

A Case Study of E-commerce Adoption in Jordanian Small and Medium Enterprises(SMEs)

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Abstract: Nowadays the adoption of electronic commerce in business operations is no longer a concession to large organizations. The SMEs also are trying to adopt e-commerce in their business operations to gain the benefits of using it. The SMEs is considered to be playing a major role in economic growth for most nations. The SMEs in Jordan, which is a developing country, made up the vast majority of the Jordanian enterprises where about 98% of the manufacturing and service enterprises are SMEs. Despite the enormous attention given to encourage the SMEs to adopt e-commerce by the government, e-commerce adoption level is still low. It is, therefore, the aim of this paper to identify the factors that contribute towards the adoption of e-commerce by SMEs in their business operations. A case study research was carried out to identify factors that determine the varying extent of e-commerce adoption in SMEs. The findings of the case studies showed that security, online payment, awareness of e-commerce and external IT support are barriers for e-commerce adoption in Jordan.

Keywords: e-commerce adoption, developing countries; SMEs in Jordan; case study

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I. INTRODUCTION

The Small and Medium Enterprises or SMEs play an important part in the economic activities of different nations. The importance of SMEs is increasing over the years as they have become the backbone of a country's economy, especially in developing countries. Both theoretical and practical economic and business development literatures acknowledge the fundamental contributions of SMEs to the development of both national and international growth of the economy. This fact is measured not only by the number of SMEs which represents nearly 90% of the total business establishments across the world, but also by their significant role in creating employment opportunities (Hall, 2002; Kartiwi, 2006). SMEs has been defined in different ways, such as according to the number of employees of the enterprises, the ownership and management, the capital as well as the sales volume. All the definitions agree on the definition that small or medium enterprises employ few people and are characterized by a relatively small amount of capital and turnover. The SMEs in Australia is defined as business organizations employing less than 200 employees while in Denmark, the European Parliament definition is adopted according to which SMEs are business organizations with up to 250 employees (Scopla, 2009). In Jordan, according to Jordan Enterprise Development Corporation and Central Bank of Jordan, the SMEs are defined as Micro, Small and Medium with 1-9, 10-49 and 50-249 employees respectively (JEDCO, 2011). The country's economic sector is categorized into three main sectors: industrial, services and agriculture (Department of Statistics, 2011).

II. E-COMMERCE: DEFINITIONS AND BENEFITS

There are several definitions of electronic commerce or e-commerce based on different perspective view. From the technology's perspective view, e-commerce is defined as sharing of data and business information, between organizations and between the organization and customers by means of telecommunications networks (Zwass, 2003; Kenneth et al., 2012; Zaid, 2012; Cosgun & Dogerlioglu, 2012; Bagale, 2014). From the commercial perspective view, e-commerce is defined as the purchase and sales of products where the business transactions take place between businesses, individuals, governments or other organizations and between each other (Grandon & Pearson, 2004; Kaynak et al., 2005, Turban et al., 2010).

For this study, the definition of e-commerce used is as given in (Zaid, 2012) where e-commerce is defined as conducting business transactions over the internet, which includes the exchange of information of value in the form of products and services as well as payments, using web-based technologies.

E-commerce brings huge benefits to the organizations, including (i) improved productivity by creating new relationships through customer/supplier and other strategic partners (ii) improved cost and savings in transaction costs,(iii) Increased speed of business, (iv)improved transactionefficiencies (v) increased market places by accessing a wide range of markets. In addition, e-commerce can be used by business organizations including the SMEs for various purposes such as communicating with their customers and suppliers, promoting

their goods and services, as well as providing extensive information about their products and services (Cosgun & Dogerlioglu, 2012).

III. E-COMMERCE IN JORDAN

Today e-commerce is growing rapidly on a global level affecting all business organizations and subsequently changing the way organizations conduct their business. The Economic and Social Commission for Western Asia reported that internet market has developed significantly over the last few years (ESCWA, 2013). The internet service providers rely on both the narrowband and broadband infrastructure to provide internet service to their customers. Realizing the importance of e-commerce, the Ministry of Information and Communications Technology in Jordan (2007) has prepared a national e-commerce strategy to mobilize the nation to develop technical and commercial capacity and to adopt e-commerce in trading goods and services between businesses and with consumers. The Government of Jordan acknowledges that e-commerce is very important because it benefits not only the individual organizations but the overall economy as well. According to the government, among others, the benefits of e-commerce are reduced costs and improved efficiency. E-commerce leads to lower prices for goods and services by making markets more competitive. Rigorous effort has been made by the government to increase awareness of e-commerce and to encourage SMEs to use e-commerce. However, the report on the economic and social commission for Western Asia (2013) revealed that e-commerce adoption was low.

IV. LEVEL OF E-COMMERCE

The development of e-commerce and adoption consists of four stages: web presence, portals, transaction integration and enterprise integration (Rao et al., 2003).

- a. **Web Presence:** It is the stage for the establishment of a website to provide information to the user. At this stage, the organization shows the information about its products on a static website where there is only a one-way communication.
- b. **Portals:** It is the stage for two-way communication with customers and suppliers. At this stage, customers and suppliers are communicating through the organization's website to search for information, to order products online and to give online feedback.
- c. **Transaction integration:** It is the stage that is different from portals with the addition of financial transaction for customers and suppliers. Customers can order and pay online for products and services at this stage, the organization's website has the ability to support financial transactions.
- d. **Enterprise integration:** At this stage, there is a high level of collaboration with customers and suppliers where the full integration of business to business (B2B) and business to customers (B2C) transactions includes value chain integration.

Four sequential clusters for the level of e-commerce adoption have been proposed (Wilson et al., 2008).

Cluster 1 (Developers): Organizations in Cluster 1 have the lowest levels of operational e-commerce services, compared to the other three clusters, where they are at the very start of their e-commerce adoption and are currently developing the services. The most common areas of development activity are having a simple website to provide information about the organization's products and services towards advertising and brand building and having e-mail communication with customers inside the website.

Cluster 2 (Communicators): Other than having the basic website providing the company, product and service information, the organizations in Cluster 2 are making extensive use of electronic media for finding business information using internet access. They are also making extensive use of email for communication with customers and suppliers, for employee communication and for exchanging documents with customers and suppliers.

Cluster 3 (Promoters): The most common areas of further development of activities in Cluster 3 organizations are the taking of orders and receiving payment online. They have developed transactional capabilities.

Cluster 4 (Customer Lifecycle Managers): In addition to the activities undertaken by the previous clusters, some areas of common activities of the organizations in Cluster 4 is provided after sales service and performing online delivery of digital goods or services.

Four stages of adoption e-commerce have also been defined by NCC (2009) where Stage 1 refers to the use of a simple website, Stage 2 refers to web interaction with customers, Stage 3 refers to online relationship with business partners and Stage 4 refers to online exchange and an e-marketplace for customers. Abou-Shouk et al. (2013) has divided the levels of e-commerce adoption into four stages where Stage 1 is the static web presence, Stage 2 is interactive online presence, Stage 3 is electronic transaction and Stage 4 is electronic integration. In this study, four levels of e-commerce adoption are used which are defined as follows.

Level 0: Have internet or email with no website

Level 1: Basic web with simple information about product and services.

Level 2: Website to find external information and order online.

Level 3: Website with online payment and online transaction.

Generally, the SMEs may start with initial and simple adoption of e-commerce, such as having a simple static website to provide information. This may advance to the use of email for communication with their customers and suppliers and then proceed to the more sophisticated adoption that includes a high-level of interaction between customers and suppliers such as ordering online, receiving payment online and making delivery of digital goods online.

V. METHODOLOGY

This study employs the case study research strategy to investigate the phenomenon of low adoption in Jordanian SMEs in depth and within its real-life context. It adapts the methodology used in another study in Jordan on software maintenance in e-commerce companies by Salameen, Takturi-Rizk and Cooper (2015). Ten organizations have been selected for the case study of Jordanian SMEs. To study the phenomena in depth, semi-structured face-to-face interviews were used in the study to make interviews flexible and to allow the respondents to raise new aspects that the researcher may not have thought about prior to the interviews. The interviews were conducted with the IT supervisor or the manager of each organization.

1. Organization 1

Organization-1 is a private organization for medical services with 6 employees that was established in 2009. The business of the organization is the import of cosmetic drugs from outside the country. The communication between the owner of the organization and other organizations is done by facsimile. The purchasing process from the supplier, which is outside of the country, is done by sending money through the bank. In Jordan, the organization does the product marketing to medical cosmetic clinics by salespersons as well as through medical exhibitions.

When the manager was asked about the adoption of e-commerce in the business, he believed that e-commerce would be useful to facilitate the distribution of the products to other cities in Jordan since currently the salespeople are working only in the capital city and they could not go to the other cities due to time and financial constraint. The manager believes there are some obstacles preventing the adoption of e-commerce in his organization as follows.

- Human Resources: E-commerce requires an increase of the number of employees who have experience in IT skills.
- Financial Resource: Higher funding is required to pay the employees. This may lead to the increase of price and delivery service charges to support the financial requirement for e-commerce.
- Awareness: There is no awareness about the importance of e-commerce.

2. Organization 2

Organization-2 is a furniture business organization with 45 employees. Established in Jordan 2002, it holds the vision to offer affordable, high-quality furniture and related accessories. Moreover, the organization has also ventured into the industry of wall and kitchen cabinets. The results of the interview indicate that the organization has a website which gives product information. In addition, it also has a Facebook page to interact with the consumers. However, with respect to direct sales from other cities, there are none since the organization is in the capital city while other cities are too far away. The organization has tried to develop its website to enable online payment and increase the benefits. However, they encountered some obstacles as follows.

- Product Trust: The people in Jordan do not trust products sold online. They are afraid that the product received would be different from what they perceive it to be. Therefore, the organization tries to solve this problem by showing pictures of the furniture and giving information of the type of wood that the furniture is made of to give people more confidence in buying furniture online.

3. Organization 3

Organization-3 has 15 employees and was established in 1994. It specializes in the production and marketing of Dead Sea products. This organization is one of the most important cosmetics organizations in Jordan. The Company has a website since the year 2000 where it is used for sales and online payment as well as for making contacts with consumers who have shopped online. This organization has been dealing with global marketing where they have established international online payment with payment in dollars. There is no online business transaction between the residence of Jordan and this organization. Some obstacles preventing the adoption of e-commerce in Organization-3 are as follows.

- Security: There is no trust of Jordanian people of paying online.
- Product Pricing: Selling online increases price of the product because of the shipping charge.
- Banking Service Charges: There are problems of online payment (banking services) in Jordan by credit cards and there are many restrictions from banks where they accept online payment with a small fee.

- Product Type: Type of product plays an important role for using e-commerce.

4. Organization 4

Organization-4 with 17 employees is an industry of the Dead Sea products, which was established 1997. The organization has a website for promoting and selling the product line within Jordan and outside the country. It also uses online payment. However, in Jordan selling online incur tax of 4% for online payment and shipping charges. The organization recognizes the role of e-commerce expansion in the business where e-commerce has increased their profits outside Jordan. The organization also wishes that the other organizations would understand the usefulness of e-commerce for their business.

Problems relating to e-commerce adoption in Jordan by organizations include:

- Payment method: Pay online (using credit card)
- Awareness: Organizations need more awareness of e-commerce.

5. Organization 5

Organization-5 was established in the 2011. It has 18 employees and is the first organization in Jordan and the Middle East that is selling fruits, vegetables and home accessories through the internet. The international marketing of the organization works very well. Through the organization's website, customers could choose the products and pay online. The manager believes that people in Jordan will not be adopting e-commerce so much. He also believes that other organizations need to understand the usefulness of e-commerce in order to adopt it. He believes that e-commerce can develop very fast if we can overcome some obstacles that are preventing the adoption of e-commerce as follows.

- Government Support: Government support to the organizations by increasing the awareness of e-commerce to help them to adopt it.
- Banking services: Reduce tax by using credit cards when selling online, where it is about 4%.
- Security: Confidence to pay online.

6. Organization 6

Organization-6, which has 15 employees, makes sweets and cakes. The organization has one branch in Jordan. The organization has a Facebook website to promote the different types of sweets and cakes as well as to communicate with customers. The manager feels that it's confusing to use the website for selling and online payment. He believes that e-commerce requires financial resources for implementing the websites and for having IT employees to work on this website. He thinks that in Jordan in order to promote online payment there is a need to have certain agencies to help encourage organizations to adopt e-commerce.

Therefore, the manager prefers direct selling and buying where the contact with customers for placing orders are made by telephone. The organization currently prefers its usual way of buying and paying process which is believed to be more secure than e-commerce. Some obstacles preventing the adoption of e-commerce in Organization-6 are as follows.

- Awareness: Lack of agencies to help organizations to understand the benefit from adopting e-commerce.

7. Organization 7

Organization-7 has 15 employees and was established in 2003. The organization exports large quantities of industrial food out of Jordan and the entire business involves exports outside Jordan. Although the organization believes that it does not need to adopt e-commerce, the organization is making use of email to deal business with other countries outside of Jordan and believe that the email is adequate enough for them to handle their business.

Some obstacles that are preventing the adoption of e-commerce in his organization as follows.

- Security: There is no security of online payment.
- IT services: The Jordanian organizations need external IT services to help them to understand and adopt e-commerce.
- Type of product and size: Type and size of product play an important role for using e-commerce.

8. Organization 8

Organization-8 with 15 employees is a chocolate industry and was established in 2001. The organization has a website for customers to view the different types of chocolate products. But the organization is doing direct sales to customers and other organizations. The organization believe that the nature of the product does not effect of e-commerce adoption (information of product). Although it already has a website, it has no intention to adopt e-commerce. In terms of delivery, it feels that the charges are not expensive where it is about \$4.40. It also believes that workshop for Jordanian SMEs by IT agencies may increase the awareness of organizations the use of e-commerce and may also increase the adoption of e-commerce. However, as far as the organization is

concerned, it is satisfied with its current business dealings and feels that there is no need to develop e-commerce for the business. Some obstacles preventing the adoption of e-commerce in Organization-8 are as follows.

- Banking Service Tax: The banking services tax in the case of the use of bank visa card is 4% and these taxes are paid by the organization.
- Awareness: There is lack of adequate perception of the community.

9. Organization 9

Organization-9, which was established in 1999, has 10 employees. It manufactures furniture and sells it within Jordan, It specializes in children’s furniture. Seven years ago, the organization had a website in order to offer its products and to communicate with their customers. However, since they did not find that the interaction was sufficient, they closed the site. They believed that keeping the website was a waste of time. Nevertheless, a year ago, after the tremendous development of e-commerce, they had the intention to open a new website. The organization would not move towards e-commerce adoption because it is believed that it would be difficult. Some obstacles preventing the adoption of e-commerce in organization-9 are as follows.

- Confidence: People and organizations in Jordan have no confidence in using e-commerce.
- Security: The organizations need protection when using online payment.
- Type of Product: Certain type of products in the organization is difficult to sell through the website.

10. Organization 10

Organization-10, which was established in 2012, manufactures women’s clothes and has 5 employees. The organization only has a Facebook page to show and promote its products in Jordan. This method serves to be useful for this organization to sell its products fast. In addition, many people would get to know about the organization in a short time where many women are able to visit the organization’s Facebook page and become attracted to the goods. As the income of the organization increases, the future plan of this organization is to have a website to display products and selling them online. However, in terms of payment, the preferred payment is cash payment rather than online payment. Some obstacles preventing the adoption of e-commerce in organization-10 as follows.

- Security: Lack of security for online payment.
- IT Resources: Lack of knowledge for e-commerce adoption.

VI. DISCUSSION

This case study has investigated the factors that influence and inhibit the adoption of E-Commerce in SMEs. Results of the interview of ten business organizations yield the main factors affecting e-commerce adoption in Jordan as given in Table 1.

Table 1. Factors affecting e-commerce adoption

Items	Factors
1	Security for online payment
2	Awareness of e-commerce
4	Financial resource
5	Product type
6	Management/ owner support
7	External expertise

With respect to the levels of e-commerce adoption, Table 2., shown the level of e-commerce for ten organizations.

Table 2. Level of e-commerce for each organization

Organization number	Level of e-commerce adoption
Organization 1	Level 0
Organization 2	Level 1
Organization 3	Level 3
Organization 4	Level 3
Organization 5	Level 3
Organization 6	Level 0
Organization 7	Level 0
Organization 8	Level 1
Organization 9	Level 0
Organization 10	Level 0

VII. CONCLUSION

Based on the results of this research, the following conclusion is drawn.

- **First**, organizations that choose to adopt e-commerce feel the need for understanding the benefits from e-commerce.
- **Second**, the owner/manager of an organization plays an important role in achieving successful e-commerce adoption.
- **Third**, security and online payment are the greatest obstacle in e-commerce adoption.
- **Fourth**, the level of e-commerce adoption is low where most of SMEs have an email and facebook or simple website to show the information about the organization and the product.
- **Fifth**, IT agencies need to increase the awareness of e-commerce and to help SMEs in adopting e-commerce.

This case study indicates obstacles in e-commerce adoption by SMEs in Jordan. The results of this study are useful not only for managers of SMEs but also for government agencies in developing countries, which have economic reasons to be concerned about the development of SMEs. In addition, this paper serves as an example of how case study strategy can be used to identify important factors inhibiting SMEs to adopt e-commerce.

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