International Journal of
Electronic Commerce Studies
Vol.3, No.1, pp.83-100, 2012

FACTORS INFLUENCING E-COMMERCE ADOPTION BY RETAILERS IN SAUDI ARABIA: A QUANTITATIVE ANALYSIS

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ABSTRACT

This paper presents findings from a study examining the diffusion and adoption of online retailing in Saudi Arabia. Although the country has the largest and fastest growing Information and Communication Technologies (ICT) sector in the Arab region, growth in e-commerce activities has not progressed at a commensurate rate. In general, Saudi retailers have not kept pace with the global growth of online retailing. The authors have conducted research to identify and explore key issues that influence Saudi retailers in deciding whether or not to adopt online channels. As part of a larger research project using mixed methods, this paper focuses on a quantitative analysis of responses obtained from a survey of retailers in Saudi Arabia. The design of the questionnaire instrument was based on the findings of a qualitative analysis reported in a previous paper. The main findings of the current study include a list of key factors that affect retailers' e-commerce adoption, such as lack of online payment options and lack of clear

legislation on e-commerce in Saudi Arabia, and quantitative indications of the relative strengths of the various relationships.

Keywords: Online Retail, Retailers, Saudi Arabia, Questionnaire Survey, Diffusion of Innovations

1. INTRODUCTION

The number of commercial organizations that utilize electronic commerce systems is on the rise. In the future, these systems are likely to become not only a tool for increasing income, but also an essential means of competition[1]. While e-commerce has become a familiar part of life in developed nations, it is still considered an innovation in the Kingdom of Saudi Arabia (KSA). Despite possessing the largest and fastest growing Information and Communication Technologies (ICT) sector in the Arab region[2, 3, 4, 5], the country has proceeded at a relatively slow pace in the e-commerce area[6, 7, 8]. At present, only a tiny number of Saudi commercial organizations, mostly medium and large companies in the manufacturing sector, are involved in e-commerce activities, and these are mostly Business to Business (B2B)[8]. A question that naturally arises is why retailers in Saudi Arabia have been so reserved in adopting the e-commerce channel.

This paper contributes toward addressing the above question, by providing a quantitative analysis of responses obtained from a survey of retailers in Saudi Arabia. The paper is organized as follows. In the following section, we present a brief review of the relevant literature as well as some background information regarding e-commerce in Saudi Arabia. Section 3 then discusses the research methods used, and Section 4 presents a quantitative analysis of the results. This is followed by a discussion, in Section 5, of some implications of these findings and, in Section 6, a summary of the main points raised in the paper.

2. BACKGROUND AND PREVIOUS RESEARCH

The period 1995-2000 saw a notable proliferation of e-commerce start-ups and online retailing systems in the USA[9, 10]. Since 2000, the rapid growth of e-commerce activities has been obvious in the developed world. Global e-commerce spending is worth about US$10 trillion at present, compared to US$0.27 trillion in 2000. The USA accounts for the largest share (about 79%) of the current total, followed by Europe. By comparison, the Middle East and African region has a very small share (around 3%)[11].

Many studies have been conducted around the world to gain a better understanding of the drivers and challenges of online commerce. For

example, Nair[12] finds that key factors that influence the development of e-commerce include ICT infrastructure (such as access to Internet broadband), availability of online services (such as online payment services), legislation and regulation, and security.

Gibbs, *et al*[13] present a cross-country study of e-commerce diffusion which covers the experiences of the USA, Mexico, Brazil, France, German, Denmark, Singapore, China, Taiwan and Japan. They find that Business to Business (B2B) e-commerce adoption is generally driven by global forces, while Business to Consumer (B2C) e-commerce adoption is more likely to be determined by local factors.

According to Gibbs, *et al*[13], the drivers/enablers for B2C e-commerce include: (1) consumer desire for convenience and greater range of products; (2) businesses' desire to reach new markets or protect existing markets; (3) consumer purchasing power; (4) rapid Internet diffusion; and (5) government promotion. In contrast, the barriers/inhibitors for B2C e-commerce include: (1) lack of valuable and useful content for consumers; (2) inequality in socioeconomic levels; (3) lack of trust due to security/privacy concerns; (4) preferences for in-store shopping; (5) existence of viable alternatives, such as dense retail networks and convenience stores; (6) lack of online payment mechanisms; (7) lack of customer service; and (8) language barriers.

With regards to the fifth identified driver of B2C e-commerce, namely government promotion, Gibbs *et al*[13] note that this commonly comes in the form of technical support, training, and funding provided by the government to businesses, particularly Small and Medium Enterprises (SMEs). Further, they argue that "government regulation, such as privacy protection, can be critical to supporting e-commerce"[13]. In the USA, the government's role in this area was mainly to develop effective infrastructure[9]. By contrast, the role of government in developing and industrializing economies (such as Taiwan) was often far more prominent and extensive[14]. It should be noted, however, that in a 2002 survey, Al-Otaibi and Al-Zahrani[3] report that government initiatives appear to have had limited influence on the proliferation of e-commerce in most countries.

In KSA, while the government has played a major role in promoting the rapid growth of ICT in general, it appears to have placed rather less emphasis on e-retailing than on e-learning and e-government. In 2001 the Saudi Ministry of Commerce established a Committee for e-Commerce, with members drawn from various government agencies and the private sector[2]. The Committee prepared a general framework and plans for improving factors which influence e-commerce development – such as IT infrastructure, legislation and regulation, payment systems, security needs,

delivery systems, and education and training. Apart from a booklet[2] issued by the Ministry of Commerce in 2001, however, little information is publicly available regarding the Committee's further work or impact. Indeed, it appears that the Committee has ceased to exist, and that the role of e-commerce supervision and development may have been transferred to the Ministry of ICT in 2005.

In 2007, the Saudi Communication and Information Technology Commission (CITC) carried out an extensive study of various aspects of Internet usage in Saudi Arabia, one of which is e-commerce awareness and activity[8]. It reported that only 9% of Saudi commercial organizations, mostly medium and large companies from the manufacturing sector, were involved in e-commerce and only 4 out of 10 private companies had their own websites. As for the customers, while 43% were aware of e-commerce, only 6% had ever bought or sold products online, mainly airline tickets and hotel bookings[8]. CITC's IT Report 2010 reiterated that e-commerce in Saudi Arabia is still in its early stages. In particular, most Saudi retail chains have yet to establish an online channel, and only 8% of Saudi businesses sell online[15].

A number of non-government studies have also been made regarding e-commerce development in Saudi Arabia. For example, Albadr[6] and Aladwani[7] highlighted the availability, speed and cost of Internet connection as potentially critical determinants of the participation by individuals and organizations in online activities, as of the early 2000s. While these studies are a little dated, the issues they examined remain of some relevance. Despite substantial investments made to date in IT infrastructure and training, Saudi Arabia ranked 52nd out of the 70 countries listed in a 2010 e-readiness report, which assessed the quality of each country's ICT infrastructure as well as the ability of its government, businesses, and people to use ICT[16]. While the 2010 rates of household broadband penetration (41.6%) and Internet user penetration rates (41.0%) compared well with those of most other countries in the Middle East and North Africa, they (especially the latter rate) remained substantially lower than in developed nations[15].

Foreign and domestic observers have also pointed to a tendency among the public to resist social adaptation to new commercial paradigms, lack of trust toward online businesses, and shortage of skilled employees suitable for the implementation and maintenance of e-business systems [4, 17].

Another significant obstacle, as highlighted by Al-Solbi and Mayhew [18], has been the lack of individual home addresses. Before 2005, individuals had no uniquely identifying addresses, and mail was not delivered to homes and offices but, instead, was collected from postal offices[19]. Postal

deliveries to homes and buildings have been made since 2005[5, 19]. Nevertheless, a significant proportion of the public has remained without home addresses, largely as matter of old habit and personal choice.

A lack of clear legislation, regulation, rules and procedures in KSA to protect the rights of all parties involved in e-commerce transactions has been cited as a major issue by commercial organizations[18, 20] as well as consumers[21, 22]. Although Saudi Arabia contributes to the efforts of UNCITRAL (United Nations Commission on International Trade Laws)[2], many stakeholders regard the lack of national legislation and regulation in this area as a key obstacle to further and more rapid development[6, 18].

Alrawi and Sabry[23] carried out a review of the literature relating to e-commerce in the Gulf countries (Saudi Arabia, Oman, UAE, Kuwait, Qatar, and Bahrain). From this, they identified a number of important issues, many of which overlap with the factors already discussed above. Issues which have not been highlighted above include: usability and interactivity of websites, online payment systems, trust and security issues, the level of assurance provided by online companies, change management, education levels, and competitive advantage.

In an earlier paper, AlGhamdi, Drew and Al-Gaith[24] adopted a qualitative approach and used information obtained from a series of interviews with 16 Saudi retailers to form a list of factors that inhibit or discourage retailers from adopting online retail. These inhibitors were identified as: (1) setup cost; (2) delivery issues; (3) resistance to change; (4) lack of e-commerce experience; (5) poor ICT infrastructure; (6) lack of online payment options to build trust; (7) mistrust of online sales; (8) the habits/culture of people in Saudi Arabia not being favorable towards online purchases; (9) lack of clear rules/law for e-commerce in Saudi Arabia; (10) difficulties in offering competitive advantage on the Internet; (11) lack of profitability; and, (12) situations where products are not suitable to be sold online.

This qualitative study also established a list of incentives that are likely to enable or encourage retailers to adopt the online channel. These enablers are (1) the development of strong ICT infrastructure; (2) government support and assistance for e-commerce, (3) educational programs to build the awareness of e-commerce; (4) trustworthy and secure online payment options; and, (5) the provision of sample e-commerce software for test trials.

The main purpose of the current paper is to obtain quantitative indications of the relative strengths of these inhibiting and enabling factors. In analyzing the factors on these two lists and on similar lists (e.g., those highlighted in the above literature review), the Diffusion of Innovations

(DOI) model can serve as a useful conceptual framework. Rogers[25] defined an innovation as an idea, practice or object that is perceived as new by an individual or other unit of adoption, and diffusion as "the process during which an innovation is communicated through certain channels over time among members of a social system". The DOI model has been widely used to explain the adoption of innovations, especially those involving technology[26, 27, 28].

The DOI model sees the innovation diffusion process as involving five aspects. These are identified as (1) perceived attributes of the innovation which enable/inhibit its adoption; (2) type of innovation-decision (optional, collective, authority); (3) communication channel diffusing the innovation at various stages in the innovation-decision process (mass media, interpersonal); (4) nature of the social system (norms, degree of network interconnectedness, etc); and, (5) the extent of change agent's promotion efforts[25]. In turn, the five perceived attributes of an innovation, which may influence the decision of the potential adopter, are its relative advantage, compatibility with the status quo, complexity, trialability, and observability [25].

3. RESEARCH METHODS

This paper is part of a larger research project which studies online retail in Saudi Arabia, using a combination of qualitative and quantitative methods. A qualitative study was first conducted for exploratory purposes, followed by this quantitative study, the design of which is based on findings from the earlier, qualitative phase. This type of exploratory mixed methods design is often conducted for in-depth investigation of a research problem[29, 30, 31, 32, 33, 34].

For the earlier, qualitative study[24], interviews were conducted with decision-makers (including owners, headquarter managers, marketing managers, and IT managers) affiliated with 16 retailers selected from various business categories in Saudi Arabia. A qualitative content analysis was used to identify the factors that positively and negatively influence retailers in deciding whether or not to adopt online sale channels.

In this paper, a questionnaire survey based on the qualitative study's findings is used to gain more information, especially regarding the relative strengths of these factors. Typically, a question that asks for information about the participating retailer's attributes would provide a set of choices, and an open answer (e.g., "other") where the participant could insert additional information if he or she wishes. The two key questions are "what factors inhibit or discourage your company from implementing an online system to sell on the Internet?" and "what factors help or encourage your

company to implement an online system to sell on the Internet?" The participants are given a list of 13 options to select from for the former question, and 6 options for the latter (in each case, the last option is "other"). Respondents may select as many of the available options as they wish, including the open answer. The survey questions are designed in English with an Arabic translation version being available, so that the participant can opt for the language with which he or she is most familiar.

Around 200 paper copies of the questionnaire forms were distributed in person to retail businesses in Jeddah (the main economic city in Saudi Arabia), Riyadh (the capital city), and Al-Baha during February and March of 2011. Potential participants were selected via the "snowballing" approach, where some participants were initially approached; they would then be asked to recommend others who might be willing to participate, and so on. Judgment was also exercised to ensure that the questionnaire forms were delivered to a wide range of businesses in terms of their size, and the type of products or services that they offered. A total of 80 completed forms were returned, giving a response rate of around 40%.

Electronic copies of the questionnaire forms were also kept on the website of the Griffith University research survey center (English version / Arabic version). The authors collected the email addresses of 416 retail companies which were members of the Jeddah and Riyadh chambers of commerce. Associates of the authors provided an additional list of around 50 business email addresses with which they were familiar. Invitations to participate online were sent via email to this total of 466 addresses, but around 100 were returned because the addresses were invalid. The authors also received the Saudi Post's assistance in emailing the 50 retailers which had registered with their e-mall (this e-mall had started in October 2010). Thus, in total there were 416 retailers who potentially could choose to participate in the online survey via the Griffith website. At the time of writing (May 2011), 68 had done so, implying a response rate of 16.3%.

4. RESULTS AND DATA ANALYSIS

This section presents a summary and analysis of the responses collected to date from 148 participants. Small retailers represent 32.4% of the sample, compared to 41.2% for medium-sized, and 26.4% for large, companies. About 75.7% of the businesses in the sample use computers as primary, essential tools, while 16.9% use them only as secondary tools, and 7.4% do not use them at all. Only 55.4% of the participating businesses have a company website.

Given that nearly one-half (44.6%) of the businesses do not have a website, it is not surprising that a large majority (71.6%) of all retailers in

the sample report they have never conducted online sales. As for the businesses (28.4%) which have done so, online sales represent less than 10% of total sales for approximately one-third of this group (i.e., 9.5% of total sample). For another one-third of the group (8.8% of the sample), the online-to-total sales ratio is 10-50%, with the remaining one-third (10.1% of sample) reporting online-to-total sales ratios over 50%. These statistics are consistent with previous findings indicating that the online retailing industry in Saudi Arabia has not developed very rapidly or vigorously, e.g., [8, 15].

Table 1 presents, for each category of participating businesses, the percentage of those businesses which have adopted an online sale channel. Rather surprisingly, a higher percentage of small businesses (28.4%) than medium-sized (21.3%) or large businesses (25.6%) have done so. The rates of adoption of online retail are noticeably lower among businesses selling building materials (0.0%), autos, parts and accessories (0.0%), and consumer electronics (9.1%). In contrast, adoption rates are clearly high among vendors of perfume and beauty products (69.2%), and businesses which already have a website (39.0%). The results for some of the other categories may appear highly interesting, but often there are too few respondents in each category (e.g., sporting goods) and so they must be treated with some caution.

The data in Table 2 captures, in a summary form, our findings with respect to the relative importance of factors that inhibit retailers in Saudi Arabia from adopting e-commerce. In this table, the inhibitors are listed in the order in which they are presented to the respondents. Figure 1 illustrates the same information, but with each inhibitor being ranked according to its relative weight, from being most frequently selected, to least frequently selected.

From Table 2 and Figure 1, it can be clearly seen that some of the most serious inhibitors are outside the direct control of retailers. For example, ordinary action by individual retailers is unlikely to have much weight in countering IN10 (Current habits of customers in KSA do not suit online transactions, ranked 1 by retailers), IN8 (Lack of clear legislations and rules of e-commerce in KSA, ranked 2), IN5 (Products are not suitable to be sold online, ranked 4), IN12 (Poor ICT infrastructure, ranked 5), and IN11 (Lack of online payment options in KSA to help build the trust of customers, ranked 6). Nevertheless, there are some important inhibitors over which retailers do have some control, such as IN9 (Lack of e-commerce experience, ranked 2), and IN7 (Resistance to change, ranked 7).

Table 3 and Figure 2 present basic survey results with regard to factors that tend to enable or encourage Saudi businesses to engage in online retailing. The top enablers from the viewpoint of retailers are all dependent

on government action, either directly or indirectly. They include EN4 (Provision of trustworthy and secure online payment options, ranked 1), EN3 (Government support and assistance for e-commerce, ranked 2), EN1 (Development of strong ICT Infrastructure, ranked 3), and EN5 (Educational programs for people and building the awareness of e-commerce in the country, ranked 4).

Table 1. Company attributes and rate of adoption of an online sales channel

Category of retailers	**No. of retailers**	**Have sold online**	
		Number	%
All participating retailers	148	42	28.4
Company size			
Small	48	19	39.6
Medium	61	13	21.3
Large	39	10	25.6
Product or service type			
Apparel, accessories, and footwear	16	4	25.0
Appliances and home improvement	18	5	27.8
Books and school needs	4	1	25.0
Building materials	8	0	0.0
Cars, auto parts, and accessories	8	0	0.0
Computer-related	8	2	25.0
Consumers electronics	11	1	9.1
Furniture	7	2	28.6
Groceries	17	4	23.5
Jewellery	1	0	0.0
Medicines and medical equipments	4	0	0.0
Optical products	2	0	0.0
Perfumes and beauty products	26	18	69.2
Printing equipment and/or services	2	0	0.0
Sporting goods	2	2	100.0
Telecommunications services	2	1	50.0
Toys and video games	3	1	33.3
Travel and tourism	4	0	0.0
Other	5	1	20.0
Website			
Business already has a website	82	32	39.0

Delving more deeply into the details of the individual responses allows us to gain further insights into key inhibitors and enablers of the decision to adopt the online channel by Saudi retailers. Table 4 presents data relating to the interactions between vendor attributes and inhibitors, and Table 5 does the same for enablers. For example, Table 4 confirms that IN1 (Setup cost) is of little concern to retailers which currently use computers as primary (essential) tools, while it is a major inhibitor from the viewpoint of retailers who use them only as secondary tools or not at all. Similarly, IN8 (Lack of

clear regulations) is selected by only 21.4% of the retailers who have conducted online sales; the corresponding figure for retailers which have not done so is 38.8% (almost double). It is significant that, for both groups, the most serious inhibitor is IN10 (Habits of the Saudi public), being selected by more than 40% of the participating businesses in each group.

Table 2. Inhibitors of adoption of the online channel by Saudi retailers

Identifier	Inhibitor	Selected by % of respondents	Rank
IN1	Setup cost	10.1	10
IN2	Cannot offer delivery service	10.8	9
IN3	Don't trust online sales activities	12.8	8
IN4	Online channel not profitable/ useful for us	8.1	11
IN5	Products are not suitable to be sold online	25.0	3
IN6	Cannot offer a competitive advantage over competitors	7.4	12
IN7	Resistance to change	16.9	6
IN8	Lack of clear e-commerce legislations and rules in Kingdom of Saudi Arabia (KSA)	35.8	2
IN9	Lack of e-commerce experience	35.8	2
IN10	Current habits of people in KSA do not suit online transactions	42.6	1
IN11	Lack of online payment options in KSA to help build the trust of customers	20.9	5
IN12	Poor ICT infrastructure	22.4	4
IN13	Others	13.6	7

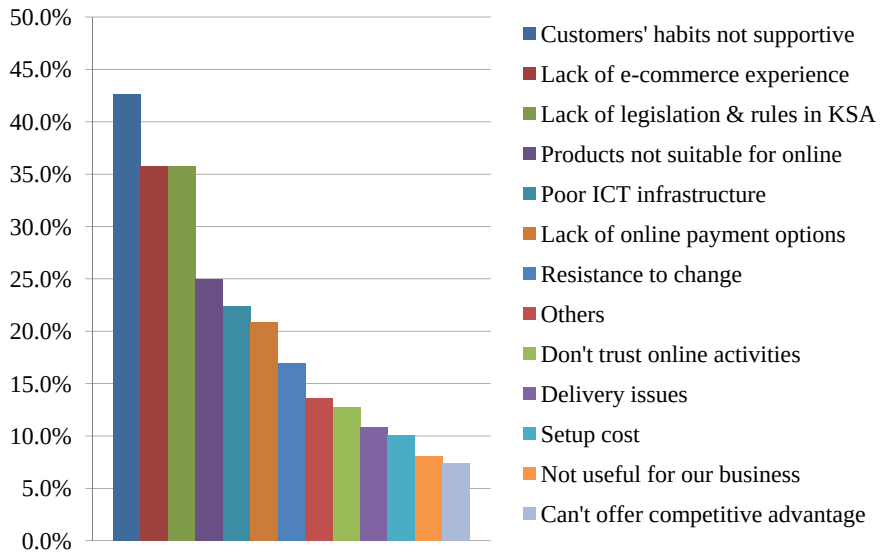

Figure 1. Factors inhibiting adoption of online retailing by Saudi vendors

Table 3. Enablers of adoption by Saudi retailers of the online channel

Identifier	Enabler	Selected by % of respondents	Rank
EN1	Strong ICT infrastructure	39.9	3
EN2	Provision of sample e-commerce software for test trials	25.7	5
EN3	Government support and assistance for e-commerce	53.4	2
EN4	Provision of trustworthy and secure online payment options	58.1	1
EN5	Educational programs for people and building the awareness of e-commerce in the country	31.1	4
EN6	Others	15.5	6

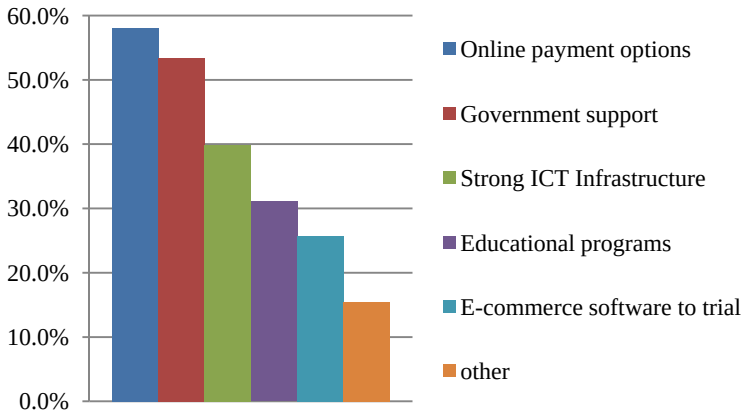

Figure 2. Factors facilitating adoption of online retailing by Saudi vendors

The last two rows of Table 5 present an interesting contrast. About two-thirds (66.2%) of the respondents had no online sales experiences and they tend to rate the nominated enablers quite highly: each of the 5 enablers is selected by 31% or more of the participants, and 2 enablers are selected by over 60% of the participants. To some extent, these high ratings reflect some unrealistic expectations about the true efficacy of the enablers. Responses from the 28.4% of the sample which do have actual experience with operating an online retail business suggest that the listed enablers are, in practice, not as powerful as might be expected. For example, only 21.4% of these retailers consider EN3 (government support) to be a significant enabler. From the viewpoint of these experienced online vendors, the top-rated enabler is EN4 (Provision of trustworthy and secure online payment options).

Table 4. Inhibitors and some indicators of e-commerce readiness among the sample

% of sample			Percentage of respondents selecting											
			IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	IN9	IN10	IN11	IN12
Computer Use	Primary	75.7	8.9	9.8	11.6	7.1	22.3	6.3	17.9	37.5	33.0	45.5	17.9	20.5
	Secondary	16.9	88.0	12.0	20.0	12.0	32.0	8.0	12.0	36.0	44.0	36.0	36.0	28.0
	Not using	7.4	81.8	18.2	9.1	9.1	36.4	18.2	18.2	18.2	45.5	27.3	18.2	27.3
Website	Yes	55.4	4.9	11.0	9.8	8.5	20.7	2.4	13.4	37.8	29.3	43.9	22.0	19.5
	No	44.6	16.7	10.6	16.7	7.6	30.3	13.6	21.2	33.3	43.9	40.9	19.7	25.8
Selling Online	Yes	28.4	14.3	9.5	0	7.1	4.8	7.1	2.4	21.4	14.3	40.5	19.1	14.3
	No	66.2	9.2	12.2	19.4	9.2	35.7	8.2	24.5	38.8	45.9	44.9	23.5	25.5

Table 5. Enablers and some indicators of e-commerce readiness among the sample

% of sample			Percentage of respondents selecting				
			EN1	EN2	EN3	EN4	EN5
Computer Use	Primary	75.68	46.43	25.89	55.36	57.14	33.93
	Secondary	16.89	16.00	16.00	60.00	68.00	24.00
	Not using	7.43	27.27	45.45	18.18	45.45	18.18
Website	Yes	55.41	50.00	25.61	62.20	64.63	29.27
	No	44.59	27.27	25.76	42.42	50.00	33.33
Selling Online	Yes	28.38	23.81	11.90	21.43	47.62	14.29
	No	66.22	43.88	31.63	63.27	60.20	37.76

5. THEORETICAL AND PRACTICAL IMPLICATIONS

The findings highlighted in the previous section are consistent with the DOI theoretical framework. In particular, the lists of top enablers and inhibitors of the decision by Saudi retailers to adopt the online channel feature prominently items which relate to the attributes of this innovation, such as its relative advantage compared with traditional retail channels, its compatibility with the potential adopters' existing situation, the observability of successes achieved by early adopters, etc. Furthermore, the nature of the social system (which in this case tends to raise expectations that the government will assume the role of key agent of change) and the extent of promotion efforts (or lack of them) on the part of change agents are clearly a part of the underlying story to date.

The most relevant practical implications of this paper are probably those which can be drawn from the responses of Saudi businesses which already have experience in making online sales to Saudi customers. According to them, the most serious inhibitors are IN10 (Unfavorable Saudi consumer habits), IN8 (Lack of government regulation), and IN11 (Lack of

online payment options). Of these, IN10 is a long-standing condition and will only change gradually, if at all. By contrast, the government and the industry are in a position to affect IN8 and IN11 directly.

Retailers with previous online sale experience also provide clear and practical indications regarding the top enabling factors. These are EN4 (Developing online payment options), EN1 (Enhancing ICT infrastructure), and EN3 (Government regulation and support). Of these EN4 was selected by 48% of these retailers, compared with 24% for EN1, and 21% for EN3. As the issue of online payment options is given such emphasis, it may be useful to examine it in some detail.

In the West, using credit cards to pay is the most popular method to conduct online purchases. In Saudi Arabia, however, many consumers are reluctant to use *credit* cards, both because of a lack of trust, and because some consumers are culturally averse to carrying out transactions linked with conventional interest rates. Thus, having access to alternative, trustworthy, and easy-to-use payment systems is a critical need of the online retailing industry. Possible solutions include *debit* cards and payment systems such as PayPal. Another option is SADAD, an electronic bill presentment and payment system which Saudi Arabia has developed for billers and payers who are residents in the country. In essence, the system facilitates data exchange between registered billers and the nation's commercial banks, and relies on existing banking channels (such as internet banking, telephone banking, ATM transactions, and even counter transactions) to allow bill payers to view and pay their bills via their banks (for more details, see [35]). Many consumers appear comfortable with using SADAD. However, follow-up comments from some of the respondents in our study suggest that small-to-medium businesses see the initial costs of registration with SADAD and the ongoing transactions processing fees as being too high.

In the light of the above findings, what actions should the government take to facilitate further development of e-retailing in KSA? There is little doubt that the clarification and enhancement of legislation and regulation in this area would be an appropriate priority for the government, as such matters are clearly part of its responsibilities. Similarly, further development of the IT infrastructure and domestic IT capabilities would benefit not only the e-retail industry but also the whole economy and the wider society. The government may also wish to facilitate or assist the development and growth of online payment systems (like SADAD) that would benefit consumers, businesses and the economy generally.

Beyond these actions, which would all be geared to enhancing the infrastructure and institutional set-up generally, would it be appropriate for

the government to take specific measures to support and promote the online retail industry, much in the same way that it has promoted e-government and e-learning in KSA? This question requires careful consideration, as e-retail is private commerce, where sellers and providers are motivated by private, individual profits. By contrast, in the cases of e-government and (to a lesser extent) e-learning, service providers are expected to pursue "public" or "social" goals. Thus, it may be much easier to justify active government involvement in the e-government and e-learning areas than in e-retailing. A deeper analysis of this question would lie beyond the scope of the present paper and, therefore, must be left to future research.

6. CONCLUSION

This paper presented findings from a study researching the diffusion and adoption of online retailing in the Kingdom of Saudi Arabia (KSA). It identified and explored key factors that influence Saudi retailers in deciding whether or not to adopt e-commerce. As part of a larger research project using mixed methods, this paper focuses on a quantitative analysis of responses obtained from a survey of retailers in Saudi Arabia, with the design of the questionnaire instrument being based on the findings of a qualitative analysis reported in a previous paper.

From the findings of the present study, the most serious inhibitors to the adoption of e-commerce by retailers are the current habits of KSA consumers, who at present tend to be unenthusiastic about conducting business transactions online, the lack of clear e-commerce legislation and rules in KSA, and a lack of e-commerce experience among many retailers.

On the other hand, the top enabling factors from the viewpoint of retailers include: provision of trustworthy and secure online payment options (ranked 1), government support and assistance for e-commerce (ranked 2), development of strong ICT infrastructure (ranked 3), and educational programs for potential customers and building the awareness of e-commerce in the country (ranked 4). These factors are all dependent on government action, either directly or indirectly. However, responses from 28.4% of the sample, representing those retailers who have *actual experience* with operating an online retail business, suggest that the high ratings of the larger sample reflect some unrealistic expectations about the true efficacy of these enablers.

The most relevant practical implications of this paper are probably those which can be drawn from the subset (28.4%) of the sample comprising Saudi businesses which have already made online sales to Saudi customers. According to the responses from these retailers, the most serious inhibitors are unfavorable Saudi consumer habits, lack of government regulation, and

lack of online payment options. Retailers with previous online sales experience also provide clear and practical indications regarding the top enabling factors. These include suitable online payment options, enhanced ICT infrastructure, and government regulation and support.

7. REFERENCES

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