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E-Commerce Adoption Factors Among Palestinian Small and Medium Enterprises: “A Descriptive Study”

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Abstract: 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.

INTRODUCTION

Palestine is considered a developing country that consists of two main regions, the West Bank and Gaza strip, the total land mass is approximately 6020 km² with a population of 4.68 million people^[1]. 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.

A report by the Palestinian Central Bureau of Statistics 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^[1]. 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 infra structure, 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^[2]. Furthermore, developing nations more than often have varied business philosophies and culture that hinders full implementation designed by the West or developed nations.

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^[3-5]. 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 no research at all regarding EC adoption in Palestine, the findings from previous studies related to EC adoption are summarized in Table 1.

Summarizing the Table 1 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 proactiveness. Based on the review of literature, the researcher can confidently say that EC doption is mainly influenced by technology, organization and information culture factors, thus, forming the Technology-Organization-Environment Framework (TOF)^[6] which can be very useful in the case of EC adoption in Palestine.

Table 1: Findings from previous studies related to EC adoption

Researchers and years	Key findings
Al-Alawi and Al-Ali ^[7]	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 and Choel ^[2]	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 and Day ^[8]	This study stated that factors affecting SME's EC adoption in Indonesia are: perceived benefits, technological readiness, owner's innovativeness, owners' IT ability and owner's IT experience are the most important factors after surveying 292 Indonesian SME's
Al-Bakri and Katsioloudes ^[9]	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 <i>et al.</i> ^[10]	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 ^[11]	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 <i>et al.</i> ^[12]	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 ^[3]	The researcher 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 and Tang ^[13]	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 and Xie ^[14]	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 <i>et al.</i> ^[15]	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 <i>et al.</i> ^[16]	This research stated that values and information behaviors of the firm were able to justify from 30-50% 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

Table 2: Questions category

Category number	Category name	No. of items
1	EC adoption	6
2	Technology context	
	Relative advantage	5
	Compatibility	5
	Complexity	5
3	Organization context	
	Top management support	7
	IT readiness	6
	Technology trust	5
4	Information culture context	
	Information integrity	5
	Information formality	5
	Information control	5
	Information pro-activeness	5

Table 3: Descriptive results of factors in relation to EC adoption

Categories/Factors	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

MATERIALS AND METHODS

Date was analyzed using fifty returned samples from a designation questionnaire distributed to managers/owners of ICT SME's. A pilot study was conducted prior to that in order to avoid complicating the questionnaire and modify it accordingly. The questionnaire's reliability was tested using Cronbach's alpha coefficients, the total Cronbach's alpha value exceeded 0.92 indicating high reliability and the questions were further broken down into four different categories as shown in Table 2.

RESULTS AND DISCUSSION

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 Agree" and 5 representing "Strongly Disagree".

Table 3 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.

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.

REFERENCES

1. PCBS., 2015. Manual of statistical indicators provided by Palestinian Central Bureau of Statistics. Palestinian Central Bureau of Statistics, Ramallah.
2. Garg, A.K. and T. Choeu, 2015. The adoption of electronic commerce by small and medium enterprises in Pretoria East. *Electr. J. Inf. Syst. Dev. Countries*, 68: 1-23.
3. Sila, I., 2013. Factors affecting the adoption of B2B E-commerce technologies. *Electron. Commerce Res.*, 13: 199-236.
4. Hajli, N., J. Sims and M. Shanmugam, 2014. A practical model for E-commerce adoption in Iran. *J. Enterp. Inf. Manage.*, 27: 719-730.
5. Qu, W.G., A. Pinsonneault, D. Tomiuk, S. Wang and Y. Liu, 2015. The impacts of social trust on open and closed B2B E-commerce: A Europe-based study. *Inf. Manage.*, 52: 151-159.
6. Tornatzky, L. and M. Fleischer, 1990. *The Processes of Technological Innovation*. Lexington Books, Lexington, Massachusetts,.
7. Al-Alawi, A.I. and F. Al-Ali, 2015. Factors affecting e-commerce adoption in SMEs in the GCC: An empirical study of Kuwait. *Res. J. Inform. Technol.*, 7: 1-21.
8. Rahayu, R. and J. Day, 2015. Determinant factors of E-commerce adoption by SMEs in developing country: Evidence from Indonesia. *Procedia-Social Behav. Sci.*, 195: 142-150.
9. Al-Bakri, A.A. and M.I. Katsioloudes, 2015. The factors affecting E-commerce adoption by Jordanian SMEs. *Manage. Res. Rev.*, 38: 726-749.

10. Al-Somali, S.A., R. Gholami and B. Clegg, 2015. A stage-oriented model (SOM) for E-commerce adoption: A study of Saudi Arabian organisations. *J. Manuf. Technol. Manage.*, 26: 2-35.
11. Boamah, E., 2014. Towards effective management and preservation of digital cultural heritage resources: An exploration of contextual factors in Ghana. Ph.D. Thesis, Victoria University of Wellington, Wellington, New Zealand.
12. Maryeni, Y.Y., R. Govindaraju, B. Prihartono and I. Sudirman, 2014. E-commerce adoption by Indonesian SMEs. *Aust. J. Basic Applied Sci.*, 8: 45-49.
13. Ghobakhloo, M. and S.H. Tang, 2013. The role of owner/manager in adoption of electronic commerce in small businesses: The case of developing countries. *J. Small Bus. Enterprise Dev.*, 20: 754-787.
14. Li, P. and W. Xie, 2012. A strategic framework for determining e-commerce adoption. *J. Technol. Manage. China*, 7: 22-35.
15. Brdese, H., B. Corbitt, S. Pittayachawan and W. Alsaggaf, 2012. Organisational culture and adoption of electronic commerce: A study of the Saudi Arabian tourism market. *Proceedings of the 2012 7th International Conference on Computer Science & Education (ICCSE)*, July 14-17, 2012, IEEE, Melbourne, Australia, pp: 857-862.
16. Choo, C.W., P. Bergeron, B. Detlor and L. Heaton, 2008. Information culture and information use: An exploratory study of three organizations. *J. Am. Soc. Inf. Sci. Technol.*, 59: 792-804.