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## E-Commerce Adoption Factors Among Palestinian SMEs: A Descriptive Study

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### Abstract

State of Palestine is a country consisting of two main regions; the West Bank and Gaza strip. Palestine is considered a developing nation with continuous efforts to develop its economy using the application of information and communication technology (ICT) as an important tool towards that progress. Numerous studies were carried out on E-Commerce (EC) adoption, however, there are yet any studies that studied it inside Palestine. The objective of this study is to analyze the factors influencing EC adoption in Palestine, as the study considers the factors influencing said adoption to be technological, organizational, and information culture factors. A thorough analysis was conducted on each factor to gain a deep understanding of the status quo of EC adoption in Palestine. The study utilized a questionnaire survey to collect data from 50 participants picked from Palestinian SME's operating in the ICT sector as data collected were descriptively analyzed. Based on the analysis, three major factors were found to be the most relative in regards to EC adoption; these are: IT readiness, technology trust, and information integrity. The findings of this study will benefit the government of Palestine, Businesses associations, and any organization looking towards successful EC adoption.

**Keywords:** electronic commerce; Information culture; small and medium sized enterprises (SMEs); TOE; Palestine.

### Introduction

State of Palestine is considered a developing country that consists of two main regions, the West Bank and Gaza strip which are controlled by Palestinian authority, and the other land was occupied by Israel. the total land mass is approximately 6020 square kilometers with a population of 4.68 million people (PCBS, 2015). Decades ago the Israeli occupation has caused the country to be impoverished by poverty and economic instability, putting people on a continuous struggle to provide basic needs which more than often they can't find. The ongoing settlements and land seizures added more burdens to the economy, into addition the apartheid wall that surrounds a lot of communities. Furthermore, checkpoints and land confiscation from Arabs living there, the destruction of houses, curfews, and closure of entire areas have also added to the burdens on the people and the economy. The previously mentioned reasons increased the urge to overcome the geographical barriers by taking advantage of ICT (Ayyash, 2013).

A report by the Palestinian Central Bureau of Statistics (PCBS, 2014) mentioned that the ongoing developing of ICT and adopting it in the Palestinian economy has led to an increase in the number of people who use computers to reach 63.1% of the entire population of Palestine in the year 2014. Additionally, the number of people with internet access have increased from 28% in the year 2009 to 48% in 2014 (PCBS, 2014, 2015).

Several studies have been conducted on the adoption of EC in developing nations, however, there is yet to be a research to study EC adoption in Palestine. EC adoption in developing nations by SME's is very different from adoption in developed countries. EC adopted by SME's in developing nations faces many hurdles, such as the lack of qualified personnel to implement the adoption, the lack of the essential infrastructure, the lack of reliable systems to support the implementation, poor skills of consumers when it comes to internet use, the low bank and credit card penetration into transactions, and the low income and computer technology diffusion among the population. Adoption of EC in such businesses has recently received more attention in the academic field; however, research regarding EC adoption in SME's is scarce at best, especially in developing countries (Garg & Choeu, 2015). Furthermore, developing nations more than often have varied business philosophies and culture that hinders full implementation designed by the west or developed nations (Maarop & Omar, 2015).

There are several benefits of EC adoption, these benefits include reduced costs associated with the company's activities and it helps to streamline processes to smooth operations. EC also improves the market reach of the company opening up new horizons; it enhances the efficiency of the company's operations on both the short and long terms. Additionally, EC aids in establishing more solid relations with suppliers and partners as it significantly improves the selling and buying of different products for both the company and the customer, essentially enhancing the overall performance of the entire firm (Hajli, Sims, Shanmugam, Irani, & Irani, 2014; Qu, Pinsonneault, Tomiuk, Wang, & Liu, 2014; Sila, 2013). The objective of this research is to explore the important factors associated with EC adoption in the case of Palestinian SME's.

## Background

Numerous studies focused on EC adoption in developed and developing nations, however, there has been a handful research regarding EC adoption in Palestine, and the findings from previous studies related to EC adoption are summarized in Table 1.

**Table 1.** Previous studies related to EC adoption

Author and year	Key findings
(Al-Alawi & Al-Ali, 2015)	The results of this study shows that top management support under organization factors and technological factors such as perceived benefits have a positive relationship with EC adoption.
(Garg & Choeu, 2015)	This study dictated that only three independent factors were important statistically that influence EC adoption among SME's; these factors are: relative advantage, IT knowledge, and competitive pressure.
(Rahayu & Day, 2015)	This study stated that factors affecting SME's

	EC adoption in Indonesia are: perceived benefits, technological readiness, owners' innovativeness, owners' IT ability and owners' IT experience are the most important factors after surveying 292 Indonesian SME's.
(Al-Bakri & Katsioloudes, 2015)	The research stated that adoption of EC systems in SME's is largely influenced by several factors; these factors were determined to be readiness for adoption, manager's perspective, external pressure by trade partners and to achieve maximum benefits of said adoption. The study also mentioned both internal and external factors affect the adoption of EC by SME's.
(Al-Somali, Gholami, & Clegg, 2015)	This study mentioned that IT readiness has a great effect on EC penetration and diffusion in the firm, and it also stated that access to physical network of proper bandwidth and capabilities are of great influence on EC adoption and its success.
(Boamah, 2014)	The research found that obstacles facing EC adoption are awareness of the culture and the attitude towards it, poor information culture into addition to other factors.
(Maryeni, Govindaraju, Prihartono, & Sudirman, 2014)	This research specified four factors affecting EC adoption in West Java, Indonesia; these factors are: IT planning, users' IT skills, management support, and complexity.
(Sila, 2013)	The author revealed that pressure from competitors, scalability, reliability of the network, trust, and top management support play a crucial role in the firm's decision to adopt B2B EC.
(Ghobakhloo & Tang, 2013)	Five major factors were determined important for EC adoption according to this study; these factors are: innovativeness, perceived costs, compatibility, perceived risks, and perceived benefits.
(Li & Xie, 2012)	According to the researchers a key question managers should ask to scale EC adoption in a timely manner; they stated that effort should be put by managers to build trust in their corporate culture based on transaction relations, both within the firm itself and with trade partners.

(Brdese, Corbitt, Pittayachawan, & Alsaggaf, 2012)	The study concluded that both organizational and external factors influence technology adoption, including the organizational culture which is the most important factor in adopting EC according to the study.
(Choo, Bergeron, Detlor, & Heaton, 2008)	This research stated that values and information behaviors of the firm were able to justify from 30 to 50 percent of variance in information of the outcome. The study concluded that it is quite possible to identify behaviors and values to describe a certain firm's information culture, it also stated that this pre-set of identified behavior can be held accountable for a large portion of variance in outcome.

Summarizing the above table shows that certain factors play crucial roles in EC adoption, these factors are: Relative advantage, complexity, compatibility, top management support, IT readiness, trust in technology, integrity of information and control, formality of information, and pro-activeness. Based on the review of literature, the author can confidently say that EC adoption is mainly influenced by technology, organization, and information culture factors, thus, forming the Technology-Organization-Environment Framework (TOF) (Tornatzky & Fleischer, 1990) which can be very useful in the case of EC adoption in Palestine.

### Methodology

According to Hair, Black, Babin, Anderson, and Tatham (2006) in order to run the appropriate statistics test procedures, about 50 respondents need to be involved in the pilot study. All the Date was analyzed using fifty returned samples from a designation questionnaire distributed to managers/owners of ICT SME's. The questionnaire's reliability was tested using Cronbach's alpha coefficients, the total Cronbach's alpha value exceeded 0.7 indicating high reliability (Nunnally, 1994), and the questions were further broken down into four different categories as shown in Table 2.

**Table 2.** Questions Category

Category number	Category name	Number of items
1	<b>EC adoption</b>	6
2	<b>Technology context</b> <ul style="list-style-type: none"> <li>• Relative advantage</li> <li>• Compatibility</li> <li>• Complexity</li> </ul>	6 5 5
3	<b>Organization context</b> <ul style="list-style-type: none"> <li>• Top management support</li> <li>• IT readiness</li> <li>• Technology trust</li> </ul>	7 6 5
4	<b>Information culture context</b> <ul style="list-style-type: none"> <li>• Information integrity</li> </ul>	5

	<ul style="list-style-type: none"> <li>• Information formality</li> <li>• Information control</li> <li>• Information pro-activeness</li> </ul>	<p>5</p> <p>5</p> <p>5</p>
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### Result

The findings of the study are shown in Table 3 descriptively. Likert scale was used in order to measure the importance of each factor in relevance to EC adoption by ICT SME's. A five point scale was also utilized to estimate the importance of each factor, such that the average or mean score can be calculated to determine the important factors. The five point scale was divided as to let 1 represent "Strongly Disagree", and 5 representing "Strongly Agree".

The table below shows the descriptive results of the individual variable employed in the study. The results have been organized by the degree of importance of each factor based on the calculated Mean.

**Table 3.** Descriptive Results of Factors in Relation to EC Adoption

Category	Factor	Mean	Degree of importance
Technology context	Relative advantage	4.11	6
	Compatibility	4.03	7
	Complexity	3.81	10
Organization context	IT readiness	4.28	2
	Technology Trust	4.31	1
	Top management support	3.92	9
Information culture context	Information pro-activeness	4.18	4
	Information integrity	4.19	3
	Information control	3.98	8
	Information formality	4.16	5

Based on the descriptive results, three factors were found to be the most important in relevance to EC adoption in Palestine; these factors are IT readiness, technology trust, and information integrity.

### Conclusion

This study took a deductive approach based on previous EC adoption studies and research, the study also aimed to address factors influencing EC adoption in Palestine with consideration to different variables in a TOE framework. EC adoption factors have the potential to contribute greatly to the country, the suggested factors are: IT readiness, technology trust, and information integrity. Which were found to be important in EC adoption and serve as preset condition of successful EC adoption. In the end, further improvements on the study including model validation could be conducted in order to address significant relationships of each factor with EC adoption.

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