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Factors That Predict the Adoption of Online Shopping in Saudi Arabia

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This is to certify that the doctoral study by

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2019

Abstract

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BS, Arts Sciences and Technology University in Lebanon, 2008

MSc, Arts Sciences and Technology University in Lebanon, 2010

Doctoral Study Submitted in Partial Fulfillment

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Abstract

Despite the increased numbers of online consumers, e-commerce growth is slow in the Kingdom of Saudi Arabia. In this correlational study, the technology acceptance model (TAM) was used as a theoretical framework to examine whether perceived ease of use of e-commerce platforms and perceived usefulness of e-commerce platforms could predict consumers' intention to adopt shopping online. A preexisting TAM survey instrument was used to collect data from consumers (N = 95) who live in a City and have shopped at least once online. The regression analysis confirmed a positive statistically significant relationship between perceived ease of use of e-commerce platforms and consumers' intent to adopt online shopping. The results showed that perceived ease of use of e-commerce platforms and perceived usefulness of e-commerce platforms were statistically significant in predicting consumers' intent to adopt online shopping, with $F(2, 92) = 241.630$, $p < .001$, $R^2 = .840$, and adjusted $R^2 = .837$, and accounted for 84% of the variance in consumers' intent to adopt online shopping. The correlation between perceived ease of use and consumers' intent to adopt online shopping was (PEOU) $r = .916$, $p < .001$ and the correlation significance between perceived usefulness and consumers' intent to adopt online shopping was (PU) $r = .591$, $p < .001$. Using study results, retailers may be able to develop improved strategies to increase profitability via online shopping. The implications for positive social change include the potential for improved quality of life for consumers in Saudi Arabia.

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Dedication

I would like to dedicate this study to my father Youssef Nachar, who pushed me to pursue this education journey when I didn't think I had anything else to give. My mother, Monajat Al-Ayoubi, thank you for all the sacrifices, you always prayed for me, was here for me from my childhood and throughout my life. Also, I would like to dedicate this doctoral study to my wife, my life-long partner, the love of my life, and best friend, Sarah. Thank you for your support, encouragement, and unwavering faith.

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I would like to thank my Chair Dr. Mohamad S. Hammoud for guidance and support through this journey. The tunnel was too dark before I joined your team, I was trying to find my way in a maze where it will lead nowhere. Your support and words of encouragement kept me focused on the result. I would also like to thank my committee member Dr. Sam L. Atieh for his valuable input and support. Finally, thank you Dr. Deborah A. Nattress for providing the needed support, which helped to streamline my work. Drs, I am forever thankful for your mentorship.

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Section 1: Foundation of the Study

Background of the Problem

Over 3.5 billion people use the Internet to access their needs though online channels and have created a digital society in the process (International Telecommunication Union, 2017). In 2016, 53% of global Internet users (approximately 1 billion users) made an online purchase (U.S. Census Bureau, 2017). The rapid growth of e-commerce is also affecting businesses with no online presence (Hidayat-ur-Rehman, Mokhtar, & Katan, 2016). The fast pace of technological advances, globalization, and the augmentation of online customers' demands are threatening the ability of business leaders to meet human needs without the use of innovation to meet sustainable goals (Sabou, Avram-Pop, & Zima, 2017). Consumers use e-commerce to access information, knowledge, and expertise efficiently (Awiagah, Kang, & Lim, 2015). E-commerce is a solution to improve competitiveness and reduce poverty in developing countries (Awiagah et al., 2015).

Researchers at Export.gov (2018) estimated a notable e-commerce growth in Saudi Arabia reaching USD 7.92 billion in 2017. Despite this high figure, a fast-growing economy, and a rapid increase in Internet use, e-commerce growth is slow in Saudi Arabia (Makki & Chang, 2015a). Identifying predictors that influence consumers' intent to adopt online shopping could assist SME business leaders in prioritizing enhancements to their e-commerce platform business and potentially increase profits (Hidayat-ur-Rehman et al., 2016).

Problem Statement

Lack of online sales in Saudi Arabia continues to negatively impact organizational profitability (Makki & Chang, 2015a). E-commerce purchase growth in Saudi Arabia remains low with a value of $1.5 billion (17%) compared to the value growth for Middle East and North Africa (MENA), which is $9 billion (Makki & Chang, 2015b). The general business problem is that some Saudi business owners lack e-commerce knowledge to meet the expectations of the increasing volume of online shoppers. The specific business problem is that some owners of small and medium businesses in Jeddah, Saudi Arabia do not understand the relationship between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping. The targeted population was consumers in Jeddah, Kingdom of Saudi Arabia who have purchased at least once online. The independent variables were perceived ease of use of e-commerce platforms and perceived usefulness of e-commerce platforms. The dependent variable was the intent to adopt online shopping. Understanding how technology acceptance predicts the intent to adopt online shopping could include the potential that SME business leaders prioritize enhancements to their e-commerce

platform business, thereby increasing profits. Enabling of SMEs to grow could subsequently indicate more job opportunities in Jeddah community, which could reduce the unemployment rate and improve quality of life in Saudi Arabia.

Nature of the Study

Researchers use three methods to conduct business research: quantitative, qualitative, and mixed methods (Yin, 2017). Researchers use quantitative methods to test hypotheses by examining relationships between variables (Landrum & Garza, 2015; McCusker & Gunaydin, 2015; Walsh, 2015). I used a quantitative approach to examine the relationship between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and the intent to adopt online shopping. Researchers use qualitative methods to enable in-depth exploration of subjective and nonquantifiable phenomena that are not yet well-understood and do not address relationships between variables (Gaus, 2017; Sarma, 2015). Mixed methods research involves combining quantitative and qualitative approaches to address a research problem (Venkatesh, Brown, & Sullivan, 2016). As this study only required statistical hypotheses testing without the need for qualitative inputs, neither qualitative nor mixed methods quantitative methods were appropriate for this study.

Researchers use four designs in quantitative research: correlational, descriptive, experimental, and quasiexperimental (Bryman, 2016). A correlational design is appropriate to test the relationship between independent and dependent variables (Bryman, 2016). I used a correlational design in this study, as I examined the relationship

between the independent and dependent variables. Researchers use quantitative descriptive designs to study characteristics of a sample without establishing the existence of statistical relationships (Omair, 2015). Experimental and quasiexperimental designs are only appropriate for determining causal relationships (Rockers, Røttingen, Shemilt, Tugwell, & Bärnighausen, 2015; Zellmer-Bruhn, Caligiuri, & Thomas, 2016). Descriptive, experimental, and quasiexperimental designs were not appropriate because this study involved statistical determination of correlative and not causal relationships.

Research Question

RQ: What is the relationship between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping?

Hypotheses

H_0: No statistically significant relationship exists between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping.

H_1: A statistically significant relationship exists between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping.

Theoretical Framework

The theoretical framework for this study was the technology acceptance model (TAM) developed by Fred Davis in 1989 to explain the acceptance of new technology

based on use attitudes and behaviors. Davis used the TAM to conceptually build upon the theory of reasoned action (TRA) by Ajzen and Fishbein (1980) to examine causes of acceptance or rejection of information technology (IT) through the measurement of perceived ease of use (PEOU) and perceived usefulness (PU). Shortly after its initial publication, Davis, Bagozzi, and Warshaw (1989) revised the TAM to allow for examination of the impact of PU and PEOU on computer technology acceptance with attitudes and subjective norms as mediating variables.

Bagozzi, Davis, and Warshaw (1992) found that learning to use computers significantly predicted the adoption of computer-based information systems. Since then, researchers have found a significant relationship between TAM independent variables PU and PEUO and new technology acceptance to include information systems (Barhoumi, 2016; Brandon-Jones & Kauppi, 2018; Brown, Venkatesh, & Goyal, 2014; Waite & Harrison, 2015). As previous research has indicated that PEOU and PU predict user acceptance of new technology, I expected those predictor variables to indicate the intent of shoppers in Jeddah, KSA to adopt online shopping.

Operational Definitions

E-commerce: E-commerce, which is short for electronic commerce, involves online interactions and exchanging goods and services over the Internet (Jain, Jain, & Jain, 2016).

E-commerce platform: An e-commerce platform is an online platform that business leaders use to develop organizational processes to deliver products and services using the Internet (Jain et al., 2016).

Perceived ease of use (PEOU): Perceived ease of use is the degree to which a user believes that using new technology is effortless (Davis, 1989).

Perceived usefulness (PU) of new technology: Perceived usefulness is the degree to which a user believes that using a new technology increases performance (Davis, 1989).

Small and medium enterprise (SME): Small and medium enterprises are privately owned businesses with between 25 and 99 employees (Saudi Arabian General Investment Authority, 2017).

Assumptions, Limitations, and Delimitations

Assumptions, limitations, and delimitations serve as the core of a study (Leedy & Ormrod, 2016). Assumptions are the basis of any study. They carry the risk of potentially faulty conclusions if later determined to be false. Limitations are weaknesses which are beyond the control of the researcher (Leedy & Ormrod, 2016). Delimitations refer to the scope of standards that a researcher chooses to work by (Newman, Hitchcock, & Newman, 2015).

Assumptions

Assumptions are beliefs or opinions that a researcher assumes to be truth despite absent or limited evidence (Pyrczak & Bruce, 2017). The first assumption was that

participants responded to the online survey independently, anonymously, and without coercion, which enabled them to give their opinion honestly. The second assumption was that participants would voluntarily participate, which would enable me to reach or to exceed my sample target. The third assumption was that participants had previously used e-commerce platforms, so they were able to provide appropriate responses. The fourth assumption was respondents represented the Internet user population in general in Jeddah City.

Limitations

Limitations are defects or deficiencies that are outside the control of the researcher (Leedy & Ormrod, 2016). One limitation of this study was its generalizability to the broader population in Saudi Arabia, as the sample was only from Jeddah City. Another limitation was that participants might not honestly or thoroughly answer the online survey questions, which may lead them to misunderstand the usefulness and ease of use of e-commerce platforms.

Delimitations

Delimitations refer to the purpose and the scope of the research study (Newman et al., 2015). I restricted my analysis to understanding how the independent variables perceived ease of use of e-commerce platforms and perceived usefulness of e-commerce platforms might predict consumers' intentions to adopt online shopping in Saudi Arabia. My choice of the geographic location and participants' settings were delimitations. I geographically limited the sample frame to Jeddah City, which enabled me to narrow the

scope of the study to target only e-shoppers who live in this city. Another delimitation was the participants' selection criterion, which required prior experience using e-commerce platforms. The criterion served as an easier way to achieve the required sample size because it narrowed the scope of work to reach participants in a specific area with prior experience of e-commerce shopping.

Significance of the Study

Contribution to Business Practice

Findings from this study could inform strategies that Saudi leaders can use to evolve their online platforms and enable advancements in retail operations in domestic and international markets (Alatawy, 2018a; Ezzi, 2016). A statistically significant relationship between PEOU and PU of e-commerce platforms with the intent to adopt online shopping could indicate that PEOU and PU have significant effects on intention to adopt online shopping, which could catalyze successful adoptions of e-commerce platforms to grow businesses. The absence of a statistically significant relationship would indicate that researchers should examine other predictors which might influence consumer intent to adopt online shopping.

Implications for Social Change

The implications for positive social change include the potential for Saudi SME leaders to better understand important predictors that influence consumers' decisions to adopt online shopping. This understanding of business leaders may lead to improvement of business sustainability in online retail and contribute to reduced unemployment.

Reduced unemployment could, in turn, contribute to improving quality of life for potential employees and consumers alike. Subsequently, enhanced economic prosperity of local communities might enable more contributions to local charities.

Review of the Professional and Academic Literature

Examining the relationship between PEOU of e-commerce platforms and PU of e-commerce platforms and consumers' intent to adopt online shopping is the purpose for this quantitative correlational study. The literature review provides readers with enough information to evaluate the depth of inquiry. The literature review also provides supporting documentation for the TAM.

The 234 references that are cited in this study include 211 scholarly peer-reviewed articles (90.17%), four nonpeer-reviewed articles (1.70%), eight government websites (3.41%), and 11 books (4.70%). The total number of references published within the past 5 years as of 2018 are 204 (87.14%). The literature review contains 124 references, with 106 (85.48%) published within the past 5 years as of 2018 and 115 from scholarly peer-reviewed sources (92.74%).

The organization of the literature review is by topic. I first address the TAM. This section informs the reader regarding how various researchers have used the TAM and includes a discussion of online shopping and e-commerce adoption factors. Second, I address the history of the Internet and the way it has affected consumers' behavior. In this section, I provide a definition of e-commerce and emphasize the advantages it has given to business leaders as well as inhibitors that prevent leaders in Saudi Arabia from

adopting it. Third, I address the role small businesses play in the economy in which they operate. This section includes an emphasis on historical and current views of small businesses, including online shopping factors that prevent the success or failure of small and medium businesses. The final section will provide readers with information about electronic word-of-mouth (e-WOM) as a technology that affects e-business success.

Literature Review Strategy

I used Walden University's online library databases as the primary source of literature. The electronic databases included EBSCOHost's Business Source Complete, EBSCOHost's Applied Sciences Complete, ProQuest's ABI/INFORM Complete, ProQuest Central, Emerald Management Journals, SAGE Journals, and Google Scholar. The primary search strategy was to limit most searches to peer-reviewed articles and journals published within the past 5 years as of 2018. I used the following search terms to collect the relevant literature: *e-commerce adoption*, *online shopping in Saudi Arabia*, *Internet benefits*, *Internet in Saudi Arabia*, *consumers' behavior to adopt online shopping*, *TAM*, *technology acceptance model*, *technology adoption*, *e-commerce inhibitors*, *e-commerce advantages*, and *electronic word of mouth.*

The TAM

Background of the theory. A theory for accepting technology first appeared in 1989, when Davis presented the TAM. Davis developed the model after using the theory of reasoned action and the theory of planned behavior and adding PEOU and PU as new constructs (Mortenson & Vidgen, 2016). The TAM is the most robust theory available to

explain individual acceptance of a new information technology system (Diatmika, Irianto, & Baridwan, 2016; Weerasinghe & Hindagolla, 2017; Williams, Slade, & Dwivedi, 2014). Researchers use the TAM to explain how individuals' behavior toward technology may affect the behavior intention to use the new technology (Diatmika et al., 2016). Davis (1989) hypothesized both independent variables perceived ease of use and perceived usefulness to show people's intention to adopt a new technology by using prior research from several disciplines. Davis (1989) conducted a lab study with 40 participants and concluded that PEOU and PU influence the intention of computer users to use a new technology.

The focus of TAM is whether users accept or reject a given technology (Mortenson & Vidgen, 2016). Two core constructs affect the behavioral intention to use technology: (a) PU, which is the extent to which users believe that the system will contribute to advancing their performance, and (b) PEOU, which is the extent to which users think that a system is easy (Davis, 1989). TAM variables are the most valuable constructs to test users' behaviors and attitudes toward using technologies and influence their adoption decisions (Williams et al., 2014; Yuvaraj, 2015). The more a user perceives the usefulness and the ease of use of a specific technology, the higher the chance will be that the user will accept the technology (Wu & Ke, 2015). The findings indicated that usefulness was more significant to usage of the new IT than ease of use (Davis, 1989). Also, PU and PEOU predict over half of technology's usage and adoption (Sanakulov & Karjaluoto, 2015; Venkatesh & Bala, 2008; Yuvaraj, 2015). According to

Venkatesh and Bala (2008), Google Scholar listed over 5,000 citations for the periodical article that presented TAM.

The TAM is a significant theoretical contribution toward understanding technology adoption and acceptance behaviors by users (Williams et al., 2014). Asadi, Nilashi, AbdRazak, and Yadegaridehkordi (2017); Biucky, Abdolvand, and Harandi (2017); Koch and Tritscher (2017); Yadav, Sharma, Sujeet, and Tarhini (2016) used the TAM to examine the adoption of new information systems. The model has evolved to show usability and applicability of the systems, but the core features of ease of use and usefulness have remained constant (Davis et al., 1992). Addressing PU and PEOU will be suitable for the examination of causes related to the adoption of new technology (Davis et al., 1992). A theoretical explanation for online consumer behavior has shown that there are numerous valid theories to measure the level of consumers' behavior toward adopting online shopping. TAM is the most robust theory concerning information systems adoption in a variety of fields (Dong, Chang, Wang, & Yan, 2017). Consequently, the TAM is a valid theoretical framework to predict users' behavior toward online shopping (Bhagat, 2015; Sam & Sharma, 2015; Wu & Ke, 2015). Al-Abdallah, Abou-Moghli, and Al-Thani (2018); Hidayat-ur-Rehman et al. (2016); Raman (2014); Wang, Wang, and Wu (2015) have used these two constructs as the core of their study analysis to predict the extent a user would use the e-commerce platform to shop online.

TAM literature examining online shopping. This section includes an analysis of relevant studies and findings with TAM as their core model to explore the acceptance

of online shopping. Sam and Sharma (2015) used TAM factors to study consumers' choices to shop online and the extent that product type can affect adoption. Sam and Sharma showed that product availability and easiness to use are the most encouraging factors to buying online. Also, Raman (2014) used the TAM to examine the different factors that influence female shoppers' attitude toward online shopping. The result showed that usefulness and ease of use were the most important factors for female shoppers in India choosing to shop online. Bhagat (2015) surveyed 160 experienced online shoppers to identify the factors influencing purchase decisions when shopping online. The results of the survey analysis revealed that the purchase decision factors for online shoppers were convenience and benefits of online shopping, website features, services, and promotional activities done by websites. Likewise, Wu and Ke (2015) conducted a meta-analysis on the constructs of technology acceptance along with perceived trust to check online shopping behavior. The results showed that PEOU, PU, and trust have important mediating roles in the decision to make an online purchase. Similarly, Wang et al. (2015) designed an empirical study to test the relationship between motivation and behavior intention in tourism e-commerce based on TAM. Their analysis indicated that PU and perceived enjoyment and trust have a positive and significant relationship with customers' motivation on tourism e-commerce activities.

Lim (2015) studied the background and significance of e-shopping and usage behavior. The findings showed that PEOU and PU of e-shopping sites positively influence e-shoppers' attitudes toward e-shopping. PEOU and PU had no direct impact

on consumers' decision to use online shopping in Jordan, but had an indirect impact on intention through attitude (Aldhmour & Sarayrah, 2016). Lim, Osman, Salahuddin, Romle, and Abdullah (2016) surveyed 661 students to examine the relationship between subjective norm, PU, and online shopping behavior mediated by purchase intention. The findings showed that subjective norms and PU are significant; purchase intention positively influences online shopping behavior, and subjective norm and PU insignificantly influence shopping behavior.

Researchers have used the TAM to obtain insights into the repurchasing intention to use online shopping (Bhagat, 2015; Dutta, 2016; Joshi & Achuthan, 2016; Norshidah, Ramlah, Nurul, & Hanif, 2014; Omotayo & Adeyemi, 2018). Satisfaction and PU contribute to users' online shopping continuance intentions. In contrast, PEOU does not directly affect online shopping continuance intention (Mohamed et al., 2014). Joshi and Achuthan (2016) examined the factors that influence the intention of shoppers to continue buying from the same website. They surveyed 590 participants and found that PU and trust features of a site have a positive impact on an individual's continued intention factor in electronic buying. In contrast, PEOU had no significant relationship with continued intention to shop online. Mohamed et al. (2014) conducted a cross-sectional design approach and a survey questionnaire to collect data from 197 students and administrative staff to obtain insights into individuals' online shopping continuance intentions. The findings showed a link exists between PU and online shopping continuance intention, but not between PEOU and online shopping continuance intention. Dutta (2016) conducted a

survey using a sample of 244 online consumers. The results showed a significant relationship between PEOU, PU, enjoyment, loyalty, satisfaction, and online consumer's repurchase intention.

The adoption of online shopping in emerging economies has also received attention from researchers. Many scholars have analyzed the area of the behavioral acceptance of consumers toward online shopping using TAM in developing countries (Ahmed & Akhlaq, 2015; Butt, Tabassam, Chaudhry, & Nusair, 2016; Hidayat-ur-Rehman et al., 2016). Butt et al. (2016) mainly focused on examining ease of use, usefulness, trust, attitude, and website quality. The sample consisted of 340 respondents using an online questionnaire. The standard regression analysis results showed positive relationships between website quality and PEOU ($\beta = 0.276$) and customer service and PEOU ($\beta = 0.602$). There was a positive association between PEOU and consumers' attitude ($\beta = 0.774$). PU has a positive correlation with consumer attitude ($\beta = 0.227$). Ahmed and Akhlaq (2015) used TAM variables to explore factors that influence digital commerce in emerging economies. The sample consisted of 286 participants in Pakistan, who affirmed that PU and perceived enjoyment have a positive relationship with intention to adopt online shopping among a specific population of consumers in Pakistan, whereas distrust and perceived risk had a negative association with intention to adopt online shopping. Hidayat-ur-Rehman et al. (2016) developed a research model based on the TAM, perceived trust, perceived enjoyment, task–technology fit, and expectation-confirmation model to study the factors affecting online shopping continuance. Hidayat-

ur-Rehman et al. surveyed 218 consumers in Saudi Arabia. The results revealed that PU, perceived trust, and online shopping satisfaction have essential effects on the continuance of online shopping. Predictors for perceived trust were task–technology fit and perceived enjoyment, whereas PEOU, confirmation, and task–technology fit were predictors of PU. Effects of confirmation and task–technology fit were significant on online shopping satisfaction. Lastly, the direct effect of perceived enjoyment on online shopping continuance was not significant.

Limitations of the TAM model. Ahmed and Akhlaq (2015); Fletcher, Sarkani, and Mazzuchi (2014); Wu and Ke (2015) have criticized the TAM and have allocated several limitations. The TAM involves a reliance on collecting survey-based data as the sole data source, which are potential sources of error and bias because a researcher cannot monitor the participants while responding to the survey questions (Butt et al., 2016; Fletcher et al., 2014). The TAM is cross-sectional, and it only determines users' active decision-making processes at a specific time and not adoption behavior after becoming a routine (Fletcher et al., 2014; Hidayat-ur-Rehman et al., 2016; Mohamed et al., 2014). The TAM has validity and generalizability issues (Ahmed & Akhlaq, 2015; Butt et al., 2016; Fletcher et al., 2014; Lim, 2015; Mohamed et al., 2014). Fletcher et al. (2014) showed the differences between studies designed for predicting voluntary use of technology and studies designed for predicting mandatory use. In many firms, the basis of leaders' decision is mandatory use, regardless of the ease of use or the usefulness. Cultural differences and IT accessibility affect the adoption of technology (Fletcher et al.,

2014; Hidayat-ur-Rehman et al., 2016). The factors available to study the influence of the online shopping behavior are limited to ease of use and usefulness (Raman, 2014). Fletcher et al. (2014) conducted the TAM to examine the extensive use of technology in a sample that included individuals from government, health care, and education. They contended that the period between intention and adoption make the intention to use not demonstrative enough (Fletcher et al., 2014).

Addressing TAM limitations. As timing and frequency of data collection are limitations for the TAM, researchers may carry out longitudinal studies that involve sampling at multiple points in time to compare and evaluate consumers' behaviors. This way, they may obtain more accurate results about the continuation of online shopping (Fletcher et al., 2014; Hidayat-ur-Rehman et al., 2016; Mohamed et al., 2014). Considering the limitations regarding the generalizability of the TAM, researchers must test research in different regions and cultures to verify the relationship between the variables and obtain the required distinct selections that show needed perspectives (Ahmed & Akhlaq, 2015; Hidayat-ur-Rehman et al., 2016; Mohamed et al., 2014). Researchers must give their attention to technology acceptance results to avoid any bias that may exist (Butt et al., 2016). Fletcher et al. (2014); Hidayat-ur-Rehman et al. (2016); Wang et al. (2015) have extended the TAM with additional factors to improve performance and to explain additional sources that influence shopping behavior. There are several additional variables to improve the TAM, including (a) online shoppers' characteristics, (b) preferred types of products to check whether shopping varies with

product categories (Butt et al., 2016; Raman, 2014),(c) perceptions, (d) online shoppers' experience, and (e) demographic variables such as age, gender, and race to develop a more in-depth understanding of the contrasting responses of online shoppers (Lim, 2015; Mohamed et al., 2014).

This section of the literature review highlighted the background of TAM, the inception of the model, and where the TAM contributes the most. The TAM is a significant way to test individuals' acceptance of new technology. PU and PEOU are the core variables of the TAM, and they will be suitable for testing the intention of online shoppers toward using a new technology system. The section included studies from different peer-reviewed journals in which researchers used the TAM to explore and observe consumers' behavior to adopt online shopping. The TAM limitation section included substantial limitations, which I addressed by providing solutions to resolve the weaknesses of the model.

Rise of the Internet and Impact on Consumers' Behavior

The inception of the Internet occurred in 1957, when the U.S. Defense Department established an electronic network for military purposes (Naughton, 2016). The commercial Internet started between 1984 and 1989 (Naughton, 2016). However, a significant era of the Internet was the mid-1990s, with the launch of the World Wide Web, which became accessible to nonmilitary individuals (Naughton, 2016). The evolution of the Internet in the United States, or the dot-com boom, occurred between 1999 and 2000 (Naughton, 2016).

Benefits of the Internet. The Internet revolution has yielded a radical change in communication, and Internet users can obtain, share information, and interact with other users without space and time constraints (Balmer & Yen, 2017). As the number of global Internet users has increased to over 3.5 billion (International Telecommunication Union, 2017), the number of people interacting with companies via the company websites and social channel sites has also grown (Yuksel, Milne, & Miller, 2016). Before the Internet era, business owners built their brick-and-mortar stores in new locations to sustain growth. The emergence of the internet has caused traditional businesses to change to online based operation as a strategy to stay competitive (Giri, 2016). The rise of Internet search engines gave people the ability to fulfill their needs in less time and without having to leave their homes. Although the Internet is a useful tool for individuals, it is also a problem for brick-and-mortar businesses (Giri, 2016).

Internet technology provides many advantages to individuals, including providing efficient access to information for a product or a service, facilitating the process during purchasing, and shopping (Hua, 2016). Khanal and Mishra (2016) considered the Internet important because it provides various ways and more comfortable options for consumers to find cheaper inputs and build virtual networks connections with different agents.

From a business point of view, online retailers can optimize communication with customers, partners, and suppliers, and leverage their capability of services customization, which would enable increased customer satisfaction and loyalty (Hua,

2016). Retailers have adequate opportunities to maximize customer satisfaction. However, retailers should identify and manage business risks such as customers' concerns toward privacy (Thakur & Srivastava, 2015). In the age of Internet technologies, customer and business relationships have reformed. Internet technologies give business owners the potential to accommodate business models to take advantage of a holistic customer experience (Hua, 2016).

Inconvenience of shopping over the Internet. Technological advancements have changed consumers' demands and have ushered a new era of shopping experience (Mishra & Mahalik, 2018). limitations to e-commerce exist, such as the inability to examine the product directly, the risk of online transactions, the inability to trust new e-commerce platforms because the Internet is a network of non-owner, and the impact on social relationship and loss of face to face communication (Habibi & Hajati, 2015). Dey, D'Souza, and D'Souza (2015) found that consumers are not yet considering e-commerce because they find online transaction risky. Despite the risks, from a business point of view, firms must strengthen customers' perception of online shopping by building customers' trust in buyers, enabling a reliable and secured online transaction, and providing an effective and free shipping service (Le-Nguyen & Guo, 2016).

Rise of the Internet in Saudi Arabia. The internet was first established in Saudi Arabia in 1993 when The King Fahad University of Petroleum and Minerals in Dhahran first connected to the Internet (Alshahrani, 2016). In 1998, King Abdulaziz City for Science and Technology announced qualifications for Internet service providers and

cooperatively worked with the Saudi Telecommunications Company to provide the necessary communication lines. Internet adoption has continued to increase in Saudi Arabia, and the number of Saudi Internet users is approximately 24 million, which is equal to 64.7% of the population (Ministry of Communication and Information Technology, 2017b). A survey was conducted in Saudi Arabia with 187 respondents, 69 females and 118 males to examine whether they use internet to shop online. The results showed that both men and women shop online more than twice a week, specifically, 82% for females and 69.1% for males (Aljarboa, 2018).

This section included a discussion on the rise of the Internet globally and the benefit of e-commerce from an individual perspective and a business perspective. The Internet has many advantages and benefits, such as overcoming geographical limitations and physical barriers. However, it also has a couple of disadvantages, such as the inability to try products directly or to possess the purchase immediately. Other inconveniences relate to privacy and trust. However, business leaders have exploited e-commerce by creating new standards. The section ended with a discussion on the rise of the Internet in Saudi Arabia, where it started for research purposes and became public in 1998 with the creation of the Saudi Telecommunications Company. Meanwhile, over half of the Saudi population are Internet users, and the number is increasing; the largest group of Internet adopters is professionals in the private sector.

Importance of E-Commerce

E-commerce is the short version of the term electronic commerce (Awa, Ojiabo,

& Emecheta, 2015; Habibi & Hajati, 2015; Jain et al., 2016). E-commerce is the process of buying and selling product, using the Internet (Jain et al., 2016). E-commerce is an essential element to foster the growth of SMEs (Bi, Davison, & Smyrnios, 2017; Šapić, Furtula, & Aleksić, 2017; Rini, Hartoyo, Daryanto, & Arifin, 2015). E-commerce is an innovation that has increased the global reach of SMEs (Awa et al., 2015; Krishna, Chalam, 2016; Ramdansyah & Taufik, 2017). However, many SME business owners are adopting e-commerce-related technologies to grow their business (Yang, Xun, & He, 2015). Between 2000 and 2014 the e-commerce sales in the US have risen from 0.9% to 6.4% (Hortaçsu & Syverson, 2015).

E-commerce can provide firms with opportunities to enhance many key business activities, such as improving communication and service to customer, empowering fast delivery of product to customer, reducing the cost of goods, and shortening delivery time (Habibi et al., 2015). E-commerce gives potential benefits to SMEs to reduce costs, typically in communications, search activities, procurement, and inventory holding. In addition, it contributes to improving the quality of customer service, knowledge sharing, and value-added information (Awa et al., 2015; Awiagah et al., 2015; Senarathna, Warren, Yeoh, & Salzman, 2014). E-commerce is an Internet and worldwide application through which business owners develop new methods of communications, global supply chains, and business transactions to increase international trade (Awiagah et al., 2015).

It is cheaper for investors or business leaders to conduct business on the Internet compared with the traditional approaches (Gregory, Ngo, & Karavdic, 2017). E-

commerce has changed the practices of doing business, the ways business leaders market their companies, and the ways consumers use services or products (Awiagah et al., 2015). Leaders of SMEs can take advantage of e-commerce to avoid difficulties, especially when they penetrate niche markets that provide specific services or products (Stratopoulos, 2017).

The arrival of e-commerce has led to the emergence of new opportunities that include a reliance on Internet-enabled technology, where business leaders must adapt to the online model taking into consideration the environmental, social, and economic aspects to maintain sustainable business (Oláh et al., 2018). Although many leaders relate the success of e-commerce business to investing only in technology, Yang, Xun, et al. (2015) found that company performance has no relationship with e-commerce technology. Also, Yang, Xun, et al. (2015) added that SMEs differentiate by their e-commerce capability through proactively creating issues related to the synergistic combination of e-commerce resources and other organizational resources such as employee training programs. Likewise, SME leaders must address issues such as payment methods (Awara, Udoh, & Anyadighibe, 2018; Jaynal & Hassan, 2016; Stratopoulos, 2017), supply chain (Awara, Udoh, & Anyadighibe, 2018; Stratopoulos, 2017) and customer experience, to be able to outperform competitors (Stratopoulos, 2017).

E-commerce entails four main categories: (a) business-to-business (B2B), (b) business-to-consumer (B2C), (c) consumer-to-business (C2B), and (d) consumer-to-

consumer (C2C) (Shahriari, Shahriari, & Gheiji, 2015). The most important categories of e-commerce are B2B and the B2C, while C2C and C2B are still negligible in global trading (Shahriari et al., 2015). The rise of websites and the easy accessibility to services dramatically shifted the percentage of use for B2C and B2B transactions, which was 60% in 1996 in the United States and 69% in the European Union (Shahriari et al., 2015). Business-to-business e-commerce has numerous benefits, including price intensity, lower barriers toward conducting business, and the ability to reduce the cost of overheads (Gorla, Chiravuri, & Chinta, 2017).

Company leaders use the B2B model to communicate with vendors faster and to improve the ongoing relationship (Shahriari et al., 2015). The B2B model enables the execution of electronic transactions between entities using the internet. The B2B model enables business owners to perform electronic transactions with other organizations. (Gorla et al., 2017).

Business leaders use the B2C model to conduct their business transactions directly between the company and the customers (Shahriari et al., 2015), so product managers can sell their products and services quickly through the Internet (Gorla et al., 2017). Also, people, through the B2C model, can exchange information related to goods or services with less effort (Shahriari et al., 2015). The advantages of B2C are increased efficiency, cost savings, and customization (Shahriari et al., 2015). Business owners must understand the limitations and minimize the negative impact of their B2C business model (Shahriari et al., 2015).

E-commerce use is increasing in Saudi Arabia (Al-Somali, Gholami, & Clegg, 2015; Export.gov, 2018). After economic difficulties that resulted from unfavorable oil prices, the government decided to support growth in the information and communication technology sector to have a diverse economy that is not purely dependent on oil exports (Al-Somali et al., 2015). The government in Saudi Arabia is supporting the implementation of e-services by allocating approximately $800 million (Export.gov, 2018). Saudi entrepreneurs are preparing to exploit the ability of e-business to be beneficial for economic growth and business sustainability (Al-Somali et al., 2015). Governmental reports estimated that the number of Internet users increased from 41% of the population in 2010 to 74.9% in 2016, which was nearly 24 million potential customers (Ministry of Communication and Information Technology, 2017a). Researchers at Export.gov (2018) projected e-commerce spending in Saudi Arabia would reach $5.7 billion in 2017.

Business leaders cannot afford to be ignorant of e-commerce adoption, not only because of the competitive advantages in the marketplace but also because of the truth that virtual shopping limits the need of physical stores (Awiagah et al., 2015; Nahiduzzaman, Aldosary, & Mohammed, 2018). There is no other option for business leaders but to respond to the e-commerce transformation to avoid disadvantages after e-business has expanded so much that it is necessary to implement an e-commerce platform to compete (Nahiduzzaman et al., 2018). Evolving business standards from the traditional model to an e-commerce category will help company leaders to narrow the digital divide.

Transforming to digital standards includes the aptitude and awareness of e-models to enter global markets in both developing and developed countries (Awiagah et al., 2015).

This section of the literature review indicated the importance of e-commerce, as presented in different peer-reviewed journals. E-commerce facilitates selling and buying processes by enabling businesses to reach the global market through online platforms. The benefit of e-commerce does not relate to the size of a company, as business owners with any size business must develop their business from traditional standards to the online concept to expand their business. Saudi leaders are taking advantage of the growing number of Internet users and the support of the Saudi government to grow their businesses using digital platforms. The strategy to adopt such platforms must be proactive, where investing in technology is not enough for e-commerce businesses to be successful.

Importance of Website Attributes and Web Design

The revolution of e-commerce platforms has contributed to the increased use of information technology in business because the number of online shoppers has increased the need to reconsider website design (Manesha & Dhananjay, 2015). Organizations need user-friendly (Dedeke, 2016; Demir & Hernandez, 2018; Hasan, 2016), omnichannel, and responsive, websites to retain online visitors (Dedeke, 2016; Hasan, 2016;). Despite the occasional success of e-commerce platforms, leaders of many firms are investing in their online platforms trying to find the success criterions of e-commerce platforms (Yang, Li, & Kim, 2015).

Bhagat (2015) found that one of the factors that influence the purchase decisions of online shoppers was the ability of a website design to show features, services, and promotional activities. Yang, Li, et al. (2015) showed how accurate information affects customers' behaviors toward using e-commerce websites. Dedeke (2016) and Yang, Li, et al. asserted that website design is a significant factor to attract and influence consumers when purchasing products and services. Business owners who wish to maintain their current and potential customers must build attractive websites because they minimize feelings of irritation (Hasan, 2016). Website content, time spent on the site, speed and ease of navigation, and other attributes such as the architecture of the sections and the Internet connection play an important role in attracting customers to use online portals (Thakur & Srivastava, 2015).

Consumers' decision making connects to the richness offered on firms' websites while shopping online. Responsiveness, reliability, competency, communication, credibility, accessibility, security, and empathy offer the most satisfactory form of interaction to customers (Mishra & Mahalik, 2018). Business leaders need to link the richness of their website communication with their brand image to create the more effective strategies (Pascoe, Wright, & Hume, 2017; Tamimi & Sebastianelli, 2015).

Pappas, Kourouthanassis, Giannakos, and Chrissikopoulos (2014) found that site design, reliability of the website, website information, website security, PU, and PEOU affect customer satisfaction in an online context. A website must include product characteristics, information characteristics, and a well-crafted landing page to attract

customers' attention (Pappas et al., 2014; Mohd Any, Nurul Shahnaz Mahdzan, & Valinejad, 2016). Classifying website quality to influence purchasing behavior includes many elements, such as e-mail subscription, promotion, links to external websites, search functionality, feedback submission, and product recommendations (Mohd Any et al., 2016; Pappas et al., 2014). Other researchers have discussed how website design, along with perceived security and risks, may impact ongoing buying and selling activities on online websites (Nittala, 2015; Raman, 2014).

Most online shoppers browse e-commerce websites before making an online purchase (Nittala, 2015). Any sites with inadequate or inaccurate information may fail to win consumers' trust (Nittala, 2015). Leaders of SMEs need to know that online shoppers can easily switch to a competitor's website that provides the same product or service without costing them anything (Raman, 2014). Only investing in the technology part is not enough; another key variable to consider is website performance (Yang, Li et al., 2015).

A significant link exists between the usefulness of website content and the subjective norm, and they both positively influence consumers' purchase intention to shop online (Lim et al., 2016). A user-friendly website that is easy to use and easy to navigate is preferable for customers (Sam & Sharma, 2015). SME business leaders should provide consumers useful, convenient, easy-to-use, comfortable, and pleasant shopping environments (Wagner, Schramm-Klein, & Steinmann, 2017).

The sustainability of online businesses depends on maintaining high-standard websites and attracting and retaining current or potential customers (Yang, Li, et al., 2015). There are encouraging factors to buy online and to promote the decision to use particular websites, such as product type and product availability (Sam & Sharma, 2015). However, a well-designed e-commerce platform can present the website content, and it may show the right image of being highly secured (Sam & Sharma, 2015). The security and privacy of a website can positively affect users' tendency to use the same site again (Nittala, 2015; Raman, 2014). A connection exists between growing a customer rate base and the ability to win online shoppers' trust, where the online portal must reflect customers' needs and wants (Yang, Li, et al., 2015).

Business leaders of e-commerce businesses must invest in website attributes that promote the interactions and positive attitudes of online shoppers that would generate e-WOM (Yang, Li, et al., 2015). Yeoh, Woolford, Eshghi, and Butaney (2015) investigated the impact of consumers' loyalty and word-of-mouth (WOM), and they found significant relationships between customers' response to service recovery in online shopping satisfaction and WOM. Similarly, Yeoh et al. added that the online platform must remain user-centric to increase the number of online shoppers.

The focus of this section was website attributes and web design presented by different scholars. As e-commerce continues to become more widespread, business leaders must pay particular attention to several properties to retain online shoppers and to optimize their standards. Some of the attributes include (a) ease of navigation, (b) user-

friendliness, (c) usefulness of the content, and (d) privacy and security standards. To maintain an efficient website, a business leader should include specific product characteristics, referred to as the information characteristics, and they must gain consumers' trust by including elements such as e-mail subscription, feedback submission, and product recommendations. Investing in technology without including other properties will not bring any profitability to an organization. A user-centric plan that includes all the attributes in a web design should reflect the organization's core business, which will help to influence consumers' behavior to adopt online shopping.

E-Commerce in Saudi Arabia

The evolution of e-commerce has opened unique opportunities to companies in developed and developing countries (Al-Somali et al., 2015). E-commerce adoption has gained the interest of various scholars, who have explained the negative and positive roles of e-commerce adoption in organizations (Al-Somali et al., 2015; Elbeltagi, Hamad, Moizer, & Abou-Shouk, 2016; Rahayu & Day, 2017). Saudi Arabia is one of the 20 largest economies in the world, with a population rate that increases 3.76% per year and a diverse immigrant population, which makes it an attractive country to study, as it is indicative of many countries in the Middle East (Ahmad, 2014; Al-Somali et al., 2015).

Many factors influence decisions to adopt e-commerce in Saudi Arabia (Alatawy, 2018b; Al-Somali et al., 2015; Hidayat-ur-Rehman et al., 2016). The factors can either motivate consumers and businesses to use online shopping in Saudi Arabia or inhibit them from doing so (Alatawy, 2018b; Al-Somali et al., 2015; Hidayat-ur-Rehman et al.,

2016). The number of online users in Saudi Arabia is growing as expected, as the use of information technology and Internet service is becoming more popular (Alshahrani, 2016; Export.gov, 2018; Ministry of Communication and Information Technology, 2017a). The e-commerce development in Saudi Arabia is slower than in other countries, despite the rapid Internet growth (Makki & Chang, 2015a).

In spite of the Saudi government's efforts to accelerate the development of e-commerce by engaging with the private sector, e-commerce is still in its initial stages (Alotaibi & Bach, 2014). There seems to be a misunderstanding regarding how e-commerce can benefit from such service and how to generate opportunities within the economy, despite the fact that Saudi consumers are aware of the e-commerce advantages (Alotaibi & Bach, 2014). Subsequently, the adoption of e-commerce within SMEs in Saudi Arabia is very low (Alotaibi & Bach, 2014). Some researchers have studied the business perspective of accepting e-commerce in Saudi Arabia (Alatawy, 2018b; Al-Somali et al., 2015; Bahaddad, AlGhamdi, & Alkhalaf, 2014). Other researchers have profiled online shoppers in Saudi Arabia (Ahmed & Suleri, 2015; Alotaibi et al., 2014; Hidayat-ur-Rehman et al., 2016).

Aspects that hinder the growth of e-commerce in Saudi Arabia include (a) the cultural mind-sets of the retailers, (b) lack of interest in evolving online platforms, and (c) security and trust concerns using technologies (AlGhamdi et al., 2014). Organizational, technical, and cultural factors delay the adoption of e-commerce (Bahaddad et al., 2014). Al-Somali et al. (2015) proposed a new e-commerce innovation and adoption model that

relates to technological, organizational, and environmental factors in Saudi Arabia. Al-Somali et al. used a survey method to sample 450 organizations and to teste a new stage-oriented model for e-commerce adoption that included three stages (noninteractive, interactive, and stabilization) and three types of factors (technological, organizational, and environmental). The results showed that the stage-oriented model is a valid model. Also, the results showed that the stage-oriented model can measure both stage and factor effects and that Saudi Arabia is not significantly different from developed Western countries with respect to e-commerce adoption (Al-Somali et al., 2015).

The barriers that prevent SMEs in Saudi Arabia from adopting e-commerce are technical, management support, organizational, social, and financial (Almutairi & Altameem, 2016). The absence of Saudi government involvement, the nonexistence of e-commerce law, the lack of a technical infrastructure, insecure online transactions, and the weaknesses of the supply chain or delivery system are the main challenges for SMEs to overcome before adopting an online shopping platform (Alotaibi & Bach, 2014). Hidayat-ur-Rehman et al. (2016) developed a research model to examine the factors affecting the continuance of online shopping in Saudi Arabia. Hidayat-ur-Rehman et al. focused on studying variables such as perceived trust, perceived enjoyment, and expectation. The sample included 218 consumers in Saudi Arabia. The results revealed that perceived trust, PU, and online shopping satisfaction had a significant effect on online shopping continuance.

The most critical barrier in e-commerce when governmental regulations to protect online activities do not exist is trust (Almutairi & Altameem, 2016; Alotaibi & Bach, 2014). The Saudi government must provide clear laws and policies to protect both online shoppers and e-retailers. The Saudi government must also secure online transactions (Alotaibi & Bach, 2014). SME leaders must take into account the usefulness of their platforms, as the type of services, information, and products are the best way to increase online shopping continuance (Almutairi & Altameem, 2016; Hidayat-ur-Rehman et al., 2016).

Ahmad (2014) showed other barriers facing SMEs in Saudi Arabia. Ahmad implemented a survey method to gather information from 177 SMEs and conducted face-to-face interviews with 15 business owners of SMEs. The results showed that 29.38% of the Saudi SME leaders had no formal business education; 16.95% had a certificate or took short business courses, and the remaining 53.67% had obtained at least a diploma in business-related studies. A high percentage of the Saudi business owners or entrepreneurs lacked sufficient preparation to start an online business. The interviews revealed that (a) bureaucratic processes and procedures, (b) securing finances, (c) the inconsistency of rules and regulations, (d) a lack of entrepreneurial and management competence, (e) exposure problems with the availability of business information, (f) difficulties finding markets and distribution networks, (g) a limited amount of government and institutional support, and (h) the culture of running a business in the country are the main barriers and constraints to establishing and running SMEs in Saudi Arabia.

The focus of this section was on e-commerce in Saudi Arabia and the barriers that consumers and owners of small and medium businesses face when wanting to adopt e-commerce in Saudi Arabia. Some research results showed consumers' acceptance of e-commerce in Saudi Arabia. Next, I summarized the factors affecting the evolution of e-commerce in Saudi Arabia. The factors include (a) online transaction security, (b) government policies and regulations, (c) logistics and delivery, (d) customer trust, (e) satisfaction, (f) technical infrastructure, (g) privacy, and (h) consumer readiness and awareness. The variables mentioned play a significant role in inhibiting or encouraging businesses owners and consumers to use online channels to buy, sell, or trade. The rapid Internet growth has had no impact on e-commerce use in Saudi Arabia. The use of e-commerce is still not yet mature, and the government must find new ways to take advantage of the opportunities involved in e-commerce. Although the issues noted are preventing effective e-commerce in Saudi Arabia, many researchers have provided solutions to encourage the adoption of e-commerce, as they consider e-commerce fundamental to growing the Saudi economy and providing many job opportunities, which will be beneficial to the Saudi national economy.

Factors that Affect Consumers' Decision to Shop Online

Many researchers have discussed the factors that influence consumers' decisions to shop online (Mpinganjira, 2015; Rao, Hymavathi, & Rao, 2018; Sam & Sharma, 2015). The globalization of e-commerce has made historical relations less important giving consumers several options to get products with lower prices (Sabou et al., 2017).

Adapting to online platform is inevitable where consumers will not stop using online shopping even if they experience delays in delivery, damaged products, technical issues, or difficulties in finding the required information (Sabou et al., 2017).

Facilitators and inhibitors affect online shopping and can differ from one country to another. For example, in Vietnam, trusting beliefs, technology beliefs, and subjective norm beliefs influence the majority of consumers' intentions to shop online. PU is the most significant factor influencing online vendors, followed by trusting beliefs (Ho & Chen, 2014). In Singapore, ease of use is the most encouraging factor, and the convenience of a product is the most influential factor for consumers to shop online (Sam & Sharma, 2015). The usefulness of a product and detailed product information are attributes that serve to encourage revisits to an e-commerce page (Sam & Sharma, 2015). In contrast, concerns about product quality, security, and privacy are the main discouraging factors for consumers in Singapore (Sam & Sharma, 2015).

In china decision factors such as (a) user satisfaction, (b) Promoting customer trust, (c) information quality, (d) high-quality services and (e) usefulness, are the main specific factors that influence customers' satisfaction toward adopting online shopping (Sharma & Lijuan, 2015). Wang et al. (2015) studied the relationship between motivation and behavior intention in tourism e-commerce in China. PU, perceived enjoyment, and trust emerged as positive and significant to the intention to use e-commerce.

In Pakistan, perceived risk influenced consumers' behavior toward online shopping and was the most important and significant factor (Qureshi et al., 2014). Lastly,

Chin and Goh (2017) analyzed several factors to study online shopping intention in Malaysia. The results showed that PU, PEOU, and usefulness had a positive relationship with online intention. In contrast, PEOU, perceived risk, and privacy concern had no significant correlation.

Barriers other than the technological and demographical factors prevent SMEs from adopting online shopping. For example, in Nigeria (a) a regular electricity supply, (b) government financial assistance, (c) Internet security, and (d) a developed legal and regulatory system are the most effective factors to adopting online shopping behaviors (Faloye, 2014). In Sri-Lanka, authors found that willingness to disclose personal information, social influence, and trust influence behavioral intention to use online shopping (Peiris, Kulkarni, & Mawatha, 2015). In India Leaders of SMEs may overcome barriers and challenges of online sales if they understand the relationship between deep discounts, free shipping, intense competition, and higher rejection rates due to cash on delivery (CoD) and e-commerce adoption (Kumar, 2016). An online presence may provide firms with additional opportunities to build customer loyalty and cross-sell (Cao & Li, 2015). E-commerce offers several advantages to SME leaders, but they must be able to recognize and understand the potential benefits of e-commerce (Rahayu & Day, 2017).

Demographic factors and consumers' awareness also play a significant role in affecting the acceptance of online shopping; such factors include age, gender, marital status, family size, and income (Kavitha, 2015). An analysis of demographic variables

and level of satisfaction can be useful for determining the expected success of online shopping adoption (Kavitha, 2015). Brown et al. (2014) identified how age relates to shopping behavior in a physical store, not online, and Duffett (2015) showed that millennials comprise more than half of the consumers who have the intention to use online channels and to buy products online. Sam and Sharma (2015) found that females tend to purchase products online more frequently when compared to males. In contrast, females find it more challenging to shop online in Saudi Arabia compared to males due to cultural constraints (Qureshi et al., 2014).

Convenience influenced females' adoption rate of online shopping, while the risk of doing transactions with a preference toward traditional shopping and security issues was the largest obstacle toward the growth of online shopping (Raman, 2014). Baubonienė and Gulevičiūtė (2015) examined the factors that discourage consumers from shopping online, such as age, gender, or occupation, in addition to other factors such as fast delivery, security, comparable price, cheaper prices, convenience, and a wider choice. The Pearson correlation coefficient indicated price and consumers' gender affected the association between shopping online and customers more. The sociodemographic analysis revealed that women choose online shopping for lower prices while men value the faster and more convenient shopping experience (Baubonienė & Gulevičiūtė, 2015).

Perceived risk is one of the most critical barriers to using electronic commerce, where consumers assume that they cannot touch, smell, test, or taste products before

purchasing. Also, the perceived risk exists in the whole e-commerce process, starting with safety and privacy while shopping and ending with the delivery system (Motwani, 2016; Nittala, 2015; Qureshi et al., 2014). Perceived risk is a critical attribute with a negative impact on consumers that negatively affects the adoption of online shopping (Qureshi et al., 2014). A government must support the e-commerce sector by increasing security and decreasing the risk factors, such as (a) retailer reliability, (b) guaranteed delivery, (c) a secure transaction mechanism, (d) information on the online store, (e) other customers' testimonials, and (f) a frequently asked questions section (Motwani, 2016). Nittala (2015) examined positive attitude, PU, product risk, perceived risk, price, traditional shopping, promotion, and financial risk as the independent variables and online shopping behavior as the dependent variable. The results indicated that a significant linear relationship exists between positive attitude, product risk, perceived risk, price, and financial risk and online shopping behavior.

Business leaders must maintain price dispersion to sustain their online business (Zhuang & Lin, 2018). Li, Konus, Pauwels, and Langerak (2015) found that adopting a new online channel would not lead to a higher volume of online purchasing. Lo et al. (2014) conducted a laboratory experiment method to examine different consumer perceptions of overhead costs between online and store-based retailers and to identify the relationship between perceived overhead cost and internal reference price. Results found that online retailers' overhead costs were lower than those of store-based retailers.

According to the regression analysis, a strong relationship existed between participant's perceived overhead cost and internal reference price.

The focus of this section was on the cultural, regional, and demographic factors that influence the behavior to adopt online shopping. Cultural and regional beliefs affect the behavior of consumers, and in some cities, the usefulness of the e-commerce platform is the most critical factor. In contrast, ease of use is the most dominant factor in another country. Other factors that affect the influence to adopt online shopping are perceived value, trust, perceived risk, privacy concern, Internet literacy, and satisfaction. In Nigeria, business owners seek factors such as a regular electricity supply, government financial assistance, Internet security, and a developed legal and regulatory system to implement online shopping (Faloye, 2014). Organizational readiness and awareness about e-commerce might affect the adoption of the e-commerce platform positively. Gender and age are essential attributes influencing the intention to shop in a physical store or online (Kavitha, 2015). Price is also one of the factors that attract consumers to go to online portals, as they assume shopping on the online portal must be cheaper than in brick-and-mortar stores (Lo et al. 2014).

The Role of SMEs in an Economy

The role of SMEs in any economy development poverty reduction is significant (Franklin, Ruhode, & Iwu, 2018). SMEs are securing 80% of jobs in the private sector and contributing 47% of the world's GDP (Mohammad, 2015). Many researchers have shown how owners of SMEs contribute in the transition to a market economy through the

processes of creativity, organizational innovation, technological advancement, and employment income (Etuk, Etuk, & Baghebo, 2014). Small and medium enterprises account for employment growth in many countries, as SMEs produce a significant share of the increases in gross domestic product GDP (Etuk et al., 2014). For example, in Organization for Economic Co-operation and Development (OECD) economies, SMEs and microenterprises account for over 95% of firms, 60–70% of employment, and 55% of GDP and generate the majority of new jobs. The situation for SMEs is almost the same in developing economies. For instance, in Morocco, 93% of firms are SMEs, and they contribute to 33% of investment, 38% of production, 30% of exports, and 46% of employment (Etuk et al., 2014). Likewise, in Bangladesh, enterprises with less than 100 employees account for 99% of all firms and 58% of employment (Etuk et al., 2014). Similarly, in Ecuador, 99% of all private companies have less than 50 employees and account for 55% of employment (Etuk et al., 2014).

In Saudi Arabia, SMEs play an essential role in generating jobs and economic growth, and the primary objective of Saudi Vision 2030 is to provide a nurturing environment to SMEs (Vision2030.gov, 2017). According to Saudi Vision 2030, government leaders in Saudi Arabia are planning to increase the contribution of SMEs from 20% of GDP in 2016 to 35% in 2030. Also, the government will use the SME sector to decrease the unemployment rate from 11.6% to 7% and to increase the participation of females in the workplace from 22% to 30%.

Classifications of SMEs differs in each country depending on either the number of employees or annual sales turnover (Mohammad, 2015). In Saudi Arabia, there is no official definition of SMEs or even large enterprises. The determiner of SMEs in Saudi Arabia is the number of employees. Microenterprises are firms that have up to 25 employees (Saudi Arabian General Investment Authority, 2017). Consequently, small enterprises are firms with between 25 and 59 employees. Likewise, medium companies have between 60 and 99 employees, and large companies have more than 100 employees (Saudi Arabian General Investment Authority, 2017).

Factors That Influence SME Leaders to Adopt E-Commerce

The shift from offline shopping to online and mobile shopping has supported economic growth. However, many factors have affected the adoption of e-commerce by SMEs. For instance, relative advantage, organizational support, and competitive pressure are determinant factors that affect owners' intention toward, or continuance with, e-commerce adoption by SMEs in Jordan (Hussein & Baharudin, 2016). Hussein and Baharudin (2016) used a partial least squares technique to survey 258 SMEs in Jordan. The authors used random sampling to collect data using a 7-point Likert-type scale for all responses. The results showed that compatibility and security were insignificant determinants of e-commerce adoption intention or continuance. In contrast, competitive pressure and organizational support were significant determinants of e-commerce adoption intention or continuance. Al-Bakri and Katsioloudes (2015) examined internal and external organizational factors affecting e-commerce systems' adoptions by SMEs in

Jordan. The authors used a quantitative approach to gain a deeper understanding of e-commerce system adoption in Jordan and surveyed leaders of 500 randomly selected industrial and services SMEs. The findings showed that readiness, strategy, managers' perceptions, and external pressure by trading partners are the main factors that affect e-commerce adoption. Yang, Xun, et al. (2015) examined the association between SME e-commerce investments and firm performance using a sample of 430 British SMEs across 16 industry sectors. The findings indicated that leaders of SMEs in the United Kingdom can differentiate their businesses on the basis of their e-commerce capability, where e-commerce readiness strongly contributes to enhanced firm performance. The sophistication of SMEs' e-commerce websites contributes to firm performance, but those firms' capital investments in IT and e-commerce training are not significant performance drivers.

The adoption of e-commerce in SMEs relates to organizational culture within a company. Senarathna et al. (2014) examined how organizational culture may influence the adoption of e-commerce in SMEs. Senarathna et al. gathered data using a postal survey questionnaire sent to leaders in 81 SMEs. The results revealed a positive correlation between an adhocracy culture and e-commerce adoption and a negative correlation between SMEs with hierarchical cultural characteristics and e-commerce adoption. Also, Elbeltagi et al. (2016) investigated the degree that e-commerce adoption affects SMEs. The mixed-methods approach involved randomly selecting 1,280 U.S. manufacturing SMEs and 768 Egyptian manufacturing SMEs that already had websites.

The sample included 320 U.S. SMEs and 200 Egyptian SMEs. The study involved using the structural equation modeling technique to test the hypothesis, and the findings showed that SMEs can achieve growth in market share and sales through higher levels of e-commerce adoption.

This section included information on how SMEs contribute to the development of the global economy as well as how SMEs account for employment growth in OECD economies and in developing economies, where SMEs account for 60–70% of employment and 55% of the GDP. This section also included a discussion on the contribution of SMEs to the Saudi Arabian economy and the ways the government is supporting and nurturing SMEs to increase their contribution from 20% of GDP. I defined SMEs based on the Saudi Arabian categorization for companies. Lastly, the section included a review of studies in which researchers examined factors that influenced SME business owners to adopt e-commerce. The factors differed from one study to another; for instance, organizational support and competitive pressure were determinant factors that affected owners' intention to adopt e-commerce, and other factors such as organizational culture and e-commerce readiness were determinants that enhanced SME performance.

Impact of E-WOM on Online Shopping

Electronic word-of-mouth has become a common topic of research in the area of C2C interactions (Hornik, Satchi, Cesareo, & Pastore, 2015; Naylor & Gillian, 2016; Xu, Yap, & Hyde, 2016). The electronic word of mouth (e-WOM) is any negative or positive

statement made by any consumer about a product or a service via the internet (Fatema, Choudhury, & Sakib, 2017). Electronic word-of-mouth facilitates conversation with and between consumers. The major advantage of e-WOM is helping business owners to use different types of communications online by using customers as their advocates to other customers (Hornik et al., 2015). The online channels include weblogs, sites, online discussion forums, and social media network (Fatema, Choudhury, & Sakib, 2017). Clark, Black, and Judson (2017) found a significant relationship between the positive e-WOM and brand commitment.

The importance of the negative and positive e-WOM is the impact on consumers' behavior and decision-making (Martin, 2017). Because a negative review could be a reason to switch the behavior of a customer, many leaders have incorporated e-WOM seriously to track customers' opinion over the many social channels (Fatema et al., 2017). Matute, Polo-Redondo, and Utrillas (2016) concluded that e-WOM has a positive effect on consumers' repurchase intention. Trust in the vendor, hedonic value, and monetary value have a significant impact on customers' intention to engage in online shopping (Hidayanto, Ovirza, Anggia, Budi, & Phusavat, 2017). Also, there is a significant positive relationship between online communities and social channels browsing intention and word of mouth (Adi, Wihuda, & Adawiyah, 2017). Retailers rely heavily on reviews and recommendations from previous customers (Zhou & Duan, 2015). Retail business owners should create an online community within their websites to give themselves a competitive advantage (Zhou & Duan, 2015).

Business leaders should engage in any opinions made in community channels (Ardyan, Retnawati, & Farida, 2018). Business leaders use e-WOM to spread valuable communications via social channels because of the way it shapes consumer attitudes towards the brand and purchase intention (Pasternak, Veloutsou, & Morgan-Thomas, 2017). Consumers' have higher propensity to value and trust eWOM than other traditional practices because it comes by other consumers (Pasternak et al., 2017). Most consumers place equal trust towards eWOM and personal recommendations about a specific brand (Pasternak et al., 2017).

Yeoh et al. (2015) investigated the effect of consumers' embedded cultural models on postrecovery satisfaction, loyalty, and WOM. Yeoh et al. examined the relative influence of the three justice dimensions and culture types, as well as the interaction effects of culture types and justice elements on postrecovery satisfaction, loyalty, and WOM. The sample included 248 responses. The results of the three-multiple regressions revealed significant relationships between relational, utilitarian cultural types, post-recovery loyalty and WOM, as well as strong support for the influence of distributive justice, procedural justice, and interactional justice on post-recovery satisfaction, loyalty, and WOM in an online setting.

This section included information about e-WOM. One of the advantages of e-WOM is its ability to facilitate the selling process by using customers as advocates to other customers. Owners use e-WOM to increase communications online across many channels, such as weblogs, e-mail, chat rooms, and instant messenger clients. The

importance of e-WOM to individuals and businesses is its impact on purchase decisions for consumers, where customers can see the experiences of other customers, which will encourage, or discourage them from, buying a product or service. This section also included reviews of several examples of research in the literature, including Pasternak et al. (2017) study, in which the authors explored how business leaders use e-WOM to spread valuable communications via multiple sites, and Yeoh et al.'s (2015) study, in which the authors investigated the impact of consumers' embedded cultural models on postrecovery satisfaction, loyalty, and WOM.

Transition and Summary

Section 1 began with information about the background of the problem, followed by the problem statement, purpose statement, research question, and hypotheses. The review of the literature provided in-depth information about current and past research in the area of consumers' intention to adopt e-commerce shopping, a detailed description of the theory selected for the study, and information about consumers using e-commerce platforms.

In Section 2, I detail my role as the researcher, the participants, and the research method and design. The section includes a definition of the population and the planned sampling methods. Additional information relating to data collection technique, data organization, instrument used, and data analysis technique will complete the section. I concluded Section 2 with a statement on reliability and validity and a transition into Section 3.

In Section 3, I discussed the research findings. I also addressed the possible effects of the study on the professional community and the implications for social change. The section continue with a discussion on recommendations for actions and further research, reflections, and a conclusion.

Section 2: The Project

The focus in this study was to develop a better understanding of the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms and consumers' intent to adopt online shopping. I used Davis' TAM to understand the correlational findings. This section begins with a restatement of the purpose statement, followed by a discussion of my role as the researcher and an overview of the participants. A description of the research method and design follows, which includes supporting evidence gathered from the literature review and previous research. Next, I discuss the population and sampling technique, ethical research concerns, instrumentation, data collection and analysis procedures, and validity of the study. I conclude with a transition to Section 3.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping. The targeted population was consumers in Jeddah, Kingdom of Saudi Arabia who have purchased at least once online. The independent variables were perceived ease of use of e-commerce platforms and perceived usefulness of e-commerce platforms. The dependent variable was the intent to adopt online shopping. Understanding how technology acceptance predicts the intent to adopt online shopping could include the potential that SME business leaders prioritize enhancements to their e-commerce platform business, thereby increasing profits. Enabling of SMEs to grow could

subsequently indicate more job opportunities in Jeddah community, which could reduce the unemployment rate and improve quality of life in Saudi Arabia.

Role of the Researcher

The role of the quantitative researcher includes collecting data, testing relationships among variables, producing numerical data, and conducting statistical analysis to interpret the data related to the research question (Butina, Campbell, & Miller, 2015; Leedy & Ormrod, 2016). In a quantitative study, researchers must report results in a scholarly, unbiased, and ethical manner (Bryman, 2016). A researcher's personal beliefs can influence the research focus, research questions, data collection, data analysis, and research findings (Darlington & Dobson, 2013). The findings of the research should not reflect the researcher's personal beliefs (Darlington & Dobson, 2013).

In this quantitative study, I adopted the TAM survey instrument used by Davis (1989) as my theoretical foundation. I used the survey as my data collection instrument after obtaining the author's permission. I included a copy of the TAM Survey Questionnaire in Appendix A. In addition, I conducted statistical tests on the collected data using SPSS version 25 to analyze and interpret the results.

I have been in the IT services field for more than 9 years, and I worked in several jobs and positions. I had extensive experiences buying, selling, and exchanging products and services through e-commerce platforms, which provided me a good background in e-commerce from both practical and technological perspectives. Researchers must be witnesses in their research (Flores, 2016). My role in this study was as a witness.

However, I strived to remain objective. During the interpretation of the findings, I drew my conclusions based on the analysis of the collected data to prevent any bias. While exploring aspects of e-commerce, I reflected on the ease of use and usefulness of e-commerce platforms from participants who had different ages and backgrounds. The findings must reflect online shoppers' point of view and not my perspective. Table 1 shows how I minimized bias during the study. My role was to maintain research ethics and adhere to the *Belmont Report* protocol, which includes ensuring (a) respect for persons, where researchers must treat participants as independent agents eligible for protection, (b) beneficence, where researchers must treat participants in an ethical manner by securing their safety and defending them from harm, and (c) justice, where researchers must treat participants fairly and equally (U.S. Department of Health and Human Services, 2016).

Table 1

Explanation of Critical Issues Regarding Bias

Role	Bias, assumption, and worldview	Realization	Awareness
Doctoral student	I chose my topic because I had a good practical and technological background in e-commerce.	My bias on this topic comes from my experience and my daily use of e-commerce.	I considered that people from diverse backgrounds, ages, and cultures may have different points of view.
IT consultant	I accepted a position as a Microsoft IT consultant after being a developer and system analyst for Oracle.	Being an expert in both Microsoft and Oracle products and services may influence my decisions while writing my report.	I needed to consider the worldwide trends, regardless of the vendor. I must provide the best solution based on the clients' needs and not based on my own perspective.
Business consultant	I am a disruptive strategy professional with certification from Harvard Business School.	Having Clayton Christensen as an influencer and knowing the disruptive strategies model has influenced my thinking so that I analyze all aspects in the market, including low-end disruption, new market disruption, and jobs to be done.	I needed to learn the limitation of the disruptive strategy as a framework to know when it might or might not help in analyzing market situations.
Sales manager	I shifted my career and accepted a position as a sales manager after many years as a technical consultant	Technical background could be a barrier to showing the advantages and values of the solution.	I needed to continue to adapt to the new position and be sure not to allow previous experiences to be an obstacle to providing the functional value of the solutions while avoiding the technical side.

Participants

There are an estimated 24.1 million Internet users in Saudi Arabia (Ministry of Communication and Information Technology, 2017a). To narrow the scope and obtain better access to potential participants, I collected data from only Internet users who live in Jeddah. To simplify the data collection process further, I only targeted consumers who have purchased at least once using an e-commerce platform.

My strategy of selecting participants included criteria related to e-commerce purchasing. The eligibility criteria for selecting participants that they were consumers who lived in Jeddah and who purchased at least once from one of the e-commerce platforms, in addition to being able to read English. I selected the participants based on their availability and my convenience.

I used SurveyMonkey to create a web-based data collection instrument to present to participants. According to Ramsey, Thompson, McKenzie, and Rosenbaum (2016), web-based data collection is an effective method to generate a large amount of data because it eliminates the need of data entry, expensive transfer and tracking of forms and verifications. A random sample leads to reduce the influence of uncontrolled factors (Emerson, 2015). Also, simple random selection provides the most efficient estimation of the population mean because the average would accurately represent the population (Solanki & Singh, 2015). Non-probability sampling methods have the advantage of being less expensive than probability sampling in terms of time and money (Etikan, 2016). I conducted a non-probabilistic convenience sampling.

I used a convenience sampling technique. According to Etikan, Musa, and Alkassim (2016) researchers use convenience sampling when the population is very large. I established a working relationship with the participants through building trust with participants. I achieved trust through informing participants of the intended purpose of the study and I ensured anonymity and confidentiality to all participants in compliance with Walden University's Internal Review Board (IRB). Zhang et al. (2017) found that the greater cumulative usage of social networking sites is positively associated with shopping activity. I started a working relationship with study participants through Abdul Latif Jameel ALJ (Toyota and Toshiba Distributor). ALJ has an e-commerce platform to sell cars, cars' accessories and electronics equipment. ALJ has a huge database for customers live in Jeddah. ALJ's database contains names, numbers and emails of potential customers who experienced online shopping and who bought through ALJ's e-commerce platform. ALJ IT leaders sent the link of my web-based survey to the online consumers who live in Jeddah City and who purchased at least once from ALJ's e-commerce platform. I considered participants who experienced purchasing ALJ's e-commerce platform or other vendor e-commerce platforms. ALJ's IT leaders sent a personal invitation to take one online survey, which would involve maximizing opportunities in enhancing online shopping adoption in Saudi Arabia. Also, as part of building the working relationship with participants, I displayed in the survey, the scope and purpose of the study. Participants had the opportunity to withdraw from the study. I

assured that each participant acknowledges his or her consent before participating in the survey by including the consent form in the first page of the survey.

Research Method

Researchers use three methods to conduct business research: (a) quantitative, (b) qualitative, and (c) mixed methods (Yin, 2017). Researchers use quantitative methods to test hypotheses by examining relationships between variables (Landrum & Garza, 2015; McCusker & Gunaydin, 2015; Walsh, 2015). The quantitative method is a useful tool that researchers use to increase knowledge by using predictive data to explain relationships among variables (Johnson & Christensen, 2017; Quick & Hall, 2015). The quantitative method is the most appropriate method for examining differences using statistical data (Landrum & Garza, 2015).

Motwani (2016) applied the quantitative methodology to examine information describing the different characteristics of online shopping factors. In a similar research method, Norshidah et al. (2014) surveyed 197 respondents in Malaysia to analyze the relationship between website ease of use, website usefulness, and consumers' intention to continue to use online shopping. Similarly, I used a quantitative approach to examine the relationship between PEOU, PU of e-commerce platform, and intent to adopt online shopping.

The goals of qualitative and quantitative research methodologies are fundamentally different (Siddiqui & Fitzgerald, 2014). Researchers use qualitative methods to enable the in-depth exploration of subjective, nonquantifiable phenomena that

are not yet well-understood and do not address relationships between variables (Gaus, 2017; Sarma, 2015). Also, the qualitative method entails personal interviews, observations, reviews of documentation, and focus groups during data collection (Bryman, 2016). These kinds of tasks are not the objective of my study. The qualitative method would not be appropriate.

I considered using mixed-methods research in this study. However, mixed-methods research involves combining quantitative and qualitative approaches to address a research problem (Venkatesh et al., 2016). Using mixed methods involves associating attributes from both qualitative and quantitative research to understand complex issues (Siddiqui & Fitzgerald, 2014). The mixed-methods research methodology is appropriate when one method is inadequate to answer a research question (Guetterman, 2017; Venkatesh, Brown, & Sullivan, 2016). As this study only includes statistical hypotheses testing without the need for qualitative inputs, neither qualitative nor mixed methods would be appropriate for this study.

Research Design

The research method gives researchers ways to collect data. Likewise, the research design provides a framework for examining research data (Bryman, 2016; Ioannidis et al., 2014). Researchers use four designs in quantitative research: correlational, descriptive, experimental, and quasiexperimental (Bryman, 2016). A correlational design is appropriate to test the relationship between independent and dependent variables (Bryman, 2016). Also, researchers use the correlational design to

examine the potential of an independent variable to predict a dependent variable (Johnson & Christensen, 2017). I used a correlational design for this study, as I examined the relationship between independent and dependent variables. Researchers use descriptive designs to study the characteristics of a sample without establishing statistical relationships (Omair, 2015). Thus, a descriptive design would not be appropriate for this study. Experimental and quasiexperimental designs are appropriate for determining causal consequences and effect (Rockers et al., 2015; Zellmer-Bruhn et al., 2016). Neither experimental nor quasiexperimental designs would be appropriate because this study did not involve experimental or cause-and-effect determination.

Several researchers supported the design, method, and instrument. For example, Wang et al. (2015) used the TAM to test the correlation between customers' motivation for tourism e-commerce activities using a survey instrument. Also, Erasmus, Rothmann, and van Eeden (2015) used the TAM and correlational design with a questionnaire instrument to examine the variables of PU and PEOU of the IT to the attitude towards and behavioral intentions to use it. Likewise, Bhagat (2015) used the TAM and a correlational design with a survey instrument to examine the difference of ease of using websites among males and females.

Population and Sampling

Targeted Population

The population for this study was consumers in Jeddah, Saudi Arabia, who have purchased at least once from an e-commerce platform. To narrow the scope and provide

better access to potential participants, I collected data from Internet users in Jeddah. To simplify the data collection process further, I only targeted consumers who have purchased at least once using an e-shop platform. I used Survey Monkey, a web-based data collection instrument, to collect data, and I used convenience sampling with the targeted population. Etikan (2016) discussed the difference between probabilistic and non-probabilistic sampling and noted that randomness is the essential difference between the two methods.

Sampling Method

Probability sampling methods, such as simple random sampling, stratified random sampling, systematic random sampling, multiphase sampling, cluster sampling, and multistage sampling, all give the opportunity for each participant to have an equal chance of selection in a survey (Fricker, 2016; Haegele & Hodge, 2015). The main advantage of probability sampling methods is that a researcher can generalize the findings to the target population (Fricker, 2016). The probability sampling methods are resource-consuming in terms of money and time (Etikan et al., 2016). Also, a disadvantage of probabilistic sampling is that it is crucial to test the representativeness of the achieved sample (Fielding, Beattie, O'Reilly, McMaster, & The AusQoL Group, 2016). In contrast, nonprobability sampling methods like convenience sampling, purposive sampling, snowball sampling, and quota sampling refer to the fact that each participant does not have a known probability to be selected in the survey (Fricker, 2016). Using nonprobability sampling methods does not support the ability to generalize the findings

of the study. The researchers in such studies will not be able to control or measure the bias (Fricker, 2016). Non-probability sampling methods have the advantage of being less expensive where the researcher will not need a list of all the whole population (Fricker, 2016). Non-probability sampling method is appropriate when researchers lack sufficient information about the population (Etikan et al., 2016). Also, researchers use non-probability sampling methods because of the accessibility to the participants (Etikan et al., 2016). I used a non-probability sampling method in this study not only to save time and money but also because I lacked enough information about the participants. Despite random sampling method being a better method on sampling, the cultural constraints of online consumers in Jeddah prevented me from using this method as an applicable one for the study.

A sampling method must be systematic to derive valid implications from the sample (Hays, Liu, & Kapteyn, 2015). I used a convenience sample to consider only the available participants interested to take the survey. Zhang et al. (2017) found that the greater cumulative usage of social networking sites is positively associated with shopping activity. I conveniently selected the participants who live in Jeddah City and have bought from an e-commerce platform. ALJ IT leaders sent the link of my web-based survey to the online consumers who live in Jeddah City and who purchased from ALJ's e-commerce platform or other vendor e-commerce platforms.

Regarding the response rate, Hidayat-ur-Rehman et al. (2016) targeted populations that yielded a 31.9% online response rate in a study of continuance intention

toward online shopping in Saudi Arabia; the authors sent 1000 questionnaire online out of which 319 responses were received. The authors made initial analysis where 101 cases were discarded and the remaining 218 were used for model testing. The response rates in Raman's (2014) study reached 98% while examining women consumers' buying behavior regarding online shopping in India. Raman distributed 400 questionnaires to university students and received 393 responses. Lo et al. (2014) adopted convenience sampling method to recruit 142 participants from a university to examine online shopping price expectations. Lo et al. (2014) achieved 84.5% with 123 valid responses.

Sample Size

I used two approaches to determine appropriate sample size in this study. First, I used the formula of sample size = 50+8(m) whereby m designates the number of independent variables (Green, 1991). Having two independent variables, the result of the formula gave an estimated sample size of 66. G*Power is statistical software that researchers use to determine a priori sample size (Macfarlane et al., 2015). In the second approach, I conducted a power analysis using G*Power 3.1.10. Power is essential to determine an adequate sample size and to show accuracy in a study's outcomes (Hazra & Gogtay, 2016; Kennedy, 2015; Lapresa, Alvarez, Anguera, Arana, & Garzon, 2015). However, in quantitative research, a priori power analysis to estimate the sample size is more robust (Ching et al., 2014; Fugard & Potts, 2015). An a priori power analysis, using a multiple linear regressions F-test with two predictors, a power of .8, and a medium effect size ($f^2 = .15$, $a = .05$) indicated a minimum sample size of 68 participants to

achieve a power of .80. However, increasing the sample size to 146 increase the power to .99. The sample size obtained by Green's (1991) formula is closer to the minimum sample size calculated using a priori power analysis. Thus, the sample size range for the study was between 68 participants as a lower bound and 146 participants as an upper bound.

Effect size provides information about the magnitude or the size of the relationship between variables (Eisend, 2015). Abdullah and Ward (2016) and Šumak and Šorgo (2016) showed that a medium effect size is appropriate in quantitative research, specifically in the context of technology acceptance. The significance level used to reject the null hypothesis was .05. A medium effect size ($f^2 = .15$) is appropriate for this proposed study. The basis of selecting a medium effect size was the analysis of four articles, and the TAM was the outcome measurement. Averaging the response rate of four prior studies (Al-Abdallah, et al., 2014; Hidayat-ur-Rehman et al., 2016; Lo et al., 2014; Raman, 2014), at 79.1%, suggests a survey quantity of 86. I initially distributed 146 surveys. The population of consumers in Jeddah City is large enough to reach the required minimum sample size of 68 completed surveys. The eligibility criteria for selecting participants was consumers living in Jeddah, who have purchased at least once from an e-commerce platform and must be able to read English. The relevance of the population rests in the diversity of participants' backgrounds.

Ethical Research

Academic researchers must preserve the confidentiality of the participants and maintain high levels of credibility when carrying out research activities. As an academic researcher, I strived to remain credible and to abide by the rules and procedures to guarantee the rights and safety of the participants. I used encryption software to secure the collected data, and I stored the data in a portable device, encrypting all content, and I safely preserved the data for a minimum of 5 years. I complied with the Institutional Review Board (IRB) requirements as established by Walden University, Walden University's approval number is 12-10-18-0612059, and it expires on December 9, 2019.

According to Walden University research protocols, doctoral students must maintain and adhere to *Belmont Report* standards, including (a) respect for persons, where researchers must treat participants as independent agents eligible for protection; (b) beneficence, where researcher must treat participants ethically by securing their safety and defending them from harm; and (c) justice, where a researcher must treat participants fairly and equally (U.S. Department of Health and Human Services, 2016). I complied with Walden Institutional Review Board (IRB) requirements. In the first page of the survey, I included information about the informed consent process, which include the following: (a) a statement that the survey instructions do not include any piece of information related to personal information or organization names, (b) the survey instructions include a section to display an ethics and confidentiality statement to provide the participants with the information about the background of the study, the procedure to

complete the survey, a section to highlight the voluntariness of the survey, and the process of withdrawal from the survey. Also, I included the benefits and risks to participate in the study, a compensation statement where I stated that there will be no compensation for contributing to the research, and a statement of confidentiality where I stated that I will strive to guarantee the confidentiality of the information provided. I kept the forms on an encrypted USB drive in a safety deposit box. I am keeping the data stored for a period of 5 years. At the end of the 5-year period, I will destroy any hard copy data. I deleted any data stored on my personal computer.

Instrumentation

I used an existing instrument originally constructed by Davis (1989) called the TAM questionnaire and implement it as an online survey using SurveyMonkey®. I obtained the permission to adapt the "Final Measurement Scales for Perceived Usefulness and Perceived Ease of Use" (see Appendix B). MIS Quarterly Carlson School of Management University of Minnesota confirmed that the "Final Measurement Scales for Perceived Usefulness and Perceived Ease of Use" is the TAM Survey Instrument (see Appendix C). The TAM instrument includes two sections. Section I includes demographic attributes and experience. Section II entails three subsections: (a) PEOU, and (b) PU and (c) intention to adopt. All constructs had an ordinal 7-point Likert-type scale that ranges from 1 = *strongly disagree* to 7 = *strongly agree*. High scores indicate a higher degree of consumers' intention to use an e-commerce platform. Davis (1989) used the TAM instrument to examine the degree that a person would enhance, or ease his/her

performance, using a particular system. I altered the wording of the TAM survey to relate the element in the e-commerce context as I am considering the e-commerce platform as the system that would ease and enhance the performance of users. In fact, researchers such as Dakduk, ter, Santalla, Molina, and Malavé (2017); Hidayat-ur-Rehman et al. (2016); Lee, Yang, and Johnson (2017) and altered the wording for explaining the use and intention of e-commerce adoption. Survey changes and adjustments include replacing references to consumers' intention to use online shopping. As per the prior studies of Brown et al. (2014), Davis (1989), and Hidayat-ur-Rehman et al. (2016), I compiled the questions from the survey for each of the constructs, and I measured PEOU and PU of the e-commerce platforms as the independent variables and intent to adopt online shopping as the dependent variable.

Reliability refers to the consistency of an instrument to produce the same results over repeated tests (Fink, 2016). The TAM instrument is appropriate to the current study because the instrument includes the potential to examine the independent variables PEOU and PU of the e-commerce platform) and the dependent variable (consumers' intent to adopt online shopping). I used the TAM questionnaire as the instrument to collect data in this study.

The TAM instrument by Davis (1989) has acceptable levels of reliability and validity. Davis developed and validated the measurement scales using Cronbach's alpha. Cronbach's alpha is a common approach to measure the internal consistency reliability of responses (Vaske, Beaman, & Sponarski, 2017; Viladrich & Angulo-Brunet, 2017). The

Cronbach's alpha formula showed .97 reliability for PU and .93 reliability for PEOU (Davis, 1989). Researchers generally consider an alpha of .70 or above as satisfactory (Hidayat-ur-Rehman et al., 2016; Lo et al., 2014; Raman, 2014). Cronbach's alpha coefficient was appropriate to measure the reliability of the instrument in this study.

Validity indicates whether the instrument measures the concept under study (Bryman, 2016). There are many types of validity, including concurrent validity, construct validity, and convergent validity (Bryman, 2016). Concurrent validity refers to the process of relating a measure to a criterion (Bryman, 2016). Construct validity refers to about how a researcher tests a conceptual hypothesis (Leopold, Bryan, Pennington, & Willcutt, 2015). Construct validity is a heuristic tool that a researcher should prioritize over the other measures (Cameron, 2016). Convergent validity is a type of validity used to measure the same construct, where a scale must correlate significantly with other instruments (Leopold et al., 2015). Researchers can rely on the validity of prior studies when developing instruments (Bryman, 2016). I relied on the validity of prior studies.

The purpose of this quantitative correlational study is to examine the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms, and consumers' intent to adopt online shopping. As such, the

concepts measured by the instrument elicit appropriate information to measure ease of use of e-commerce platform and usefulness of e-commerce platform. Such concepts include PU, which is the extent to which users believe that a system will contribute to

advancing their performance, and PEOU, which is the extent to which users think that a system is easy (Davis, 1989). I am keeping the raw data I collect for 5 years.

I must align the design of the survey questions with the research question and with the independent variables PEOU and PU of e-commerce platforms and the dependent variable consumers' intent to adopt online shopping. The first TAM variable, PU, aligns with Section 2, Questions 7–12, in the TAM Survey Instrument. The TAM variable PEOU aligns with Section 3, Questions 13–18 in the TAM Survey Instrument. I designed the questions for the study based on the extensive literature review and the TAM research that supports the validity of the instrument.

Data Collection Technique

I used a web-based self-administered structured survey to collect data. Many advantages exist when using surveys, including low costs, high-quality information, minimal bias, and speed of survey delivery (Bryman, 2016). One of the very important advantages is that web-based surveys give the benefit of putting the collected data straight into a database, which makes the period between data collection and analysis very short (O'Brien et al., 2016). More advantages of the web-based surveys include reducing the low numbers of unanswered questions, the fast return of the surveys, the convenience, and the reduced expense (Handscomb, Hall, Shorter, & Hoare, 2016). Disadvantages of self-administered structured surveys include the absence of the interviewer, which contribute to the risk of missing data, the inability to recognize

whether the participant has understood the questions, and a low response rate (Rowley, 2014).

Several researchers in their TAM-based studies have used the web-based survey (Hidayat-ur-Rehman et al., 2016; Raman, 2014; Wang et al., 2015). Upon IRB approval, I distributed a web-based questionnaire in a SurveyMonkey® format, where I distributed the link to the survey via emails to collect the data for this study. To ensure optimal participation, I targeted participants who live in Jeddah City, Saudi Arabia. The survey instrument contained a participant consent form, an introduction, and an invitation to participate in the web-based survey. The projected time was 5 minutes or less. I provided 2 days for participants to return the completed survey, during which time, I monitored the data entry. In case of a delay, I sent an e-mail to remind participants to provide their responses. I kept expanding the survey collection life span until I received the minimum number of 68 participants.

Data Analysis

Examining the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms, and consumers' intent to adopt online shopping is the overarching purpose for undertaking this quantitative study. The research question created to address the relationship between the independent variables (perceived ease of use of e-commerce platform, usefulness of e-commerce platform) and the dependent variable (consumers' intent to adopt online shopping) is as follows: What is the relationship between perceived

ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping?

The null and alternative hypotheses related to the research question are as follows:

H_0: No statistically significant relationship exists between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping.

H_1: A statistically significant relationship exists between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms, and consumers' intent to adopt online shopping.

I used SPSS to analyze the data and address the research question using the hypotheses. I also reported the results in a logical manner that is consistent with the theoretical framework adopted throughout the study.

In prior studies, researchers have used different types of structural equation modeling techniques to measure the relationship between variables, including partial least squares (Baptista & Oliveira, 2015; Cammnitiello, Lombardo, & Durand, 2017; Nair, Ali, & Leong, 2015), Pearson's correlation (Olasina & Mutula, 2015; Tan & Lau, 2016), and multiple regression analysis (Jung & Lee, 2015; Williams, Slade, Dwivedi, & Piercy, 2015). Another method used in the TAM studies is analysis of variance (Hess et al., 2014; Magsamen-Conrad, Upadhyaya, Joa, & Dowd, 2015). In other TAM studies, researchers used descriptive analysis and path analysis (Thakur & Srivastava, 2015).

Multiple regression analysis is most appropriate when there are two or more independent variables and the goal of the study is to predict the relationship with the dependent variable (Bryman, 2016). Partial least squares are not appropriate to model latent variables and to examine the parameters of theories (Dijkstra & Henseler, 2015). Therefore, I did not use partial least squares in this study. Pearson's correlation is not appropriate to determine the degree of linear relationship between more than two constructs (Bryman, 2016). In this study, I determined the degree of linear relationship between two independent variables and one dependent variable. Hence, I did not use Pearson's correlation. Multiple regression analysis is suitable for this study because the objective is to examine a linear relationship between two independent variables and one dependent variable.

Other quantitative statistical analysis techniques include discriminant analysis, bivariate linear regression, and factor analysis. Discriminant analysis is useful when researchers want to classify individuals into groups (Ivashchenko et al., 2016). Bivariate linear regression is appropriate when researchers want to examine only two variables (Ivashchenko et al., 2016). The hypotheses include examining the relationship between two independent variables and one dependent variable. The purpose of this research did not involve classifying any groups. Thus, the discriminant and the bivariate linear regression analysis techniques are not appropriate. Factor analysis is useful when researchers want to reduce large groups of overlapping measured variables to smaller sets

that often represent unobserved latent variables (Grassi-Oliveira et al., 2014). I did not use latent variables. Thus, factor analysis was not appropriate for this study.

Researchers use the process of data cleaning to ensure the accuracy of the information used in the analysis phase (Leopold et al., 2015). Missing data exist when survey participants fail to respond to one or more questions (Bryman, 2016). After collecting the surveys, I ensured the survey information received is complete and ready for analysis. A respondent may fail to answer a question for many reasons, such as the respondent may have forgotten to answer the question; the respondent may not know the answer, or the respondent may not want to answer the question (Bryman, 2016). I discarded surveys with incomplete information, and I dispatched additional surveys to reach the necessary number of usable surveys.

Researchers conducting multiple regression analysis rely on assumptions about the variables used in a study. If a researcher cannot draw any conclusion regarding the interaction between dependent and the independent variables, an error may occur. For instance, ignoring outlier or non-normality may cause a Type I error (Auer, Reiner & Leal, 2016). Violating an assumption about rejecting a false null hypothesis may cause a Type II error (Guerrero-Bosagna, 2016). Assumptions of linearity, normality of measurement, and homoscedasticity exist when using linear regression analysis (Hopkins & Ferguson, 2014; Suki, 2015). The visual inspection method using histogram of standardized residuals and the scatterplot of the standardized residuals provide a means of identifying outliers. The assumption of normality refers to a normal distribution of

variables (Hopkins & Ferguson, 2014). A violation of normality may indicate the sample size is too small. I used a visual inspection to test this assumption. Bootstrapping testing is useful to reduce the possibility of inconclusive inferences (McNown, Sam, & Goh, 2018). I used bootstrapping analysis to address any potential violation of the statistical assumption.

The assumption of linearity refers to the assumption that a linear relationship exists between a dependent variable and the independent variables (Hopkins & Ferguson, 2014). To assess the existence of linearity, I tested for nonlinearity. The preferable way to detect nonlinearity is to examine the plot of the residuals as a function of standardized predicted values (Hopkins & Ferguson, 2014). The SPSS program is useful for plotting the residual for visual observation.

The assumption of normality refers to a normal distribution of variables (Hopkins & Ferguson, 2014). Nonnormal distribution may result in the possibility of inaccurate relationships. Psaradakis and Vávra (2018) suggested that skewness-kurtosis test provides the best overall performance to test the normality assumption. The visual inspection method using histogram of standardized residuals and the scatterplot of the standardized residuals provide a means of identifying outliers. A violation of normality may indicate the sample size is too small. I used a visual inspection to test this assumption. Bootstrapping testing is useful to evaluate the outliers (Bernal-vasquez, Utz, & Piepho, 2016). I used bootstrapping analysis to address any potential violation of the statistical assumption.

The assumption of the reliability of measurement refers to the reliability and consistency of the instrument a researcher uses to measure the variables (Leopold et al., 2015). The Cronbach's alpha formula showed a 0.97 reliability obtained for PU and a 0.93 reliability obtained for PEOU (Davis, 1989). Several TAM researchers used Cronbach's alpha as a robust method to test this assumption. For instance, in Hidayat-ur-Rehman et al. (2016), the Cronbach's alpha test showed 0.74 for PEOU and 0.883 for PU. In another study for Raman (2014), Cronbach's alpha test showed acceptable results with 0.876 for PU and 0.879 for PEOU. As I used the TAM instrument, I relied on the Cronbach's alpha test of the previous studies without testing the instrument.

The homoscedasticity assumption refers to a clear pattern of distribution of data (Hopkins & Ferguson, 2014). One of the essential problems in applied statistics is the test of homoscedasticity (Chang, Pal, & Lin, 2017). Jupiter (2017) suggested that variant of the Welch-Satterthwaite t-test removes the assumption of homoscedasticity. Yang and Mathew (2018) commented on the Bartlett test as a popular test for homoscedasticity. Also, Hopkins and Ferguson (2014) probed that a researcher can test homoscedasticity by using statistical tests such as the Durbin-Watson, Brown-Forsythe, and Levene tests. Consequently, I used the Durbin-Watson statistic to test the homoscedasticity assumption, and I used a scatter plot and a residuals plot to examine homoscedasticity visually.

The multicollinearity assumption exists when two predictor variables are highly correlated (Disatnik & Sivan, 2016; Williams et al., 2015; Winship & Western, 2016). A

researcher can detect potential multicollinearity issue by checking the high pairwise correlation between two constructs (Hopkins & Ferguson, 2014). Yu, Jiang, and Land (2015) found that the degree of multicollinearity decreases when sample size increases. Another way to address multicollinearity is to use the variation influence factor (VIF). According to Hopkins and Ferguson (2014) a value between 5 and 10 indicates a possibility of multicollinearity issue. Also, a VIF value above 10 indicates a multicollinearity problem (Hopkins & Ferguson, 2014; Williams et al., 2015). Researchers use SPSS® to calculate VIF values (Hopkins & Ferguson, 2014). Also, a researcher can use the Durbin-Watson statistic as a step to validate any problem encompassing multicollinearity (Hopkins & Ferguson, 2014). I addressed any existence of independent error terms by calculating VIF values.

Researchers Hidayat-ur-Rehman et al. (2016) and Koutromanos, Styliaras, and Christodoulou (2015) used descriptive statistics produced by regression analysis to describe the essential features of the studies. I generated descriptive statistics by using SPSS to provide summaries about the amount of variation in the data, sample, and representative scores. I used SPSS to calculate the probability (*p* value). The pre-established probability standard or alpha was .05. I used a medium effect size (f^2 =.15), and I based the medium effect size on the analysis of four articles where TAM was the outcome measurement (Brown et al., 2014; Hidayat-ur-Rehman et al., 2016; Lo et al., 2014; Raman, 2014).

Study Validity

Reliability and validity of measures are the prime validation issues researchers need to address in quantitative research (Venkatesh et al., 2013). A research instrument is reliable when it generates accurate results repeatedly. However, a scholar can reduce the chance of errors in measurement by using a questionnaire from previous research. I used the TAM survey instrument from Davis (1989) to lessen the possibility of errors in measurement. The Cronbach's alpha formula showed a 0.97 reliability obtained for PU and a 0.93 reliability obtained for PEOU (Davis, 1989). In another TAM study, the Cronbach's alpha test showed 0.74 for PEOU and 0.883 for PU (Hidayat-ur-Rehman et al., 2016). Also, in a study for Raman (2014) Cronbach's alpha test showed acceptable results with 0.876 for PU and 0.879 for PEOU. As I did not make any changes to the instrument, I relied on the Cronbach's alpha test of the previous TAM studies without testing the instrument.

Validity refers to the degree to which an instrument measures what it is supposed to measure (Landers & Behrend, 2015). Design validity includes both internal and external validity (Venkatesh et al., 2013). Internal validity refers to the degree an evidence-gathering provides objective, with causally affects, specific outcomes (Schalock, Gomez, Verdugo, & Claes, 2017). Internal validity is appropriate to test experimental and quasiexperimental research (Flannelly, Flannelly, & Jankowski, 2018). Because the goal of this study is to investigate correlational relationships, internal validity is not relevant.

External validity relates to the extent a researcher can generalize the findings of a study to other populations (Bryman, 2016). A researcher must select a suitable sampling strategy to avoid critical threats related to external validity (Landers & Behrend, 2015; Pye, Taylor, Clay-Williams, & Braithwaite, 2016). In this study, I used a convenience sampling strategy. Using nonprobability sampling methods does not support the ability to generalize the findings of the study to the desired population (Etikan et al., 2016). Landers and Behrend (2015) claimed that convenience sampling refers to a randomized sample from a convenient population. The author added that a researcher must rationally prove that the convenience of a population is similar to the targeted population. A researcher must demonstrate the convenient sample's external validity by showing the researcher's setting and procedures and the sample characteristics (Landers & Behrend, 2015). I followed the following strategies to address the external validity. In various studies (Anderson & Levitt, 2016; Duffey, Haberstroh, Ciepcielinski, & Gonzales, 2016), the authors used a priori power analysis to estimate sample size. Likewise, I used G*Power 3.1.10 to determine the sample size with two independent variables, an alpha of .05, an effect size of .15, and a power of .80. The a priori sample size is $n = 68$ participants. The second step I followed to minimize the threats to the external validity is to validate that the collection instrument is valid. In fact, several researchers (Alazzam et al. 2015; Hidayat-ur-Rehman et al., 2016; Morosan & DeFranco, 2016; Norshidah et al., 2014; Oliveira et al., 2016; Raman, 2014; Wang et al., 2015) showed that the TAM instrument scales are valid and reliable with a value above >0.7. For instance, Hidayat-ur-

Rehman et al. (2016) tested the reliability of perceived ease of use with a value of 0.74 and composite reliability with a value of 0.724. Also, they tested the reliability of PU with a value of 0.883 and composite reliability with a value of 884. Norshidah et al. (2014) tested the reliability with a value of 0.907 for PU and a value of 0.903 for perceived ease of use. Also, the result of the reliability test showed a value of 0.876 for PU and 0.879 for perceived ease of use (Ramand, 2014). The third approach is related to the population characteristics. Internet consumers in Jeddah have similar traits to the other consumers within the western region such as Makkah, Madinah, and Taif but also across the Kingdom of Saudi Arabia. Richardson et al. (2016) stated that statistical conclusions have to be limited to the populations from which the researcher derives samples. This study might be generalizable to the population of internet consumers in the Western region of Saudi Arabia.

A scientific paper refers to the process of formulating basic questions, sampling and analyzing data, and visualizing results and drawing conclusions (Zuur & Ieno, 2016). Statistical conclusion validity refers to the process researchers use to conduct a survey or experiment of the participants that may limit or threaten the researcher's ability to have correct conclusions (Bryman, 2016). Effect sizes with understandable distributions that offer a clear interpretation are most desirable (Solomon, Howard, & Stein, 2015). Sample size, alpha, effect size, and power are the four essential components that influence statistics (Kennedy, 2015). According to Kennedy (2015) post hoc power analysis minimize the threats to statistical conclusion validity. I minimized the threats to statistical

conclusion validity by conducting post hoc power analysis to confirm the sample size. Lastly, by using regression analysis, I understood the strength of the relationship between variables, which reduced the impact of the threats to the findings.

Transition and Summary

I began Section 2 by restating the purpose to remind the reader of the broad perspective of the study. I also discussed my role as the researcher, which was to inform the reader of my relationship with the participants, how I adapted the survey instrument, and my role in managing the research process. I continued with a discussion of the research method and design and a description of the population and sampling strategy. Additionally, I included the process I developed regarding data storage and security to provide assurances about the ethical measures required for approval of the study. Also, I included in Section 2 a description of the instrumentation, study validity of the instrument, and support for the sample size calculation.

In Section 3, I discussed the research findings. I also addressed the possible effects of the study on the professional community and the implications for social change. The section continued with a discussion on recommendations for actions and further research, reflections, and a conclusion.

Section 3: Application to Professional Practice and Implications for Change

In Section 1, I discussed the background of the study, presented the problem and purpose statements, and described the nature of the study. I included in that section the research question, hypothesis, and a discussion of the theoretical framework. I closed this section with a review of the relevant academic literature. In Section 2, I discussed the research process I used to conduct my quantitative study of the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms and consumers' intent to adopt online shopping in Jeddah City, Kingdom of Saudi Arabia. In Section 3, I present an overview of the study and a summary of study findings. I also explore how the findings relate to e-commerce platform's adoption. I also discuss the impact of the findings on consumers' intent to adopt online shopping. I follow up by discussing the implications of my research for social change and offering recommendations for action and further study. The section ends with my reflections and a conclusion.

Introduction

The purpose of this quantitative correlation study was to examine the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms and consumers' intent to adopt online shopping. I used multiple linear regression analysis to test the existence of a relationship between the independent variables, PEOU of e-commerce

platforms, PU of e-commerce platforms and the dependent variable, consumers' intent to adopt online shopping. The results of the multiple regression indicated that the independent variables were statistically significant in predicting consumers' intent to adopt online shopping ([$F\ (2, 92) = 241.630, p < .001, R2 = .840, adjusted\ R2 = .837$]) and accounted for 84% of the variance in consumers' intent to adopt online shopping. The Pearson's correlation coefficient between PEOU and consumers' intent to adopt online shopping was (PEOU) $r= .916, p < .001$. The Pearson's correlation coefficient between PU and consumers' intent to adopt online shopping was (PU) $r= .591, p < .001$. Regardless of Pearson's correlation, according to the regression analysis, the p-value for PEOU was below 0.05. The p-value for PU was above 0.05. Hence, PU of e-commerce platforms was a non-significant predictor of consumers' intent to adopt online shopping and PEOU of e-commerce platforms was a statistically significant predictor of consumers' intent to adopt online shopping. I rejected the null hypothesis because the results of the study confirmed the significance of the model and a positive relationship between PEOU of e-commerce platforms and consumers' intent to adopt online shopping.

Presentation of the Findings

In this study, I chose a quantitative correlational design. I also used a multiple regression analysis to examine the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms and consumers' intent to adopt online shopping. The research question was:

RQ: What is the relationship between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms and consumers' intent to adopt online shopping?

The null and alternative hypotheses were:

H_0: No statistically significant relationship exists between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms and consumers' intent to adopt online shopping.

H_1: A statistically significant relationship exists between perceived ease of use of e-commerce platforms, perceived usefulness of e-commerce platforms and consumers' intent to adopt online shopping.

To answer the research question, I collected data using a web-based self-administered structured survey; Upon IRB approval, I sent the link of the web-based survey via Abdul Latif Jameel. I distributed the questionnaire in a SurveyMonkey format. ALJ distributed the link to the survey via emails to ensure optimal participation. I targeted participants who live in Jeddah City, Saudi Arabia. The survey instrument contained a participant consent form, introduction, and invitation to participate in the web-based survey. The projected time to complete the survey was 5 minutes or less. I provided 2 days for participants to return the completed survey, during which time I monitored the data entry. One hundred and forty-eight eligible participants received emails soliciting their participation in the study. Selected participants received follow-up reminders to participate in the study after 2 weeks following approval from Walden

University's IRB. I received 105 completed surveys but excluded 10 because they were incomplete. The 95 completed surveys exceeded the required minimum sample size of 68 participants that I calculated using G*Power 3.1.10 software analysis and Green's formula for sample size determination. I ended data collection after receiving sufficient completed surveys to complete my analysis. I performed a post hoc power analysis on the dependent variable consumers' intent to adopt online shopping where I achieved a power of 0.92 resulting in a sample of 95. Table 1 presents the results of the post hoc power analysis for the dependent variable. I calculated an effect size of 0.15 based upon a correlation coefficient for consumers' intent to adopt online shopping of .917.

Table 2

Post Hoc Power Analysis for Consumers' Intent to Adopt Online Shopping

Parameter	Value
Analysis input	
Effect size f^2	0.15
α err prob	0.05
Total sample size	95
Number of predictors	2
Analysis output	
Noncentrality parameter λ	14.25
Critical F	3.0954328
Numerator df	2
Denominator df	92
Power (1-β err prob)	0.9241740

Note. The effect size of 0.15 was calculated in G*Power based upon the correlation coefficient for consumers' intent to adopt online shopping of .917. Post hoc: Compute achieved power

(table continues)

Participant Characteristics

Descriptive statistics indicated that 53.68% (51) of the participants were men and 44 participants (46.32%) were women. Table 3 displays the participants by age.

Table 3

Age of Participants

Age Range	Responses %	Number of Responses
18-20	4.21%	4
21-34	54.74%	52
35-64	41.05%	39
Above 64	00.0%	0
Total	100%	95

Survey Instrument Characteristics

I used TAM as a validated survey instrument (see Appendix A) to collect data from consumers who live in Jeddah City, Kingdom of Saudi Arabia and have purchased at least once online. I recruited participants using an online survey, and ALJ IT leaders sent the invitation and survey to the potential participants. The survey included 18 questions based on a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Validity and Reliability Test

I validated scales of the instrument from previous studies. The established benchmark for Cronbach's alpha is a reliability index of 0.7 or greater (Rostami, Sharif,

Zarshenas, Ebadi, & Farbood, 2018). The Cronbach's alpha formula showed a 0.97 reliability obtained for PU and a 0.93 reliability obtained for perceived ease-of-use (Davis, 1989). In another TAM study, the Cronbach's alpha test showed 0.74 for PEOU and 0.883 for PU (Hidayat-ur-Rehman et al., 2016). Also, in a study for Raman (2014) Cronbach's alpha test showed acceptable results with 0.876 for PU and 0.879 for PEOU. As I did not make any changes to the instrument, I did not test the instrument, and I relied on previous studies' validity and reliability tests. Following the validity and reliability tests, I performed standard multiple regression tests, $\alpha = 0.05$ (two-tailed), to examine PEOU of e-commerce platforms, PU of the e-commerce platforms, and consumers' intent to adopt online shopping.

Descriptive Statistics

I received 105 survey responses, and discarded 10 records due to missing data, resulting in 95 records used in the analysis. Table 3 presents descriptive statistics of the study variables.

Table 4

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PU	95	1.00	7.00	5.3018	1.34047
PEOU	95	1.50	7.00	5.5211	1.29790
CI	95	2.00	7.00	5.7105	1.22383

Note PU = perceived usefulness, PEOU= perceived ease of use and CI= consumers 'intention.

Test of Assumptions

In this section, I presented the results of tests of the assumptions. The presentation contains the results of normality, linearity, homoscedasticity, and multicollinearity. Also, I added the tables and graphs to observe the independence of residuals.

Figure 1. Normal probability plot of regression standardized residuals.

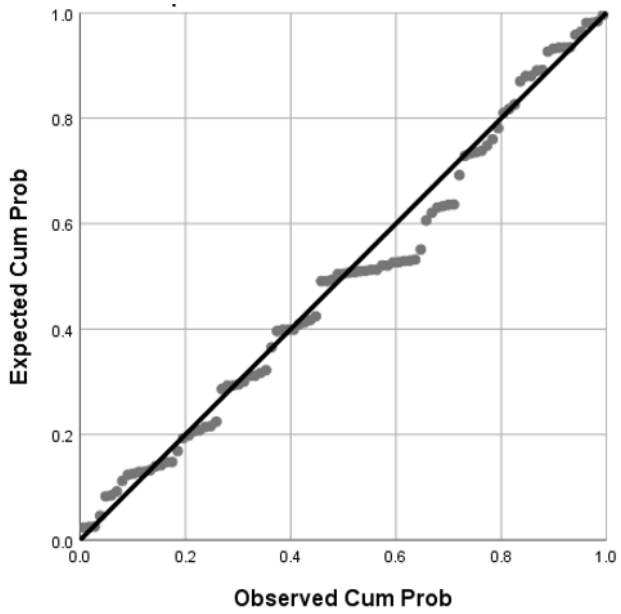


Figure 2. Scatterplot of the standardized residuals.

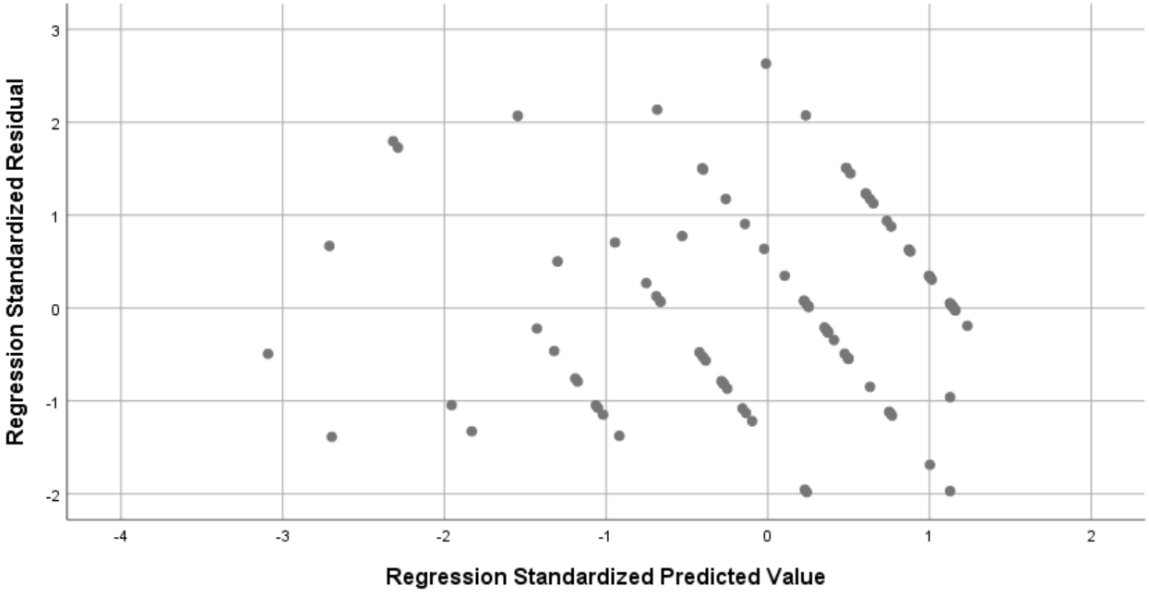
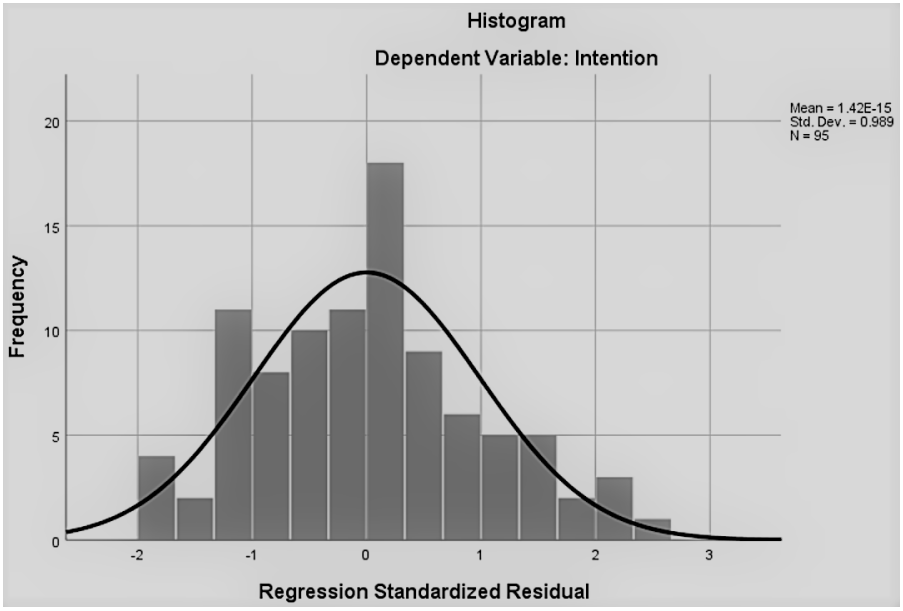


Figure 3. Histogram of the regression standardized residual.



Outliers, normality, linearity, homoscedasticity, and residuals. Significant results could turn out to be false if a researcher did not manage outliers (Leys, Klein, Dominicy, & Ley, 2018). I evaluated the outliers, normality, linearity, homoscedasticity, and independence of residuals by examining a visual inspection method using a histogram of standardized residuals and the scatterplot of the standardized residuals provide a means of identifying outliers. According to Hopkins and Ferguson (2014), the preferable way to detect nonlinearity is to examine the probability plot of the residuals as a function of standardized predicted values. By reviewing the output of the probability plot of the residuals (Figure 1), the scatterplot of the standardized residuals shown in (Figure 2) and the histogram of the standardized residuals (Figure 3). Some of the values of the outcome variable deviated from normality. Bernal-vasquez et al. (2016) suggested bootstrapping testing to evaluate the outliers. Hence, I used bootstrapping analysis to

examine the influence of assumption violations. I used bootstrap regression based on 2,000 random samples to ensure the strength of variable estimates. I used a 95 % confidence interval and derived p values to evaluate the assumption violations avoiding any normality-based assumption associated with the distribution used in the standard linear regression. The examinations indicated no major violations of these assumptions. The propensity of the points showed that violation of the assumption of normality did not exist. The absence of a regular pattern in the scatterplot of the standardized residuals (Figure1) supported the assumptions being satisfactory.

I examined the normality issue by analyzing the skewness and kurtosis values of the data. The higher the kurtosis, the more the distribution are accurate (McAlevey & Stent, 2018). The limit values of ±2 from zero for skewness and kurtosis imply that data is normally distributed (Gravetter & Wallnau, 2014). After analyzing the normality test results, the values of each variable's skewness and kurtosis test result came within the advised measures of normality. As shown in Table 5, the skewness test values varied from -1.187 to -.930, and the kurtosis test values ranged from .512 to 1.407 for all variables.

Consequently, the data collected were considered normal and there was no need for transformation. For this study with a sample size of 95 participants multiple linear regression analysis may perhaps include minor deviations from the assumption of normality and would be considered appropriate. To validate the homoscedasticity assumption, I used the Durbin-Watson test and examined the residual scatter plot as

discussed in Section 2. As shown in Table 5 the Durbin-Watson value of 1.905 was higher than the upper limit 1.587 and below 2. Therefore, the homoscedasticity assumption is valid.

Table 5

Descriptive Statistics Skewness and Kurtosis

		PU	PEOU	CI
N	Valid	95	95	95
	Missing	0	0	0
Skewness		-1.187	-1.070	-.930
Std. Error of Skewness		.247	.247	.247
Kurtosis		1.407	.780	.512
Std. Error of Kurtosis		.490	.490	.490

Note PU = perceived usefulness, PEOU= perceived ease of use and CI= consumers 'intention.

Table 6

Durbin-Watson value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.917[a]	.840	.837	.49471	1.905

Predictors: (Constant), PEOU, PU b. Dependent Variable: Intention

Multicollinearity. The multicollinearity assumption exists when two predictor variables are highly correlated (Disatnik & Sivan, 2016; Williams et al., 2015; Winship & Western, 2016). Researchers use SPSS® to calculate VIF values (Hopkins & Ferguson, 2014). I calculated and examined the values of the independent variables' VIFs to validate the assumption of absence of multicollinearity. According to Hopkins and

Ferguson (2014), a value between 5 and 10 indicates a possibility of multicollinearity issue. Also, a VIF value above 10 indicates a multicollinearity problem (Hopkins & Ferguson, 2014; Williams et al., 2015). All values were lower than the conservative threshold of 5, thus suggesting that multicollinearity was not a major issue in the study. Table 7 shows the calculated VIF value was 1.765, which is below the common VIF threshold of 10. All the predictors were below 0.5, hence, indicates no possibility of a multicollinearity problem.

Table 7

Correlations Coefficients Among Study Predictors Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.971	.236		4.108	.000	.501	1.440		
	PU	-.020	.051	-.022	-.395	.694	-.120	.080	.567	1.765
	PEOU	.878	.052	.931	16.803	.000	.774	.981	.567	1.765

Note PU = perceived usefulness, PEOU= perceived ease of use.
a. Dependent Variable: CI: consumers 'intention.

Inferential Results

I used a standard multiple linear regression, $\alpha = .05$ (two-tailed), to examine whether PEOU of e-commerce platforms, PU of e-commerce platforms predicts

consumers' intent to adopt online shopping in Jeddah, Kingdom of Saudi Arabia. Before conducting the regression test, I examined the possible existence of the assumptions of multiple regression analysis, by testing normality, linearity, homoscedasticity, independence of residuals and multicollinearity. There were no violations of assumptions after the test. As shown in Table 7 and Table 8, the model was statistically significant to predict consumers' intent to adopt online shopping in Jeddah City, Saudi Arabia, *F (2, 92) = 241.630, p < .001*, and accounted for 84% of the variance in consumers' intention to adopt online shopping (*R2 = .840*, adjusted *R2 = .837*). The *R2 of .842* showed that two variables, namely PEOU of e-commerce platforms and PU of e-commerce platforms, defined 84% of the variance in consumers' intent to adopt online shopping. I rejected the null hypothesis. The p-value for PEOU was below 0.05. On the other hand, the p-value for PU was above 0.05. Therefore, PU of e-commerce platforms variable was non-significant predictor of consumers' intent to adopt online shopping and only PEOU of e-commerce platforms was statistically significant predictor of consumers' intent to adopt online shopping. The positive slope for PEOU of e-commerce platforms PEOU (*B=.878*) and consumers' intent to adopt online shopping indicated that an increase of this construct led to an increase of the intention to adopt online shopping.

Table 8

ANOVA with the Dependent Variable Behavioral Intention

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	118.273	2	59.137	241.630	.000[b]

Residual	22.516	92	.245
Total	140.789	94	

a. Dependent Variable: CI: consumers' intention
b. Predictors: (Constant), PEOU=perceived ease of use, PU=perceived usefulness

Table 9

Pearson's Correlations Coefficients

		CI	PU	PEOU
CI	Pearson Correlation	1	.591**	.916**
	Sig. (2-tailed)		.000	.000
	N	95	95	95
PU	Pearson Correlation	.591**	1	.658**
	Sig. (2-tailed)	.000		.000
	N	95	95	95
PEOU	Pearson Correlation	.916**	.658**	1
	Sig. (2-tailed)	.000	.000	
	N	95	95	95

**. Correlation is significant at the 0.01 level (2-tailed).
PU = perceived usefulness, PEOU= perceived ease of use.
CI: consumers 'intention.

Analysis Summary

I examined in this study, the relationship PEOU of e-commerce platforms, PU of e-commerce platforms, and consumers' intent to adopt online shopping. To assess this relationship, I conducted standard multiple linear regression tests. Despite the absence of any serious violations of the assumptions surrounding the multiple regressions analysis, I used the bootstrapping test with a sample of 2000 samples and 95% confidence interval to address any potential violations of the statistical assumption (Appendix D). As I did

not make any changes to the TAM instrument, I did not test the instrument, and I relied on previous studies' validity and reliability tests. I validated scales of the TAM instrument from previous studies. The Cronbach's alpha showed a 0.97 reliability obtained for PU and a 0.93 reliability obtained for perceived ease-of-use (Davis, 1989). In another TAM study, the Cronbach's alpha test showed 0.74 for PEOU and 0.883 for PU (Hidayat-ur-Rehman et al., 2016). Also, in a study for Raman (2014) Cronbach's alpha test showed acceptable results with 0.876 for PU and 0.879 for PEOU. Overall, only 1 construct perceive ease of use of the TAM model predicted consumers' intent to adopt online shopping in Jeddah city, Saudi Arabia, $F\ (2, 92) = 241.630, p < .001, R2 = .840,$ adjusted $R2 = .837.$ The results of the multiple regression analysis showed that the model is significant. Therefore, I rejected the null hypothesis.

Applications to Professional Practice

The standard multiple regression analysis results and the choice of a quantitative correlation design were valuable to determine the degree of the significance of the relationship between PEOU of e-commerce platforms, PU of e-commerce platforms, and consumers' intent to adopt online shopping. Notably, e-commerce growth in Saudi Arabia is reaching USD 7.92 billion (Export.gov, 2018). Findings from this study could inform Saudi leaders with strategies they can use to evolve their online platforms and, thus, enable advancements in retail operations in domestic and international markets (Alatawy, 2018a; Ezzi, 2016). In this study, I found that only PEOU of e-commerce

platforms had a positive impact on consumers' intent to adopt online shopping in Jeddah city, Saudi Arabia.

There are several implications for practitioners based on this research. First, I was able to demonstrate that PEOU had a significant relationship with consumers' intent to adopt online shopping. Also, I was able to demonstrate that PU has a non-significant relationship with consumers' intent to adopt online shopping. Hence, the findings suggested that consumers once they perceive the commerce platform to be easy to use, they are likely to utilize the website. Therefore, retail business owners should focus on the ease of use of the website as much as the design and contents of the website. Also, I was able to show that PEOU had a positive impact on consumers' intention to adopt online shopping. Hence, business leaders with online shopping presence will need to design their commerce platform in a way that considers providing consumers with the ease of use aspects, which mean to provide an e-commerce platform that is (a) easy to learn (b) flexible to interact with while shopping and (c) clear and understandable.

The findings showed that PU of e-commerce platforms has a non-significance relationship with consumers' intent to adopt online shopping. Thus, retail business owners must acknowledge that consumers do not consider online shopping because (a) it enables them to accomplish their shopping more quickly, (b) improves consumers' performance while shopping, (c) increases consumers' productivity (d) enhances consumers' effectiveness for shopping, and lastly, (e) makes shopping more convenient based on their time. Retail business owners must consider building a more user-friendly

website that consumers feel comfortable accessing. Despite the cultural constraints in Saudi Arabia, I was not expecting a high female response rate with 46.32%, which is a great indicator that online shopping is an attractive topic for females, which means females in Saudi Arabia are likely to have already acquired the online shopping know-how. Retailers must position their services and products in the online market taking into consideration covering the need of both genders. Also, the age was a good indicator that most of the respondents were young with age ranged between 21-34. Therefore, retail business owners must consider young people when they target the online market. Finally, retail business owners can use the findings of this study to develop commerce strategies that enable increasing the ease of use of e-commerce platforms because that would increase consumers' intent to adopt online shopping. Lastly, targeting young men and women would increase their online sales since they are the most interested age category to buy online.

Implications for Social Change

The implications for positive social change include the potential for Saudi retail leaders to better understand important predictors that influence consumers' decisions to adopt online shopping. This understanding of business leaders may embrace the improvement of business sustainability in online retail. Also, the understanding of business leaders of the predictors that influence consumers' intent to adopt online shopping may contribute to reduced unemployment. Reduced unemployment could, in turn, contribute to improving quality of life for potential employees and consumers alike.

Subsequently enhancing the economic prosperity of local communities might enable more contributions to local charities. Also, the Saudi government leaders are heading to have their government services through an online portal where they allocated close to USD 800 million to carry out the e-Government Initiative (Export.gov, 2018). The findings of my study could give the government of Saudi Arabia a practical ground on the need of building an effective and easy to use e-government portal, which would enable Saudi citizens and residents to execute their needs easily and without the need to consume fuels or waste a long time for simple governmental services. Rather, citizens and residents would gain more time to do more work to benefit the community.

Recommendations for Action

Based on the study's findings, which showed the positive impact of PEOU construct of the TAM on consumers' intent to adopt online shopping, retail business owners should create clear strategies to build effective online shopping platforms. The number of online purchases in Saudi Arabia reached around USD 8 million purchases in 2017, and the number will continue to grow to expand to 9.3% per annum (Ministry of Communication and Information Technology, 2018). Retail business owners must consider building a more user-friendly website that consumers feel comfortable accessing. According to the findings of this study, PEOU of e-commerce platforms predicts consumers' intent to adopt online shopping. Therefore, owners of the small and medium business must increase the ease of use of e-commerce platforms to increase consumers' intent to adopt online shopping.

Moreover, despite the cultural restrictions in Saudi Arabia, this study showed a high participation rate of females. Hence, retailers must target both young men and women because that is the most interested age category to buy online. According to The Saudi Communications and Information Technology Commission (2018), the number of female users using e-commerce platform is higher than male users. The report showed that the retail fashion is the largest segment of the market volume of USD 1.7 billion. Owners of small and medium businesses must benefit the growth of online business in Saudi Arabia. Also, they take advantage of the findings of this study to build an easy to use e-commerce platform that is easy to learn, flexible to interact with while shopping, clear, and easy to understand.

Recommendations for Further Research

There were three limitations identified in Section 1 of this study. The first was the generalizability of the study to the broader population in Saudi Arabia, as the sample was only from Jeddah City. The second was the inability to reach females or the unwillingness of females to participate due to Saudi culture. The third was the fact that participants might not honestly respond.

Future researchers can validate the strength of the study by using different study participants, different geographic areas, and different sample sizes. Continued research in consumers' intent to adopt online shopping might provide owners of small and medium businesses with additional tools and information necessary for success. According to Export.gov (2018), consumers in Saudi Arabia favor cash payments on delivery over

credit card payments. Therefore, retailers in e-commerce business must overcome this challenge to increase the e-commerce market shares significantly. Hence, future researchers could add additional variables such as trust and privacy to give solutions to the ongoing problem. In addition to adding new variables to the existing study, future researchers can use the results of this study as a basis when researching diverse types of technology such as mobile shopping. Despite Saudi culture, there was a high participation rate of females (46.32%) in this study. Future researchers may examine the intention of females in Saudi Arabia to shop online, especially that the number of active online shoppers of females is higher than males (Export.gov, 2018). Future researchers may control bias by asking confirmatory questions in the survey. Also, future researchers may consider multiple categories of participants or other instruments to minimize the self-reporting bias. Finally, future researchers can validate the explanatory power of the findings of this study by using other categories of participants, different sample sizes, different geographic areas, and different research designs.

Reflections

It was a great and wonderful learning journey at Walden University DBA program. Although challenging, the program at Walden University is an iterative process that includes coursework and extensive research. I expected to complete the program within three years, but it didn't happen because of the dissertation process, which required attention to detail, flexibility, patience, and high communication skills where I was overwhelmed by the hectic revisions at a certain phase. The program had helped me

to expand my knowledge of the quantitative research process and research designs in such a way that I was able to use it in this study. Also, I expanded my understanding and knowledge of the fundamentals around my project topic, namely the factors that predict consumers' intent to adopt online shopping. As an information technology professional, I understand first-hand the challenges and obstacles faced by retailers using e-commerce platforms. As a student, I enjoyed collecting the data during the 2 weeks, and I was able to reach the minimum sample size required to conduct the data analysis where I examined the linear relationship between PEOU of e-commerce platforms, PU of e-commerce platform and consumers' intent to adopt online shopping. The findings of this study provide some indications to retailers to improve their e-commerce adoption strategies and can inspire future researchers. Through the DBA process, I became more aware of the concept of positive social change. The positive social change affects Walden's students, but more importantly, it affects those who are touched by the graduates of the program.

Conclusion

I conducted a quantitative research method using a correlational design to examine the degree of significance of the relationship between perceived ease of e-commerce platforms, PU of e-commerce platform and consumers' intent to adopt online shopping. I used the TAM theoretical framework and pretested survey instrument for this study. I conducted the data collection using an online survey built with Survey Monkey. I sent out 148 surveys and received 105 responses among which 10 were incomplete and discarded. The response rate was 64.18%. I performed a post hoc power analysis on the

dependent variable of consumers' intent to adopt online shopping where I achieved a power of 0.92 resulting in a sample of 95. Table 2 presents the results of the post hoc power analysis for the dependent variable. I calculated the effect size at 0.15 based upon correlation coefficient for consumers' intent to adopt online shopping of .917. The data collected were exported from Survey Monkey and imported into SPSS software. I performed in SPSS the descriptive statistics and standard multiple regression analysis to test the hypothesis derived from the question.

The analysis of the statistical results supported the null hypothesis. I found that PEOU of e-commerce platform has a positive impact on consumers' intent to adopt online shopping, while PU of e-commerce platform is a non-significant predictor to consumers' intent to adopt online shopping. Despite some limitations of this research, retailers can use the findings and make informed decisions on how to develop better strategies to adopt websites. Without the increased adoption of e-commerce, Saudi Arabia retailers may have difficult time in competing globally. Retailers with traditional standards must evolve their business to an online model. Moreover, retailers must consider PEOU to improve their e-commerce platforms.

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Appendix A: TAM Survey Questionnaire

Part 1- Instructions

Please enter the most appropriate information for your situation

1. What was your age on your last birthday?

- ◯ 18-20
- ◯ 21-34
- ◯ 35-64
- ◯ 64 Plus

2. What is your gender

- ◯ Male
- ◯ Female

3. have you ever purchased from an e-commerce platform

- ◯ Yes
- ◯ No

4. How many years of experience do you have using e-commerce platform

- ◯ 1 Year
- ◯ 2 Years
- ◯ 3 Years
- ◯ +3 Years

5. How many e-commerce platforms have you ever purchased from

- ◯ 1 e-commerce platform
- ◯ 2 e-commerce platforms
- ◯ 3 e-commerce platforms
- ◯ More than 5 e-commerce platforms

Perceived usefulness

Please circle the number that most accurately captures your reaction to the following statements.
1-Strongly Disagree, 2-quite Disagree,3- slightly disagree 4-Neutral, 5- slightly Agree, 6- quite Agree, 7- Strongly Agree

6. Using e-commerce platform in my online shopping would enable me to accomplish task more quickly

1	2	3	4	5	6	7
○	○	○	○	○	○	○

7. Using e-commerce platform would improve my performance for shopping

1	2	3	4	5	6	7
○	○	○	○	○	○	○

8. Using e-commerce platform in my shopping would increase my productivity

1	2	3	4	5	6	7
○	○	○	○	○	○	○

9. Using e-commerce platform enhance my effectiveness for shopping

1	2	3	4	5	6	7
○	○	○	○	○	○	○

10. Using e-commerce platform would make it easier to do my shopping

1	2	3	4	5	6	7
○	○	○	○	○	○	○

11. I find e-commerce platform useful in my online shopping

1	2	3	4	5	6	7
○	○	○	○	○	○	○

Appendix B: Permission to Adapt Survey Instrument

MIS Quarterly
Carlson School of Management
University of Minnesota
Suite 4-339 CSOM
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Minneapolis, MN 55455

August 13, 2018

Momen Nachar
182-21 150th Avenue
JED 877505
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Permission to use material from
MIS Quarterly in doctoral dissertation

Permission is hereby granted to Momen Nachar to reprint the "Final Measurement Scales for Perceived Usefulness and Perceived Ease of Use" (and supporting material as necessary) from Fred D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly* (13:3), 1989, pp. 319-340, in the thesis titled "Factors That Predict the Adoption of Online Shopping in Saudi Arabia," being completed at Walden University.

In addition to the citation information for the work, the legend should include

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Janice I. DeGross
Manager, MIS Quarterly

Appendix C: Verification That TAM Instrument is Final Measurement

From: MISQ <misq@umn.edu>
Date: August 23, 2018 at 10:26:34 PM GMT+3
To: Momen Nachar <momen.nachar@waldenu.edu>
Subject: Re: Permission to Adapt Survey Instrument

Momen Nachar,

I have discussed this with my supervisor and she verified that the TAM instrument is "Final Measurement Scales for Perceived Usefulness and Perceived Ease of Use" as found in the Appendix on page 340. In the abstract refers to a new scale "for two specific variables, perceived usefulness and perceived ease of use, which are hypothesized to be fundamental determinants of user acceptance." That is what you were given permission to use. If there is another table or figure in the manuscript you believe to be the TAM, please give the numbers of the table or figure to me along with the page number.

Regards,

Jennifer

On 8/23/2018 1:48 PM, Momen Nachar wrote:

> Hi Jennifer,
>
> After checking the manuscript, I need the permission to use material from “Perceived Usefulness, Perceived Ease of Use and User acceptance of Information Technology", F.D. Davis. MIS Quarterly (13:3), September 1989, pp. 319-340 (specifically, the survey instrument or an adaptation of the instrument) in a doctoral dissertation titled “Factors That Predict the Adoption of Online Shopping in Saudi Arabia,” being completed at Walden University.
>
> My Best,
>
> Momen Nachar

Appendix D: Tabular Presentation of Bootstrapping

Table D1

Descriptive Statistics Regression

		Statistic	Bootstrap[a]			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Consumer Intent	Mean	5.71	.00	.13	5.45	5.94
	Std. Deviation	1.224	-.008	.099	1.025	1.419
	N	95	0	0	95	95
PU	Mean	5.30	.00	.14	5.01	5.55
	Std. Deviation	1.340	-.012	.124	1.091	1.585
	N	95	0	0	95	95
PEOU	Mean	5.52	.00	.13	5.24	5.76
	Std. Deviation	1.298	-.008	.111	1.078	1.513
	N	95	0	0	95	95

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples

Table D2

Bootstrap for Model Summary

Model	Durbin-Watson	Bootstrap[a]			
		Bias	Std. Error	95% Confidence Interval	
				Lower	Upper
1	1.995	-.635	.201	.984	1.776

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples

Table D3

Bootstrap for Coefficients

Model	B	Bootstrap[a]				
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper

1	(Constant)	.971	.000	.278	.001	.423	1.498
	PU	-.020	-.002	.049	.663	-.129	.070
	PEOU	.878	.002	.046	.000	.792	.970

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples

(table continues)

b.