Challenges and Obstacles Facing SMEs in the Adoption of E-Commerce in Developing Countries: A Case of Saudi Arabia

AL-TAYYAR, RAED SAUD D¹, ABDUL RASHID ABDULLAH², AZMAWANI ABD RAHMAN³,
MASS HAREEZA ALI⁴

¹Department of Business Administration, MAJMAAH UNIVERSITY, Majmaah City, SAUDI ARABIA and
Department of Management and Marketing School of Business and Economics, UNIVERSITI PUTRA MALAYSIA
(UPM), MALAYSIA. E-mail: r.altayyar@mu.edu.sa

²Department of Management and Marketing School of Business and Economics, UNIVERSITI PUTRA MALAYSIA
(UPM), MALAYSIA. E-mail: rashidabdullah@upm.edu.my

³Department of Management and Marketing School of Business and Economics, UNIVERSITI PUTRA MALAYSIA
(UPM), MALAYSIA. E-mail: azar@upm.edu.my

⁴Marketability Department of Management and Marketing School of Business and Economics, UNIVERSITI
PUTRA MALAYSIA (UPM), MALAYSIA. E-mail: mass@upm.edu.my

ABSTRACT

E-commerce has been proposed as the new driver of the growth of any country's economy. The SME sector plays an important role in contributing to the economy nationally as far as wealth creation by employees is concerned. SMEs in Saudi Arabia represent a significant portion of the productive units in the Saudi economy, and the government policies propose means to improve SME capabilities. Most Saudi Arabian SMEs have had reservations adopting aspects of their enterprises that are electronically delivered. Very few Saudi SMEs, mostly from manufacturing have implemented e-commerce. The results show that some of the hindrances to e-commerce in Saudi include cultural issues, business factors, and technical aspects. Among the facilitators were e-commerce awareness programs, government support for e-commerce adoption, a strong IT infrastructure, and programs for enlightening people. Although studies reveal that government promotions have very little influence on online trade in many countries, this paper has indicated that promotions from the government have boosted e-commerce in Saudi Arabia. This paper studies the challenges and obstacles facing Saudi Arabian SMEs in the adoption of online trade.

Keywords: SMEs, E-commerce, Saudi Arabia

JEL Classification: C1, L2

Recibido: 22 de Febrero de 2021

Aceptado: 17 de Marzo de 2021

1. Introduction

The slow pace of diffusion of e-commerce (EC) in the SME sector has resulted in much research on the subject, which has shown that SMEs, when compared to large corporations, are lagging behind as far as the adoption of online trade is concerned (Alrousan & Jones, 2016). According to Ledwaba, Pelser, and Fatoki (2019), SMEs could earn a competitive advantage by implementing online trade as it could offer them better access to the market and improve their market performance. Studies have consistently demonstrated that the sophistication of technological innovations directly and significantly affects an SME's service, business and operational performance (Ledwaba, Pelser, & Fatoki, 2019). For an enterprise to make the most of the possible advantages of e-commerce technologies, it must first fully accept and use the technologies.

This paper investigated the factors affecting how well SMEs in Saudi Arabia adopt online trade. It reports the findings identifying and exploring the main issues influencing the Saudi Arabian SMEs either positively or negatively, in adopting online trade. The diffusion and adoption of online trade technologies in developing nations, however, is below expectations, and the few SMEs that have adopted the technology have done so at the most basic levels (Kartiwi & MacGregor, 2007). Most businesses globally have adopted e-commerce as a channel in their operations to make most of the numerous advantages offered by the online marketplace (Alzahrani, 2019). E-commerce is business activities powered by the web, which includes activities occurring before and after-sales. E-commerce had rapidly grown in the developed world; the US seconded by Europe has is leading in e-commerce with approximately 79% of the revenues realized from online trade in the world.

Saudi Arabian, e-commerce is currently in its first stages in the IT revolution of the country. Although the ICT marketplace in Saudi has experienced fast growth, the e-commerce sector is not growing at the same rate. Only 9% of commercial organizations in Saudi Arabia have implemented e-commerce, mainly B2B (Alzahrani, 2019). Much research has studied the factors influencing the slow implementation of online trade in the Arab world generally, with more focus on Saudi Arabia. Most of the cited reasons include issues of trust and privacy, poor ICT infrastructure, no clear regulations, issues of culture, legislation, etc.

2. Review of Literature

In this section, the existing literature defining and explaining the e-commerce phenomena is studied. The researcher will also review the literature on the online retailing in other regions and the e-commerce adoption in Saudi Arabia. E-commerce (electronic commerce or internet commerce) involves doing business over the internet and the exchange of money and data for the execution of these transactions (Kartiwi & MacGregor, 2007). E-commerce can take various forms that involve different transactions relationships between consumers and businesses, for instance, retail, wholesale, drop-shipping, crowd-funding, subscription, physical products, digital products and services.

2.1. The online business globally and e-commerce in Saudi

The online business is the traditional business that is internet enabled. There are 4 types of internet businesses;

1. Virtual traders which entail having an online store only without a physical store.
2. Brick and click online retailers which entail a channel of distribution for a business with a physical store.
3. Catalog merchants
4. Manufacturing companies who sell directly on the internet.

Online businesses could be classified as B2C electronic commerce and B2B electronic commerce. B2C has a smaller portion of revenue from online sales as when compared to B2B in the developed world (Al-Somali, Gholami, & Clegg, 2015). The largest market for online businesses in the world is the

USA in the first position, accounting for 3.6% of the total sales in 2008 followed by the UK. According to the reports by Alzahrani (2019), the most popular online products/ services include books, accessories/clothes/shoes, air tickets/reservations, hotel/tour reservations, electronics, nutritional/cosmetic supplies, gaming equipment, groceries and event tickets among others.

Cross-country comparison studies examined the issues affecting the diffusion of e-commerce found that B2B electronic commerce is impacted by global factors while B2C electronic commerce is affected by local factors. The factors promoting B2C e-commerce include the demand of consumers to purchase items over the internet, advancements in ICT infrastructure, growth in the purchasing power of the consumer, SMEs' desire to expand and compete and promotions from the government (Forrester-Research, 2010). The issues deterring the implementation of e-commerce by B2C enterprises include; socioeconomic level inequalities, lack of content that is relevant to consumers, privacy and security concerns/ lack of trust, consumers' preference for the physical shopping experience, general reluctance by consumers to make online purchases, the absence of convenient options for online payment, the existence of better alternatives like convenience stores and dense retail networks, language barriers and lack of a proper customer service plan in e-commerce. A study of 17 countries of Western Europe revealed some of the issues that significantly impact the implementation of B2C electronic commerce in a country on the endogenous and exogenous levels. The main factors on the endogenous levels include the penetration of web usage, the intensity of investment in telecommunication and a country's education level. The factors on the exogenous level are as follows; how common internet usage is in a country, how much investment has been made in telecommunication, the level of education, and to what extent credit cards have been adopted within an economy (Kartiwi & MacGregor, 2007).

Kendal et al., (2001) researched on the factors affecting the implementation of EC by businesses in Singapore using the framework of the theory of Diffusion of Innovation, their application of this theory was, however, not complete, since they only concentrated on the attributes of technology ignoring the other issues that would affect the use of technology. Either way, the benefits of adopting electronic commerce in their enterprises came out as the main factor that influenced their will to adopt such technology. A survey of 114 retail professionals from Australia done by Forester Research Inc (2010) showed some common challenges affecting some types of businesses more than others. Larger multichannel firms experience more limitations with sourcing and keeping a team of professionals. Smaller businesses experience logistical limitations, while individuals have marketing as their main challenge.

So far in Saudi Arabia, efforts that have been made towards the development of e-commerce are not yet at the aspiration levels that were initially stated, and neither is it at the level that would be expected for a country with as much importance in the world economy like Saudi (Al-Somali, Gholami, & Clegg, 2015). The information on EC from the government of Saudi Arabia is poor.

SMEs in Saudi Arabia seemingly do not follow the rapid adoption of EC that is seen in businesses in developed countries (Altayyar & Beaumont-Kerridge, 2016). On the contrary, Saudi Arabian online shoppers are growing in their access to communications and technology infrastructure. A study carried out by the Arab Advisory Group in 2008 that targeted internet users in UAE, Saudi Arabia, Lebanon, and Kuwait, covering their activities of e-commerce and internet usage ranked UAE number one in the annual per capita spending rates on e-commerce, Saudi was first in the total money spent on activities of EC (Al-Somali, Gholami, & Clegg, 2015). As far as the prevalence of activities of e-commerce among the residents, AAG (2008) ranked UAE number one at 25%, Saudi number two at 14%, Kuwait in the third position at 11% and Lebanon trailing at 1.6%. A recent study of internet users in Saudi Arabia, representing approximately 41% (11.4 million people) of the population reported that about 3.1 million Saudi Arabians have bought something over the internet, with hotel bookings and air tickets making the most of these purchases (AAG, 2008).

2.2. Underpinning Theories

According to Paris et al., (2016), there are 2 adoption frameworks which underpin the studies on the adoption of e-commerce; the Technology Acceptance Model (TAM), and Diffusion of Innovation (DOI). The TAM model posits that the degree of acceptance of a technology is determined by 2 factors; perceived usefulness- which is the belief that the use of a particular system could enhance performance, and perceived ease of use- which is the degree of the perceived difficulty in using a system. The DOI theory, on the other hand, posits that there are 5 characteristics of a technology that affect its adoption. The factors include; the relative advantage of a technology, how compatible it is, how complex it is, its triability and how observable it is. Because of the limitations of the 2 models in explaining the external influences in context, TAM model was extended to TAM2, TAM3, and UTUAT (Unified Theory of Acceptance and Use of Technology) by introducing extra external variables to improve how predictive it is (Aldwsry & Mayhew, 2011)

Irrespective of how well they have been received in the studies of adoption, DOI and TAM have mutual imitations (Aldwsry & Mayhew, 2011). Just like TAM, DOI concentrates on the perspective of technology and thus is not able to take into consideration the external influences like environmental and organizational angles. Additionally, the two models examine the technology determinants influencing the adoption of EC at an individual level. It is thus to explain the firm's top management perception of Information Technology. Furthermore, a firm's decisions to adopt innovative technologies are bureaucratic and are subject to the consensus of the directors and management of the firm and not the individual end-user.

Technology-Organization-Environment (TOE) framework, due to its consistency with DOI, has also been widely applied in business research (Paris, Bahari, Iahad, & Ismail, 2016). TOE explains an owner's intention to adopt EC from the organizational, technological, and environmental perspectives. The technological perspective describes both internal technology which includes existing equipment, practices, and infrastructure that are possessed by a firm and external technology relevant to the firm. The organizational perspective refers to the organization's resources, scope, culture, size, and structure, how much the employees are informed of e-commerce and the management's role. The environmental perspective encompasses the support from management, readiness at the organization and national levels, support from the government, and pressures from the environment like competition, customers and partners. The framework of TOE has proved to be a great model to explain and understand user behaviour in the implementation of technology via extensive empirical support (Abualrob & Kang, 2016). This study explains the factors affecting the adoption of e-commerce by SMEs within the TOE framework.

2.3. SMEs in Saudi

The Saudi Arabian rate of population growth has increased to 3% over the last 10 years, which seemingly plays a role to make Saudi Arabia the most diversified retail market especially in the Middle East (Alzahrani, 2019). With approximately 24.9 million in 2008 people and a Gross Domestic Product of USD 24,581, Saudi Arabia is the biggest and among the wealthiest markets in the Middle East as shown in Figure 1 below.

Figure 1: Gross rentable space in the Gulf, obtained adapted from ACG 2009

There are more and more SMEs around the globe, with Saudi alone having approximately 1.3 million SMEs accounting for almost 20% of the country's GDP (SMEA, 2017). The Vision 2030 in Saudi aims to increase the contributions from the SMEs in Saudi Arabia to 35% (Vision2030, 2016). The adoption of EC systems would be beneficial to SMEs as it is an innovative way of boosting performance and operations (Lee, Lee, & Kao, 2015). E-commerce generally reduces costs and enhances customer service in a business.

2.4. Obstacles to the adoption of e-commerce by developing countries

Studies on the adoption of online trade by SMEs in developing nations have shown that there is a delay or failure in their adoption of online trade. El-Nawawy & Ismail (1999) in their studies on how well SMEs in Egypt have adopted e-commerce found that the major issues revolved around education and awareness, e-commerce infrastructure, market size, government issues, legal systems, telecommunications infrastructure, affordability, social and psychological factors. The Study of South African SMEs by Cloete, Courtney, and Fintz (2002) reported the lack of time to study the options, lack of information, no computer access, limited knowledge of electronic trade models and methods. In 2004, Chen studied the slow adoption of EC by SMEs in Taiwan and reported financial shortages and concerns over the lack of IT professionals as the main hindrances to the adoption of online trade.

2.5. Study Significance

While there is much literature explaining extensively the issues that affect the implementation of online trade by enterprises in Europe, Australasia, America and Asia, there is limited literature about the same issues in the Middle East and African States (Kartiwi & MacGregor, 2007). There are very little empirical researches that have been published about e-commerce in the Arab region. Much of the available studies describe online trade in Saudi Arabia, however, they have not deeply analyzed the adoption and diffusion of the same. This research seeks to address these challenges.

The e-commerce topic is wide involving various distinct models, and as a result, makes the undertaking of one comprehensive study very difficult. Investigating one part of the topic, for instance, B2C would help in clearly defining and emphasizing the impacts on all parties involved, avoiding the subject's dispersal which is the case when it's broadly addressed (Kartiwi & MacGregor, 2007). Because of this, this study concentrates on the SMEs' e-commerce system to fill the gap in the existing literature. Updates on the primary data on the concerns of retailers and their proposals on online retailing in Saudi Arabia are among the vital outcomes of this research. Considering how fast ICT, the internet and online government applications are being adopted in Saudi Arabia, there is a need for maintaining currency with issues at the moment. The boom of web users in Saudi had taken over approximately 41% of the population by 2010 from only 13% in 2005. This report's final significance

comes from emphasizing the missing responsibility of the Saudi government in encouraging the adoption EC. Even though promotions by the Saudi government have minimal impact on the implementation of EC in many countries, this research has identified that promotions and support from the government are vital for the implementation of EC in Saudi Arabia (Alzahrani, 2019).

3. The Theoretical Framework

3.1. Theoretical framework

Figure 2: Proposed theoretical framework explaining e-commerce adoption with TOE

This study's choice of the TOE framework was informed by its theoretical motivations together with its specific application to e-commerce adoption.

3.2. Technology

Technology in this study's context refers to the agility of the users which is shaped by the availability of resources to exploit the potential of e-commerce. Previous studies (Al-Qirim, 2006), (Khemthong & Roberts, 2006), have shown that technological factors like internet availability and external technology resources- (ICT infrastructure, technical know-how, internet skills, developers and user time), security, relative advantage, cost, reliability, software quality, vendor support, compatibility, and benefits evaluation influence the adoption of e-commerce. Researchers have proposed that firms with sophisticated technology and financial competency have a higher likelihood of adopting e-commerce (Zhu, Kraemer, Xu, & Dedrick, 2004).

Even though resistance to change is a normal reaction in many organizations, research has shown that perceived compatibility, simplicity perceived observability, and perceived values were more critical predictors of adoption (Khemthong & Roberts, 2006). Lee (2004) found that the innovations that are thought to have more operational values have a higher chance of adoption. ICT infrastructures provide platforms for the members of a community to share in real-time and its know-how provides SMEs with the skills to develop and operate e-commerce applications. Competency in ICT goes beyond

physical assets and includes intangible resources that may offer a competitive advantage for the innovators. Security privacy and safety in E-commerce are vital issues. Security is the ability to protect consumer information and data during a transaction. Most people have fears of transacting online due to security concerns.

3.3. Organization

Organizational factors are descriptive and relate directly to how available internal resources are and their use. Firms that are based in larger cities adopt e-commerce more than firms based in smaller cities other studies (Zhu, Kraemer, Xu, & Dedrick, 2004) emphasize that the adoption of e-commerce is slower in smaller enterprises because they do not have the advantage of economies of scale, and the resilience to take in the related risks. Other studies have shown that the differences in the top management's demographics impact the adoption of e-commerce. Most of the organisational factors quoted in literature include the size of an organisation, the structure, and support from top management, the readiness of an organisation and the process of communication. A review of available literature on the factors that affect the adoption of e-commerce has revealed that the topmost factors include management support, characteristics of the CEO, the knowledge and attitudes of the employees towards ICT, resource constraints.

3.4. Environment

The environment refers to the surrounding within which a business operates. The environmental factors that affect a firm's operational effectiveness, positioning and proactive decision making are related to the forces in the market, pressures from competition, government regulations, customers, partners, suppliers, and vendors. (Al-Qirim, 2006). Modern technologies have changed the rules of market competition, restructuring businesses and unravelling the novelty in outperforming rivals. Other factors influencing e-commerce adoption under environment include the level of the national ICT infrastructure, and how much the government is involved on encouraging the adoption of ICT.

4. The Challenges Facing SMEs in the Adoption of E-Commerce in Saudi

4.1. Challenges

4.1.1. People's culture of not considering internet businesses

The culture of the Saudi Arabians is the one factor that mostly affects the SMEs to the adoption of e-commerce (Altayyar & Beaumont-Kerridge, 2016). This factor is the main source of discouragement to the rise of e-commerce in Saudi. The people of Saudi Arabia are not very familiar with the habit of purchasing items online from electronic retailers (Alzahrani, 2019).

4.1.2. Difficulties in offering a competitive advantage in e-commerce

Competitive advantage is a key aspect for the success of any business (Kartiwi & MacGregor, 2007). Most business owners have concerns that they may not be able to offer a competitive advantage for their online clients, which will limit the profits that they make. Issues like delivery fees pose challenges since clients would not be willing to foot the extra charges and would opt to physically visit the shop and buy the item at a cheaper price. Some businesses target only the international market and not the Saudi Market with their e-commerce. The obvious way around it is to consider different e-commerce models efficient enough to reduce the operational costs like ordering directly from manufacturers to avoid the cost of renting warehouses for storage. The problem could be that SMEs in Saudi Arabia may not be aware of the different models of doing business to make the most of the different disintermediation forms that eliminate the cost of service from the retail price (Alzahrani, 2019). Most western companies have come up with businesses purely for delivery to solve this challenge of online orders.

4.1.3. Issues with delivery

Some Saudi Arabian SMEs have their systems for delivery, and others still do not have a problem delivering orders through the phone since they arrange with shipment companies available locally for the delivery of orders (Alzahrani, 2019). This is however not considered as a professional way of delivering orders since these delivery companies normally don't have the particular home addresses of the clients which is why they do the delivery to the company offices and call the clients to visit the offices and pick the orders themselves. In circumstances when the client required the order brought to their doorstep, they are forced to make arrangements with the company doing the delivery at an extra cost. With this kind of system, the telephone number is very important and missing one digit would result in a delivery failure. Other issues involving delivery include clients' concerns for their highly sensitive goods that may require special care which translates to more charges to make sure that the product is delivered in perfect state. Similar issues have previously been encountered in other places and addressed through the economies of scale. For instance, some insurance companies give huge discounts to businesses bringing them many relatively low-risk businesses. Using online shopping malls would also enable many SMEs to share one company's services to enjoy bulk discounts on aspects like insurance and delivery (Kartiwi & MacGregor, 2007).

4.1.4. Inadequate options for online payment to boost trust

The major challenge with online transactions is trust (Lee, Lee, & Kao, 2015). People find it hard to put their card information on the internet. There are many threats of internet fraud with hackers trying hard to obtain people's information over the web. This challenge was also faced in the Western countries, which made banks to make debit cards with lowered set limits topped up by transferring cash to the card's account, which reduces the possibility of exposure to fraudulent acts on the cards. There is also the uncertainty of whether or not the delivery will be made.

4.1.5. Poor IT infrastructure

The Saudi IT infrastructure is not strong enough to boost the growth of e-commerce (Lee, Lee, & Kao, 2015). Having Wi-Fi availability even for those in remote places and also ensuring a protected payment plan is adopted so that clients are assured of the delivery of the products they order online is vital for the growth of e-commerce.. Having a proper infrastructure implies that;

1. There are high speed and high-efficiency telecommunication networks.
2. There are high internet accessibility levels with minimal interruptions.
3. Having an integrated e-commerce system similar to the Saudi stock market.

4.1.6. Lack of proper legislation for e-commerce in Saudi Arabia

Rules and regulations are vital in making works systemic and also for the protection of the rights of everyone involved in online transactions (Kartiwi & MacGregor, 2007). Without set rules to govern the businesses, they will be reluctant to forge on. Being a society subjected to various fraudulent issues like radical declines in the stock market and fake projects, Saudi needs to have a clear set of rules and regulations for businesses to adopt e-commerce fully. The payment system ought to have identified those involved in the transaction to prevent funds from being withheld or products not being delivered. An effective tracking system would help with keeping track of the parcels. Every country has its laws limiting scams that can be levelled against those who participate in transactions (Kartiwi & MacGregor, 2007).

4.1.7. Lack of trust in the online payment options

Some SMEs simply cannot trust internet platforms for selling their products, the main issue of contention being an online payment in which clients also have a problem trusting. Most SMEs in Saudi

prefer money paid in cash to online payments mostly due to instances of credit card number theft and hackers who infringe privacy (Al-Somali, Gholami, & Clegg, 2015).

4.1.8. The type of business or products offered is unsuitable for e-commerce

The business type and product offering of a company is a determining factor for whether a company will adopt e-commerce or not (Altayyar & Beaumont-Kerridge, 2016). For instance, companies selling perishable and fragile products may not have the online platform as the best selling option for them due to delivery concerns. In a country where summer temperatures could go up to 55°C, the delivery of foodstuff requires special care and temperatures to reach the customer in proper conditions. Other issues related to products include products that the client would want to test or smell the fragrance before the purchase, for instance, a client would want to first see a beauty product or an electronic before making a purchase.

4.1.9. Lack of experience in e-commerce

Most enterprises prefer the traditional way of doing business for it is far much easier and less complicated when compared to e-commerce. There is a high level of ignorance in the firms and the community at large in e-commerce.

4.1.10. Realizing profits through-commerce is harder

The main aim of a business is to make profits, and when an idea does not seem helpful in boosting revenue, it is usually rejected (Al-Somali, Gholami, & Clegg, 2015). Although e-commerce would save on rental and equipment costs; it may not be very useful in increasing revenue generation since buyers are accustomed to the traditional way of making purchases (Alzahrani, 2019).

4.1.11. Resistance to change

The resistance to new ideologies is a normal phenomenon and people usually need time to embrace them. Alzahrani, (2019) came up with an adoption timeline for new ideas where few people embrace it at first, and the number of adopters increases with time. Some enterprises are simply too comfortable with the traditional way of selling, they are not willing to accept e-commerce. The customers also are accustomed to physically seeing the products and testing them before making purchases.

4.1.12. The costs of setting up

The cost of setting up a system of e-commerce poses a challenge to most of the SMEs because of the many requirements like computer networks and training required before their application (Al-Somali, Gholami, & Clegg, 2015). The adoption of e-commerce would require designing a website, training employees and delivering products to the clients, and the financial implications are too high resulting in very low returns. Government support could come in handy in reducing the taxes for an online business to lessen the burden and help with covering the initial costs to encourage the implementation of e-commerce by Small and Medium Enterprises in Saudi Arabia.

Enablers for Saudi Arabian SMEs in adopting e-commerce

1. E-commerce educational and awareness programs that can be done as both formal and informal programs to educate the public and business owners to enable them to compete in an online marketplace.
2. Support from the government- the government could provide a certification body to recommend authentic companies with which people can do online transactions to build people's trust in the certified companies. The government should also work towards implementing an integrated e-commerce system to encourage all parties to interact in the online platform. In a nutshell, the government should pay attention to the challenges SMEs in

Saudi Arabia face in the implementation of online trade and develop initiatives to address these challenges.

3. Developing a strong IT infrastructure. One of the major issues that boost the implementation of internet trade is the provision of a strong, fast, reliable and widely available IT infrastructure (Alzahrani, 2019). The respondents proposed having fast and efficient telecommunication networks with minimal interruptions and having a system that is integrated similar to the stock market in Saudi Arabia.
4. Providing sample e-commerce software for people to try out. Providing sample e-commerce software for people to try out would be a great motivator for the implementation of online trade technologies since it would help all the involved parties to understand how it works and help them gain experience.

5. Limitations and Recommendations for Future Studies

This paper acknowledges two imitations; first cross-cultural references were made to previous works that have been undertaken internationally, which may not have been wholly appropriate. This was, however, could not be prevented because of the scarcity of previous research on the effects of online trade on SME orations in the Middle East, particularly Saudi. The differences between this study's findings and the findings obtained from other places may partly be due to the differences across cultures in the SME practices and their socio-economic settings. Secondly, the study adopted a cross-sectional research design instead of a longitudinal one which would have been more relevant in this study. In the absence of relevant data, however, the longitudinal approach could not have been possible.

This study is not yet complete; it should be followed by quantitative approaches to test the findings on a wider population. This will be an important step to reduce the study limitations and identify the significance of the issues that were raised.

6. Conclusions and Implications

The findings of this study will have vital practical implications for the Saudi Arabian policymakers in the public as well as private sectors. They will assist them to understand better the issues affecting the implementation of e-commerce by SMEs in Saudi Arabia. These issues include the creation of competitive advantage, boosting trust in the online platform, understanding the dynamics of the laws of international trade, having products and services that are appropriate for the online market, proper e-commerce models, public education, having a strong IT infrastructure and government support for e-commerce activities. Saudi Arabia can be classified as a wealthy developing country; however, there is no developmental drive in e-commerce. The Saudi Arabian environment does not put much emphasis on e-commerce at the local level. The promotions from the government would be key in boosting the adoption of online trade by SMEs in Saudi Arabia.

In conclusion, this paper has investigated the issues affecting 16SMEs in Saudi Arabia in their adoption of e-commerce. It reveals several perceived challenges that relate to culture, technical and business issues and also points out the possible boosters for the adoption of e-commerce by Saudi Arabian SMEs for instance; educational and awareness programs, support from the government, various trustworthy online payment options that are secure, development of strong IT infrastructural networks, and the provision of a trial e-commerce software. Policymakers and developers in Saudi Arabia should focus on these factors to boost e-commerce implementation in Saudi Arabia.

References

1. AAG. (2008). The volume of electronic commerce for individuals in Saudi Arabia and United Arab Emirates, Kuwait, Lebanon Exceeded 4.87 billion U.S. dollars during the year 2007. Retrieved from Arab Advisor Group: <http://www.arabadvisors.com/arabic/Pressers/presser-040208.htm>.

2. Abualrob, A. A., & Kang, J. (2016). The barriers that hinder the adoption of e-commerce by small businesses: Unique hindrance in Palestine. *Informaiton Deveopment* , 1528-1544.
3. Aldwsry, M., & Mayhew, P. (2011). E-commerce adoption and utilisation in developing countries: An exploratory investigation from a GCC country. *IADIS International Conference Information Systems*, (pp. 249-254).
4. Al-Qirim, N. (2006). The role of the government and e-commerce adoption in small businesses in New Zealand. *International Journal of Internet and Enterprise Management* , 293-313.
5. Alrousan, M. K., & Jones, E. (2016). A conceptual model of factors affecting e-commerce adoption by SME owner/managers in Jordan. *International Journal of Business Information Systems* , 269.
6. Al-Somali, S. A., Gholami, R., & Clegg, B. (2015). A stage-oriented model (SOM) for e-commerce adoption: a study of Saudi Arabian organisations. *Journal of Manufacturing Technology Management* , 26 (1), 2-35.
7. Altayyar, A., & Beaumont-Kerridge, J. (2016). External Factors Affecting the Adoption of E-procurement in Saudi Arabian's SMEs. *Procedia - Social and Behavioral Sciences* , 229, 363-375.
8. Alzahrani, J. (2019). The impact of e-commerce adoption on business strategy in Saudi Arabian small and medium enterprises (SMEs). *Review of Economics and Political Science* , 73-88.
9. Cloete, E., Courtney, S., & Fintz, J. (2002). Small businesses" acceptance and adoption of e-commerce in the western-cape province of South-Africa. *Electronic Journal on Information Systems in Developing Countries* , 1-13.
10. El-Nawawy, M., & Ismail, M. (1999). Overcoming deterrents and impediments to electronic commerce in light of Globalization. 9th annual conference of the internet society (pp. 22-25). San Jose, USA: INET 99.
11. Forrester-Research. (2010). The Business of Australian Online Retailers. Retrieved from Forrester Research Inc.
12. Kartiwi, M., & MacGregor, R. C. (2007). Electronic Commerce Adoption Barriers in Small to Medium-Sized Enterprises (SMEs) in Developed and Developing Countries. *Journal of Electronic Commerce in Organizations* , 35-51.
13. Kendal, J., Tung, L., Chua, H., Dennis, N., & Tan, M. (2001). Electronic commerce adoption by SMEs in Singapore. *Hawaii International Conference on System Sciences.*, (p. 10).
14. Khemthong, S., & Roberts, L. (2006). Adoption of internet and web technology for hotel marketing: A study of hotels in Thailand. *Journal of Business Systems, Governance, and Ethics* , 47–60.
15. Ledwaba, N. F., Pelser, G. P., & Fatoki, O. O. (2019). The use and benefits of e-technology business applications. *IPADA Conference Proceedings*, (pp. 16-22).
16. Lee, C.-Y., Lee, T.-R., & Kao, C.-K. (2015). Study on the Adaptation of Corporate Business Strategy to E-commerce Practice. *Advances in Management and Applied Economics*, .
17. Lee, J. (2004). Discriminant analysis of technology adoption behavior: A case of internet technologies in small businesses. *Journal of Computer Information Systems* , 57-66.
18. Paris, D. L., Bahari, M., Iahad, N. A., & Ismail, W. (2016). Systematic literature review of E-commerce implementation studies. *Journal of Theoretical and Applied Information Technology* , 422–438.
19. SMEA. (2017). About Us. Retrieved from Smea.gov.sa: Smea.gov.sa
20. Vision2030. (2016). National Transformation Program | Saudi Vision 2030. Retrieved from Vision2030.gov.sa: <http://vision2030.gov.sa/en/ntp>
21. Zhu, K., Kraemer, K., Xu, S., & Dedrick, a. J. (2004). Information technology payoffs in e-business environment: An international perspective on value creation of e-business in the financial services industry. *Journal of Management Information Systems* , 17-54.