

THE IMPACT OF MOBILE USAGE AND SOCIAL MEDIA ON E-COMMERCE ACCEPTANCE AND IMPLEMENTATION IN SAUDI ARABIA

Eyad Makki

10makki@cardinalmail.cua.edu

Lin-Ching Chang

changl@cua.edu

Department of Electrical Engineering and Computer Science, School of Engineering, The Catholic University of America, Washington, DC, United States

Abstract - *Despite the fast growing economy, the rapid increasing internet usage and the strong purchasing power in Saudi Arabia, the evolution of E-Commerce remains slow in the country. The growth rate of E-Commerce in Saudi Arabia is inconsistent with the growth rate of its economy, mobile usage, social media activity and internet penetration. Previous studies have shown what factors motivate or inhibit the evolution of E-Commerce in Saudi Arabia. This paper is conducted to investigate impacts of mobile usage and social media on the acceptance and implementation of E-Commerce in the country. A comprehensive web survey was designed and used to gather an in-depth understanding of the motivators and inhibitors of E-Commerce in Saudi Arabia, and have received more than a thousand valid responses from Saudi individuals. In this paper, we examined the impact of mobile usage and social media resulted from our data analysis.*

Keywords: E-Commerce, Saudi Arabia, Social Media, Awareness, M-Commerce

1. INTRODUCTION

E-Commerce adoption and implementation in developed and developing countries have been carefully studied with focuses on consumer behavior and/or business issues. However, very little is known about the evolution of E-Commerce in Saudi Arabia. Recent studies [1]–[3] have reported factors that motivate or inhibit the evolution of E-Commerce in Saudi Arabia focusing on either businesses or consumers. This paper will review and examine the impact of mobile usage and social media on the acceptance and implementation of E-Commerce in Saudi Arabia.

As an important economic growth factor, E-Commerce becomes vital for many businesses to remain in competitive markets. Therefore, having an online option for sales is dramatically increasing in developing countries. However, this expected increase is not applied to the E-Commerce in Saudi Arabia despite the fast growing economy, the rapid increasing internet usage and the strong purchasing power in the country. Several

studies have indicated the slow evolution of E-Commerce in Saudi Arabia [1], [4]–[6].

Khalidi et al (2014) have recently reported that internet growth in the Arab World have increased significantly in the past decade to 400%. According to another report published by Sacha Orloff Consulting Group, computer and internet access for Saudis reached 65.8% of population [7]. The usage of mobiles among Saudi population has also outstandingly grown to 1.8, meaning for every 10 individuals there are 18 mobiles, to reach 95% of residents [8]. The universality of mobile devices opens the door for companies to consider mobile commerce (M-Commerce) for online purchasing or at least for advertising their products. Similarly, there is also remarkable growth in social media usage in Saudi Arabia. Statistical reports and information graphics about social media usage in Saudi Arabia puts it in top of other countries in the region and the world [9].

The inadequate volume of research focusing on current issues conducted to study E-Commerce in Saudi Arabia and the lack of large assortment statistical reports create a chance for further research [10]. Some common factors reported previously by other research may be diminishing nowadays. Other factors, such as social media and M-Commerce usage, could be considered for further studies. More research related to mobile and social media could result in more reliable findings [7].

In this paper we study the impact of mobile usage and social media on E-Commerce acceptance and implementation in Saudi Arabia. A comprehensive online survey was developed for our qualitative approach to gather Saudi consumer's perspective on E-Commerce and the survey was distributed by utilizing the social media.

2. LITERATURE REVIEW

E-Commerce acceptance in developing countries has been broadly studied. Those studies varied from focusing on general perspectives like social issues

[11]–[16] to particular perspectives like online payment methods, trust, government role and/or delivery systems [1]–[3], [17]–[20]. Some studies focus on large regions [6], [21]–[27], and some focus on specific countries like Saudi Arabia [1], [3], [10], [17]–[19], [28]–[30].

E-Commerce adoption factors, implementation pitfalls, and demographics of internet users in Saudi Arabia have been reported [3], [10], [29]. In this section, we provide a brief overview on those studies. We then state the objective of our study and the questions to be answered for consumers in this developing country.

2.1 E-Commerce in Saudi Arabia

The evolution of E-Commerce practice begins in most developing countries in early 90's. The rapid progression on the number of E-Commerce transactions in developed countries have been noticed in the past decade [18]. Such practice is commonly acknowledged to be a factor of economic progression in developing countries [28]. It was reported that the global spending growth resulting from E-Commerce transactions reached around 0.27 trillion USD in 2002 significantly jumped to 10 trillion after a decade [18].

Some research and statistical reports illustrate significant growth of internet, mobile and social media usage in Saudi Arabia [25]. Additional works studied the business perspective only regarding the acceptance of E-Commerce in Saudi Arabia [4], [17], [28], [29], [31]. For examples, Al-Hudaif & Alkubeyyer studied internal and external aspects of E-Commerce acceptance [28]. Brdese, Corbitt, and Pittayachawan studied E-Commerce adoption in Saudi Arabia from a cultural perspective [29]. Almousa, Khan and Alshehri conducted research to profile online shoppers in Saudi Arabia [3], [19], [31]. An interesting report by de Kerros Boudkov Orloff discussed different factors related to business, consumers, government and banks [7].

According to The Social Clinic report in early 2013 titled "*The State of Social Media in Saudi Arabia 2012*", Saudi Arabia ranked number one in the world for the number of daily viewed videos, 90 million, on YouTube. Similar number can be found in its next year's report "*The State of Social Media in Saudi Arabia 2013*" showing 90 million videos are viewed daily on an average of 7 videos per day for each Saudi internet user. Saudi Arabia also ranked number one in the world in Twitter with a growth rate of 3,000% from 2011 to 2012, and is still growing. This growing rate is 10 times more compared to the average global rate. Statistics also showed that there was an average of 50 million tweets per month in 2012 and 150 million tweets in 2013 in the country. Moreover, 2 million out of 6 million of Facebook users in Saudi Arabia only use their mobiles to access Facebook in 2012 and this number has increased to 5 million in 2013 [32],

[33]. Some research results stated that internet and technology negatively inhibit E-Commerce acceptance and implementation in the country, which might not be accurate [5], [18].

2.2 The Objective of the Study

The objective of this paper is to answer the following questions in order to determine the impact of mobile usage and social media on E-Commerce in Saudi Arabia and to what extent:

- Are there any new factors affecting E-Commerce in Saudi Arabia?
- Do mobile usage and social media play any role in E-Commerce in Saudi Arabia? And in what aspects?

3. METHODOLOGY

3.1 Survey instrument

A qualitative approach is used in this study aiming to gather an in-depth understanding of the motivators and inhibitors of E-Commerce in Saudi Arabia. To accomplish this goal, we have developed an extensive online survey. Given the popularity of social media in the country, the survey was distributed to local Saudi Arabians using various social media channels. The total number of replies from local Saudis is 1021. For the purpose of this paper we will focus on mobile usage and social media impact results.

3.2 Study population demographics

Demographic information complies with other research indicating most Saudi respondents, 75.7%, are young aged 18-35, shown in Table 1, and the majority, about 62%, are males [3], [19], [25], [34]. However, the level of education, Table 2, and occupation, Table 3, answers do not comply with mentioned research. Previous research indicated that the majority of consumers have high school degree or less and are unemployed [19], [34]. Our survey results, on the other hand, show that 55.6% of respondents have a Bachelor degree and 55.8% are working (3.6% of them merchants) compared to 39.9% unemployed, which is similar to a recent research [3]. Perhaps the reason behind such diversity in results is time. Recent research like ours and Khan's indicate obvious change in consumer behavior, which will also reflect on other aspects discussed later in the next section.

Table 1: Age distribution of respondents

Age	Responses	Percent
Less than 18 years old	36	3.5%
18-25	323	31.6%
26-30	270	26.4%
31-35	181	17.7%
36-40	101	9.9%
41-45	59	5.8%
46-50	38	3.7%
51-55	5	0.5%
56-60	4	0.4%
Greater than 60 years old	4	0.4%
Valid Responses	1021	

Table 2: Education level distribution of respondents

Occupation	Responses	Percent
Less than High School	45	4.4%
High School	179	17.5%
High Diploma	81	7.9%
Bachelor	568	55.6%
Master	124	12.1%
Doctorate	24	2.4%
Valid Responses	1021	

Table 3: Occupation distribution of respondents

Answer Options	Responses	Percent
Unemployed or a student	271	26.9%
University graduates not working	131	13.0%
Government employee	345	34.2%
A non-governmental employee	182	18.0%
Merchant	36	3.6%
Other	44	4.4%
Valid Responses	1009	

4. RESULTS AND DISCUSSION

Internet access and usage result, as shown in Table 4, illustrates significant change in user's behavior compared to previous research. The average-hour people spent online using each device is calculated by the following formula:

$$AverageHour = \frac{(col1*2) + (col2*4) + (col3*8) + (col4*13) + (col5*15)}{(col1 + col2 + col3 + col4 + col5)}$$

Mobile use to access the internet significantly exceeds our expectation by an average of 5.98 hours per day compared to 3.61 hours using personal computers and 3.16 hours

using tablets. It was also pointed out in an online article that the majority of Saudi Arabia and Indonesia users access the internet using their smart phones instead of personal computers [9]. This implies that potential customers prefer to visit websites using mobile and tablets. Therefore, merchant websites should be mobile ready (responsive) and should not rely only on traditional web otherwise merchants could lose many potential buyers. The result also encourages merchants to have their own native mobile apps to reach out additional customers and to offer a more convenient way to shop online. This result coincides with several recent reports showing high increase in internet access from mobile devices [6], [27], [33]. This result, however, is different compared to another recent research indicating a low usage of portable devices in Saudi Arabia [3]. Perhaps this is because Khan counted the number of times internet is used and from where (i.e., home, office or smart phone) per day while we counted daily hours from distinct devices.

The result of social media and online communication impact on making the decision to purchase online shows interesting findings, see Table 5. We define and compute an average rate to estimate the impacts of various social media affecting the decision. The average rate for individual social media is calculated by the following formula:

$$AverageRate = \frac{(col1 * 1) + (col2 * 2) + (col3 * 3) + (col4 * 4) + (col5 * 5)}{Valid Responses from each social media}$$

The most influence comes from Instagram, an image sharing service, with average of 3.16 out of 5. Other types of social media and communication services also have good impacts on online shopping decision making. Surprisingly, E-mail and Short Message Service (SMS), the most popular ways companies use in the country, have lower impact than expected on Saudi consumers. Saudi consumers get plenty of advertising emails and SMS messages from many companies due to the weak privacy laws in the country. Yet, the impact of such emails and short messages is low. Consumers were not encouraged to go to their websites and to buy from them. Not only companies were wasting time and money on such ineffective mass messages, they may also hurt their reputation when consumers get the notion that they have been spammed. It is recommended that retailers should focus more on social media and word of mouth rather than randomly distribute massive SMS and emails. This finding is coherent with the *Web 2.0, Social Networks and E-Commerce as Marketing Tools* report [35] that suggests using social media for Electronic Marketing (E-Marketing). In addition to E-

Marketing and awareness, we recommend using social media for E-Commerce itself as well, based on our result. Due to the significant increasing growth of social media

usage in Saudi Arabia, it could play a key role in increasing the growth of E-Commerce in the country.

Table 4: Average time spent on internet per day

What is the average time spent on the Internet per day using various handheld devices?							
Device used for access	Less than 3 hours	3-5	6-10	11-15	More than 15 hours	Answer Count	Average Hours
Using cellphone	265	265	208	78	68	884	5.98
Using PC	454	185	78	20	11	748	3.61
Using tablet	374	75	27	10	12	498	3.16
Using other devices e.g. Smart TV	388	21	12	2	3	426	2.41

Table 5: The average rate of various social media impacting online purchasing decisions

In your opinion, to what extent the impact of social networks and electronic communication of the following in making a decision to purchase from the Internet?						
Answer Options	Does not affect the decision	Somewhat influential	Influential	Very influential	Main reason to buy	Aver Rating
Instagram	109	104	171	199	115	3.16
Internet sites and forums	93	144	183	194	84	2.97
Twitter	139	129	212	150	68	2.84
YouTube	183	144	169	137	65	2.71
What's App	226	162	158	115	37	2.48
Facebook	257	155	156	84	46	2.44
E-mail	257	197	140	77	27	2.26
BB Messenger	346	146	126	56	24	2.23
SMS	315	195	110	57	21	2.13
Other	388	123	106	45	36	2.26

5. CONCLUSIONS

This paper studies the impact of mobile usage and social media on the acceptance and implementation of E-Commerce in Saudi Arabia. A comprehensive web survey was designed to gather an in-depth understanding of those factors and data was collected from Saudi individuals.

The major implication of the study is that the use of mobile and social media results indicates that there is a good chance they can be helpful. Mobile usage in Saudi Arabia is very high, especially when used to access the internet. This factor should be considered by companies when building their websites assuring that all visitors from various devices have no issues related to screen size. M-Commerce also has great potentials according to the high mobile usage in the country. Consumers are more likely to shop online using a mobile. Social media has

more impact on consumers' decision making than emails and SMS. Social media, especially Instagram, can also be very effective in increasing product E-Marketing promotion and selling online. Furthermore, social media can significantly assist in the increase of E-Commerce awareness. We recommend further studies to be conducted on the impact of mobile usage, social media and M-Commerce on E-Commerce in Saudi Arabia.

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