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E-Commerce Impact on the Jordanian Economy

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Abstract: This paper considers the economic impact of E-commerce in Jordan. A structured survey was administered to stakeholders from banking (n=19), business (n=17) and consumer (n=22) stakeholders to explore the wider social impact of E-business. Furthermore, in-depth face-to-face interviews were held with the 19 bank employees to explore particular experiences in the banking sector. It was found that E-commerce plays an active role in the Jordanian economy. The banking sector affirmed that E-commerce helped in increasing the amount of information present for better decision making and increasing the number of account holders and transactions, boosted the economy and changed the type and amount of employment. Businesses agreed that E-commerce has increased revenue and profits, and also reduced costs and changed the nature of employment. As for society, the generational gap in Jordan is the only obstacle present in the face of E-commerce, and older individuals were less willing to utilize E-commerce but younger individuals were more accepting and willing to use the technology.

Keywords: *E-commerce, E-business, Banking sector, Social impact, Jordan.*

Literature Review

Technology has always reciprocally driven business, but e-commerce has been difficult to introduce in developing countries due to numerous cultural and socio-economic factors. E-government is normally a vehicle to drive e-commerce acceptance, but even it has faltered in many countries due to numerous factors mainly pertaining to infrastructure (including hardware and software access) and trust issues (Carter et al., 2016). Information security is the most prevalent concern of users of e-services, particularly e-commerce and e-payments, which has major implications for e-governance (Carter et al., 2016). For example, information on financial information from the transport ministry can be easily sent to the energy ministry and correlations can be made easily by sharing this information. The ease of the information transfer and its availability will facilitate government operations, but important ethical and cultural issues are implied by this increased power of the state, with implications for how e-commerce can subsequently be diffused in society at large (Anthes, 2015; Venkatesh et al., 2016).

E-government is most easily adopted in the government-to-business relationship (as opposed to the more sensitive government-to-citizen), based on information availability. Both governments and business will have the ability to see each other's performances and further improve spending and investment decisions. For instance, information on agricultural imports and exports can be easily viewed by agricultural companies, thus if exports are being reduced on governmental websites, agricultural companies can reduce their production to maintain their profits (Cumbie and Kar, 2014).

This informational function of e-transactions is analogous to traditional newspapers and TV, with the important distinction of interactivity and feedback loops (Venkatesh et al., 2016). A business can directly contact the government through a feedback system presents on e-government sites and either suggest changes to the policy or oppose it, improving government-business relationships and increasing the overall effective production capacity of the country and increasing its GDP and economy by improving policy. The practicality of e-payments made by business and individuals to governments disseminates familiarity with the convenience of anytime, anywhere payment availability (Cumbie and Kar, 2014), which naturally inspires businesses to adapt their business-to-consumer (B2C) platform for e-commerce to benefit from such efficiencies. This increases service availability from business and improves supply chain management and general productive efficiency (Carter et al., 2016).

As mentioned previously, the main barrier to e-commerce adoption is concern about security of personal information and payment, and governments are best able to reassure citizens that data is protected from theft and other crimes, setting an example for good practice in business and providing practical systems and support to protect consumer data (Konradt et al., 2016). Cyber-crime is a serious and dangerous issue pertaining to personal and financial security, requiring a robust encryption infrastructure and good corporate practice (Herley, 2014). Governments also have to invest in cyber-crime agencies to protect data and persecute criminals in the cyber territory of the country and internationally (Konradt et al., 2016). This supportive framework entails expensive investment for set-up, maintenance and continuing training, which must ultimately be compensated by improved national economic performance for e-commerce to be cost-effective (Näsi et al., 2015). Multinational corporations associated with foreign direct investment (FDI) heavily depend on e-commerce for internal supply chain management and general operations, thus they will be deterred from investing in countries without a robust e-commerce infrastructure and market (Gomtsyan, 2016).

Another cultural barrier to e-government and e-payments is concern about redundancy of traditional employment, such as accountants and cashiers. Such concerns are particularly potent in protectionist economies of the developing world, and indeed e-commerce might have negatively short term impacts, however this is presumed to be offset by long-term increased economic development.

E-Commerce in Banking

Banking is an essential sector of any economy devoted to the holding of financial assets and investment that has traditionally pioneered technological developments, including information technology, which has affected the everyday workings of banks, necessitating and enabling enhanced security measures to counter the threat and instance of cybercrimes, and to increase the efficiency of transactions (Booz, Allen & Hamilton, 1999; Gopalakrishnan, et al., 2003). Online banking enables anytime-anywhere access to banking services, often automated and with the agency of only a single human, which is both incredibly efficient and potentially dangerous by removing traditional safeguards (Stephen, 2015), whereby account holders/ consumers accrue more power and control over their own financial security, for ease and speed, enabling banks to offer new services and products to broader markets (Pyun et al., 2002).

The change in the nature of financial transactions in the banking industry reflects the general change in the nature of currency, whose main economic importance now lies in electronic information (i.e. data) form rather than physical artefacts such as notes and coins. Financial information is usually encrypted and available via end-to-end processes, which can make money laundering and illegal transfers and operations more difficult to track with regard to traditional government regulations and policies, therefore some banks provide information to

governmental agencies in order to abide with regulations, representing a trade-off between information privacy and security (Al-Qirim, 2007); naturally customers (including legitimate investors and regular account holders) would prefer banks who do not share their information with anyone, including governmental agencies, due to the intrinsically increased risk of data theft the more parties are privy to such data (Herley, 2014).

Furthermore, increased information traffic between financial institutions and governmental agencies has improved better taxing of tax evaders and helped in reducing money laundering. It has also stopped illegal companies or unregistered companies from receiving payment, increasing economic integrity and increased investment transparency, which is also attractive to foreign investors (Näsi et al., 2015).

Cybercrimes are a major threat to online banking and e-payments. Online payments go through a process where information exchange occurs between the account holders, the bank, and the receiving bank or company (Herley, 2014). As information is exchanged, the data has to be protected by encryption in all its transfers in order to ensure a safe and secure payment. If a payment is made to an ambiguous entity other than the intended company this is a major problem for banks because they are responsible for the success of the transfer, and the bank would generally be liable to compensate the account holder (Konradt, Schilling and Werners, 2016). Excessive abuses of this type would make online banking unprofitable for banks and deter customers from utilizing the bank's services, undermining economic growth generally. Conversely, if a safe and secure system was in place and transactions are successfully made, banks can improve their service provision by data mining, exploring consumer behaviour and decisions (Romi, 2015). Providing improved services to account holders further increases internal investment and FDI, which assists in economic growth (Gomtsyan, 2016).

On a final note about traditional banking, traditional payment of physical currency and cheques caused economic growth to reduce by a process known "floating" (Romi, 2015). The process of floating occurs when a cheque is written and physical currency is not used or placed in saving, which reduces liquidity and the speed of currency transfers and further reduces economic growth. Online banking and payments do not allow for money to be kept "floating", intensifying currency speed and liquidity and thus increasing economic growth.

Social Impact of E-Commerce

The process of e-commerce depends mainly on societal acceptance of online payments and their tendency to use them (Al Turki and Fayyoumi, 2014). The increased use of online payments and e-commerce increases economic growth due to increased transactions and reducing floating time.

The most basic concern is the reliability of hardware, software, data accuracy and connection with the real world. Account holders who are inclined to use e-commerce might have concerns if information about payments is entered incorrectly, or if data is not continually updated. For example, if a payment is made through an electronic medium, the user would like to check the amount paid and the amount withdrawn. This also alludes to the concept of integrity, which safeguards the accuracy and completeness of the information being exchanged (Näsi et al., 2015).

As mentioned before, data security is a major concern for account holders utilizing e-commerce. Most electronic payments require bank details in order to execute a payment; many people have concerns that the data shared may be stolen, resulting in identity or financial theft, which is largely tackled by applying encryption of data by internet service providers and banks, and other governmental protection (Herley, 2014). Furthermore, governmental regulations and protection agencies need to be put in place in order to counter any attempts at data theft or misuse. The degree of security of information systems largely determines society's confidence in the information contained in the systems.

If information or account details were stolen, the issue of authenticity arises concerning determination of user identity beyond reasonable doubt. Authenticating the user is crucial in many scenarios, particularly in business and legal matters (Konradt et al., 2016). Users of e-commerce require authentication of user login to a network. A more advanced example would be the use of encrypted digital signatures in a business transaction or the use of watermarking on digital photographs, which might put users at ease even if financial or personal information is stolen or misused, and increase trust in the processes of e-commerce.
Privacy and anonymity concern the ability of individuals and groups to determine for themselves when, how and to what extent information about themselves is shared with others. While privacy is a general concern, anonymity can be a malicious dimension, for instance if people conceal their true identity in order to cyber-bully others. Conversely, excessive privacy could also conceal the perpetrators of criminal, terrorist or computer hacking acts from law enforcement agencies.
The issue of privacy is a major concern for e-commerce users. Plenty of account holders would like their transaction activity to be private and inaccessible to all bank or company employees. The account holder can limit the amount of information present and available according to bank staff employment levels and have more control over personal details (Al-Shboul and Alsmadi, 2010). Another issue is traditional habits, and many people prefer to use traditional currency transactions as opposed to e-commerce.
Jordanian society has adapted well to the evolution of the internet and connectivity mediums when minimum risk is perceived (Al-Bakri and Katsioloudes, 2015), although infrastructure and safety social challenges to e-commerce are substantive pertaining to the following concerns identified by Al-Shboul and Alsmadi (2010):

1. Fund transfer: Jordanian society is slowly becoming more amenable to non-physical money transactions (credit and debit cards, online fund transfer), but distrust of online transactions remains widespread due to the perceived danger of fraud and theft.
2. Identity theft: hacking and viruses are risks people do not want to take when it comes to the safety of their bank accounts and other financial information.
3. Purchase behaviour based on decisions made after physical examination is impossible in e-commerce, although a bricks and clicks approach could bridge this gap.
4. Supply chain and customs issues are problematic; unless the product is bought online from a local vendor, it will go through many hubs and docks to get to its destination, which discourages online purchases by increasing complexity and expense, particularly dealing with border control complications and hefty fees and taxes.

Some parts of Jordanian society are aware of the convenience of e-commerce and processes to insure the safety of online transactions, including the following features:

1. Added value: perceived value plays a huge role in e-commerce adoption, especially cost efficiency and access to a global market from one's own home.
2. Pre-orders: elite luxury spending on the newest products drives such consumers to pre-ordering through online stores and directly from producers.
3. Options: e-commerce provides the option of comparing the price and quality of services and products.
4. Information: e-commerce provides more detailed information about products and services.
5. Reachable: e-commerce provides products and services that might not be available otherwise (Malkawi, 2006).

Methodology

The process of gauging the acceptance and the use of e-commerce was done using a surveys for bank employees, business people and consumers. Survey results were statistically analysed, then semi-structured face-to-face interviews were conducted. The banking survey and interview data was collected from 19 lower management bank employees. The business sector survey data was collected from 2 lower level management employees and 1 human resources manager from a large organization, while 14 were obtained from small local business owners. The banking and business participants also went through the society survey and interview, 22 other participants were customers recruited from different stores around Amman.

Discussion

Banks

The banking survey results revealed that e-commerce development has resulted in Jordanian banks increasing the number of IT professionals they employ, and training traditional employees in IT systems. Most (70%) bank employees reported increased demand for technical support and IT skills, confirming Salciuviene et al. (2014). Fraud and theft are most associated with e-commerce among customers, despite security measures such as RFID, encryptions, security certificates, digital signatures and payment gateway server software etc. FDI increases when the internet and e-commerce narrowed the gap with the global community, allowing foreign investors easy access to information about services and the local environment by having a better decision making from the increase of information (Bazen and Cardebat, 2001); this was confirmed by 100% of interviewed bank employees agreeing that cyber security measures and FDI have increased with the rise of e-commerce, citing more information for better decisions, reduced currency floating time and increased economic efficiency (Dubois et al., 2011).

Business

While some companies in Jordan use e-commerce extensively, this is mostly in business-to-business (B2B) transactions, because they perceive that customers generally prefer bricks-and-mortar transactions, although some online B2C methods were supposed to be evolving from the early 2000s (Daniel et al., 2002). Most businesses are reluctant to develop B2C e-commerce due to the lack of reliable infrastructure (Mazzarol, 2015). It is highly beneficial for businesses to adopt higher levels of e-commerce activities to significantly cut back on investment and operating costs, while extending market reach (Iansiti and Lakhani, 2014). 62% of participant managers and business owners see e-commerce as a way to reduce employment expenses, while 38% argue that it would increase in supply chain and IT employment. 66% see e-commerce as a way to increase revenue by reaching a wider market while 34% see traditional means as more effective due to more customer exposure. 69% see e-commerce as a way to reduce property costs and overheads, while 31% do not see this particular benefit due to inventory expenses and brick and clicks expenses (Holsapple and Singh, 2000). 57% see e-commerce as a way to reduce costs, while 43% think costs will increase to IT maintenance of their online platform and logistics costs (Aulkemeier et al., 2016). 73% see e-commerce as a way to increase profit due to a wider market and decrease in running expense (from the 57% participants who saw the cost reduction opportunity). Finally, 75% support the use of e-commerce, while 25% see e-commerce as a threat of new entry (as in Porter's five forces model), specifically e-commerce businesses with cheap products and services due to not having traditional stores and circumventing governmental regulations and taxes.

Society

The Jordanian society is heading towards e-commerce at a relatively slow pace, and Jordanians are generally more confident in e-commerce if they have experience of it. However, there is a generation gap in terms of experience and knowledge, with higher uncertainty and less use of e-commerce with age. Older people are more concerned with the reliability of e-commerce and they are more confident with traditional shopping. However, most participants are concerned with security measures and trust in online payments, although this is partly a general phenomenon of all commercial transactions (Arrow, 1972). Finally the frequency of use decreases with age because of decreased needs in addition to increased uncertainty.

Conclusion

This paper studied the effect of e-commerce on the Jordanian economy by targeting banks, business and society. From the data collected and processed, it is evident that banks accepted e-commerce as their future, appreciating its increased information for better decisions, reduced floating time, increased amount of account holders and transactions and improved national economic outlook, including due to increased FDI. Banks also confirmed that there are changes in the types and amount of employment provided, with a positive net outcome. Businesses agreed that e-commerce will reduce costs increase revenue and increase sales overall, and that the amount and type of employment would be change. Businesses particularly indicated that items can be displayed to a wider range of potential customers in e-commerce, better displaying and managing inventories and increasing sales. Also, with secure payment methods, sales can be made easier and profits increased.

The generational gap in the Jordanian society seemed to be the only obstacle in the face of e-commerce, with individuals above the age of 45 showing increased resistance to using e-commerce in their daily lives due to issues of security and reliability, while younger individuals were more trusting in e-commerce. All in all, e-commerce has improved the economy in Jordan overall but the technological infrastructure and generational gap remain barriers to realising its full potential. Nevertheless, e-commerce will be a part of Jordan's economic future for further integrations with global trade and markets.

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