizational competence and the adoption of e-commerce”	P Value is 0.007	Supported
H4	“There is significant relationship, between perceived benefits and the adoption of e-commerce”	P Value is 0.217	Not Supported
H5	“There is significant relationship, between perceived complexity and the adoption of e-commerce”	P Value is 0.000	Supported
H6	“There is significant relationship between, government regulations and the adoption of e-commerce”	P Value is 0.835	Not Supported

The researcher depended on the p-value to determine if the null hypotheses will reject or accept. The researcher conclude that reject the null hypothesis and accept the alternative hypothesis for top management support, financial resource, organizational competence and perceived complexity. Also, the researcher conclude that accept the null hypothesis and reject the alternative hypothesis for perceived benefits and government regulation which means that there is a relationship, between top Management support, financial resource organizational competence, and perceived complexity, perceived benefits and e-commerce adoption. Also, the researcher concludes that for perceived benefits and government regulation, accept the null hypothesis and reject the alternative hypothesis, implying that there is a no relationship between perceived benefits, government regulation, and e-commerce adoption.

V. CONCLUSION AND RECOMMENDATION

A. Conclusion

Regarding organizational context: top management support holds resources, decision-making, and authority regarding changes in the organization. They are seeking always to develop and grow their businesses. The second factor is organizational competence. Organizational competencies are the skills required for an organization to succeed and remain competitive in the marketplace. The competencies are a set of expected behaviors, skills, and attitudes that contribute to the success of the organization. So, based on the definition, SMEs found that they require to develop their businesses through a tool or a way that attracts attention of the customers. The traditional methods do not attract the attention of the customers anymore because they need a tool to dealing or buy anything online. The third factor is financial resources. The funds that keep a business running, and there are many ways for a business to acquire and use these funds like hardware, software, employee, training cost and the maintenance cost of electronic applications.

Regarding the technological context: perceived benefits; small and medium-sized enterprises, when they are adopting e-commerce as a successful tool to help them achieve the high ambitions for their businesses, know that will be a benefit from that. Some benefits are: suitability: Online commerce makes transactions faster, easier, and less time-consuming by allowing for 24-hour sales, simple returns, and swift delivery; customer experience: e-commerce platforms may create complete user profiles, allowing them to choose what they see and receive suggestions for additional things they might enjoy and that will lead to improve buyer knowledge and increased brand loyalty; increased ability to compete: e-commerce adoption will create competition to provide the best for the customers.

The second factor in the technological factors is perceived complexity. Perceived complexity in e-commerce means that is there are any difficulties when the customer using the online platform. It is easy for the customer to use the online

platform. It's the interaction in the online platform clear and understandable

Regarding environmental context: one factor tested in this study, which is government regulation. And based on the results, the researcher found that there is an adverse outcome between government regulations and adoption of e-commerce. A law that governs how a company can operate is known as government regulation, which means there are laws and controls for e-commerce. The goals for putting the laws are to protect the transactions process between the companies and consumers. There are some examples of laws in e-commerce, like laws to compact cyber-crime, laws to protect consumer privacy. The government's responsibility is to regulate the e-commerce process and monitor the seller and buyer.

The study looked into the elements that influence e-commerce adoption in Turkey. Statistical findings show that three factors (top management support financial resource and organizational competence) are important in e-commerce adoption within the organization context, and one factor (perceived complexity) are important in the technology context, whereas the perceived benefits factor of the technology context and the government regulation factor of the environmental context are not.

The main differences between this study and the base study are the target Geographic spot. Base study mentioned the factors affecting adoption of e-commerce in GCC, while in this study, the target location was turkey. Moreover, the result of the base study rejected 3 factors which is financial resource, organizational competence and perceived complexity, while in this study 2 factors was rejected which is perceived benefits and government regulation.

With comparing with previous studies in the literature review (Ahmed, 2014); (Rehman et al., 2014); (Young and Poon, 2013) agreed that top management support have an positive impact on the adoption of e-commerce. (Zhu et al., 2003); (Su et al., 2021); (Tu, 2016) agreed that financial resource have positive impact on e-commerce adoption while (Navickas et al., 2014) didn't agree that financial resource have a positive impact on e-commerce adoption. (Nickels et al., 2008); (Scupola, 2003); (Câmpeanu and Sonea, 2006) agreed that organizational competence have positive impact on the adoption of e-commerce, while (Abdullahi, 2018) and (Dahbi and Benmoussa, 2019) didn't agree that organizational competence have a positive impact of the adoption of e-commerce. (Tiago and Maria, 2010); (Scupola, 2009);

(Abou-Shouk et al., 2012) agreed that perceived benefits have a beneficial impact on the adoption of e-commerce. (Gonoet al., 2016); (Chong, 2004); (Deng and Poole, 2012); (Budyastuti and Iskandar, 2018); (Park and Kim, 2003); (Pu et al., 2011) agreed that perceived complexity have a positive impact on the adoption of e-commerce. (Nakhleh, 2017); (Li et al., 2018); (Chan and AlHawamdeh, 2002); (Liemanto et al., 2021); (Sugeng and Fitria, 2021) agreed that government regulations have an positive on e-commerce adoption.

B. Limitation of the Study

One of the complex limitations of the study was the sample size. In this study, sample size is 384, and the population is SMEs in Turkey. It's difficult for the researcher to distribute 384 surveys by hand. And due to the coronavirus pandemic, it has been decided to distribute it online, but it took a lot of time to contact with companies during the full closure in Turkey, and this is one of the most difficult parts that the researcher face it in this study. Secondly, was the time frame, because there was not enough time to study a large sample size like Turkey as a whole. Third, the misunderstanding to the nature of the data before starting the data analysis. Fourth, the disability to contact with my thesis supervisor face to face since I was outside turkey.

C. Recommendations

Finally, after reviewing the results, and reaching the recommendation part, the researcher can recommend the following. First, SMEs in Turkey need financial support to adopt e-commerce because according to the results SMEs in Turkey cannot afford the costs of adoption related to their businesses. Second, Turkey's SMEs need to government regulations to support their businesses like ICT infrastructure regulations enacted by the government and e-commerce activities. Third, e-commerce adoption might be made a strong tool for SMEs in turkey to compete in the international markets. Forth, SMEs may reap the full benefits of e-commerce by incorporating it into their long-term business plans.

1. Future Studies

Finally, the researcher reached some recommendations to be mentioned to

benefit from them for

the future studies. The first recommendation is to implement more studies outside turkey and comparing the results in this study and the results that the others researchers can be found in other countries. The second recommendation is to implement more studies about factors affecting e-commerce in SMEs by entering mediator variables like market share and productivity. The third recommendation is to apply this study to other sectors and identifying the problems facing other sectors in electronic transactions.

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RESUME

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Work Experience:

Peer Tutor: Gulf University for Science and Technology from June 2016 till August 2017

- Prepare for tutoring sessions by reviewing any notes, handouts, and/or bookwork.
- Help students set academic and personal goals, and monitor progress toward those goals.
- Complete monthly reports which include detailed information of tutoring sessions.
- Complete monthly timesheets which include name, date, student identification number, and signature in blue or black ink.
- Maintain absolute confidentiality with regard to academic progress and/or personal information concerning students.

Administrative: Gateway consulting company from November 2017 till June 2018

- Facilitating Communications
- Creating and Maintaining Records
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- Translate feasibility Studies from Arabic to English

Academic Qualifications:

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