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EMPIRICAL STUDY ON SECURITY IN ONLINE BANKING IN SAUDI ARABIA

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Since the emergence of technological transformations that have reshaped almost all aspects of human activities ranging from social affairs to economic affairs, the conservative ways of transacting businesses and commercial transactions have changed. The growth of internet technologies and the rapidly expanding cellular phones have changed the way people handle money, pay for services or make orders for certain goods or services. One of the areas that have experienced considerable changes in the financial transactions are the global banking systems that have seen the need to develop new and advanced channels of enhancing banking services and global distribution of financial services through the e-banking phenomenon. Although the e-banking phenomenon has gained extreme popularity and registered considerable success, online distribution of financials has attracted mixed reactions from economic experts, customers and bankers themselves. This research paper projects e-banking and the major perceptions of the consumers, economists, and the bankers, including its advantages and disadvantages. From the findings, although using e-banking methods of transacting poses various risks to the consumers and the bankers alike and the most secure way to conduct E-banking has yet been developed as well as more secure authentication methods, its potential in transforming governments into cashless economy that deems safe and more convenient in personal and business development is noteworthy.

CCS CONCEPTS • Insert your first CCS term here • Insert your second CCS term here • Insert your third CCS term here

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INTRODUCTION

Electronic banking, also known as online banking is a modern behavior practiced by consumers and sellers to engage in financial transactions through Internet platforms and through the mobile systems such as mobile payment applications [1].

Consumers nowadays can receive money, send money, and even pay for certain products or services through some designed internet platforms of making financial transactions or through their mobile handsets [2].

More often, e-banking is a form of transaction where consumers engage in using electronic means to transfer funds, withdraw money, or make other financial transactions using mobile phones and internet-enabled computers [3]. E-banking comprises internet banking, where consumers use their internet-enabled electronic devices to access their banking facilities for the purpose of undertaking banking transactions [4].

E-banking consists of various banking and business activities as the electronic payment options have made it possible for banks to integrate multi-channel finance distribution and financial services [5]. E-banking as a digital banking system, comprises of automated deliverance of traditional and contemporary banking services and products directly from the bank to the customers through interactive electronic communication conduits [6].

The first service of e-banking is online depositing, which involves loading money from a person's online banking account into the physical bank accounts of the consumers [7].

Popularly known as home banking, this method of e-banking involves accessing banking services related to depositing of financial products from one's home or business premise [8].

Through e-banking, Consumers with certain bank accounts and with registered online banking accounts with verifiable logins can deposit money directly from their home or their workplaces using their internet-enabled computers or their mobile apps [9].

Another service that e-banking platform offers, is the service involving the withdrawal of money. With efficient e-banking services integrated via the mobile phone banking services or the internet banking services, consumers have the potential of using their verified login details to access their online bank accounts and make electronic withdrawals [4]. Through the e-banking commercial platforms, consumers with online banking accounts, acknowledged by their bank branches, have the freedom of making financial

transfers from their personal bank accounts to the accounts of their friends, family members, and business partners in cases where there is a clear knowledge about their financial transactions and transfers [10].

Consumers and businesspersons with online banking accounts also have the opportunity to explore various business opportunities that majorly rely on online transactions [11].

Businesspersons and consumers are now using online banking service to engage in the electronic purchasing and selling of financial securities or insurance products from the mainstream insurance and security companies. With the services of e-banking lies an important part of the ecommerce, which people often refer to as the process of purchasing and making online business transactions with online product stores [10]. Upon a reached agreement, consumers have the leeway to suggest the payment methods that they can use to make online transactions for products selected and purchased from the online stores. Through the available banking services and products on the e-banking platforms, online customers can make payments through their bank cards or other payment methods without having to meet with the online vendors or the owners of the online stores [10]. Online stores such as eBay, Sony, and Amazon, increasingly rely on the available banking services and products on the e-banking platforms to transact with their consumers regardless of their geographical differences [12]. Finally, E-banking allows consumers to expand their financial access via online services such as pay pal online payments system.

Consumers and Banks are exposed to threats and concerns such as fraudulent loss of money, theft of account information, misuse of Information, downloading fake apps imposing as their original bank's application and many more, and with the increasing number of cyber attacks aiming at online banking users.

Thus, this work will discuss the problem questions and the still considerably new technology of online banking and the existing security gaps in e-banking services that hinder business and consumers from the use of this service's full potential as well as benefiting from its timesaving and cost-effective advantages in greater detail, as well as offer a clearer picture of the advantages and disadvantages of E-banking for the parties involved in these online transactions to raise a higher awareness of the threats and opportunities they might be exposed to. Another objective is to analyze the trust/commitment relationship since commitment is a key variable for establishing successful long- term relationships with customers.

METHODOLOGY

Conceptual Framework

To achieve the study objectives, a framework for data collection and analysis was used based on quantitative approach. Data were collected by means of snowballing method. The snowballing method is usually used in populations, which are difficult for researchers to approach such as the case of the males

here, and the bank staff in Saudi Arabia. Surveys were distributed through SurveyMonkey.com to acquaintances most of which are Saudi and Non Saudi banks' customers and bank's employees.

Sample Design

The research focuses on e-banking, survey samples were taken only from the general public who have or had a bank account. 77 participants successfully completed the survey. Social Media was used to publish the survey between family and friends and they were asked to publish it to other adults who have or had a bank account. Seeing as financial institutions have restriction regarding their clients, as a result the snowballing technique was used for data collection and closely worked to overcome problems of access by using personal contacts who are adults, females and males, aged between 20 to 60 and are working class, employed in the private or government sector for gaining access such as using friends, contacts, colleagues, and academics to help in gaining entry. After samples were collected through Survey Monkey, they were vitrified for accuracy. Errors and contradictions were noted on the final results.

Research Instrument

The research questions were conveyed in data collected by the use of a survey to provide quantitative data and close ended question to provide the data in seeking banks respondents opinions. Survey was formulated by reviewing relevant empirical studies so as to identify key variables and constructs. The respondents' different viewpoints in trust and security of electronic banking services formed the basis for comparison and evaluation. The findings about the respondents' general profile of bank clients including age, gender, education, and income are also considered.

Result And Discussion

Using Survey Monkey 77 people were surveyed. The target respondents were the general public who use online banking. Social Media was used to publish the survey. The findings from the study on trust and security of electronic banking services in Saudi banks are presented.

Based on Figure 1, Out of the 77 participants, two thirds (70%) of them were concerned about their accounts security. Out of this 70%, half of them were extremely concerned and the other half was somewhat concerned. On the other hand, one third of participants were not concerned about their accounts' security and trusted their banks regarding this matter. On further questioning regarding the reason why people are not as concerned as one might expect is that people feel somewhat secure and backed up by their banks. Meaning if any problems or security breaches have happened to customers, they feel that the bank will make up for any losses as this is part of their services and that the breaches are mostly put the banks at fault because, if they want to keep their customers, reputation and creditability they have to present the best

customer services they can including, retrieving losses caused by any security breaches.

Do you worry about your online banking account security?

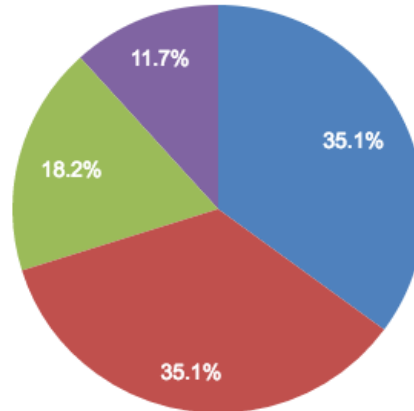


Figure 1: Online Banking Security Concerns

Based on Figure 2, results show us that online shopping in Saudi Arabia is still on its early stages. About 19.5% of Saudis did not buy anything online in the past year. And only 19.5% made more than 12 online purchases in the past 12 months. Most of the participants (About 32.5%) made only 1- 3 online purchases in the past year. 15.5% purchased 3-8 items online. And that is about 2.4 items per month.

How often do you use e-banking per week?

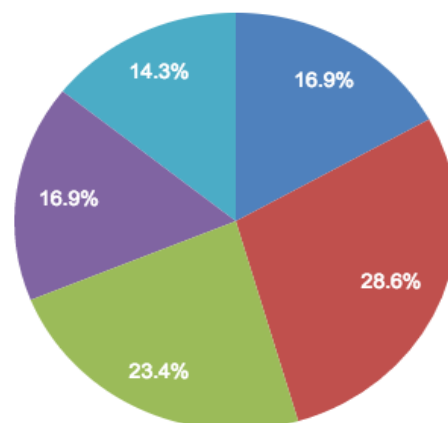


Figure 2: Online shopping

Based on Figure 3, an estimate of slightly less than 3 quarters (70%) of participants don't monthly visit their banks. and that does not mean that they do not visit at all, but it means that most their bank transactions either done with online, ATM or phone banking. One-quarter of participants visit their

branches 1-3 times a month, and roughly 15% rely mostly on their branches for their transactions and they visit them 3 or more times a month.

How frequently do you visit your bank branch per month?

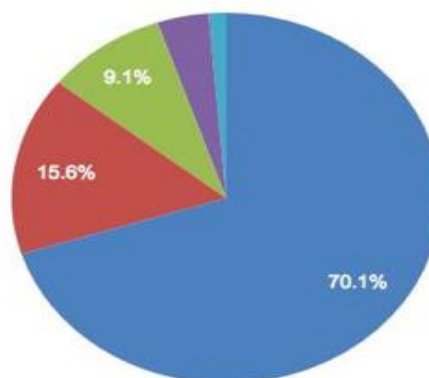


Figure 3: Online shopping

Based on Figure 4, almost half of participants (48%) do not take any precautions to protect their online banking accounts. Examples of precautions that was mentioned in the survey are; Anti-virus and constantly changing passwords. That basically means they have the full trust in their banks to cover the protection of their accounts. And around 45% of participants take precautions to protect their accounts and they think more precautions are a must for more protection.

Do you take any precautions to protect your online banking accounts (changing passwords, anti-virus, etc.)?

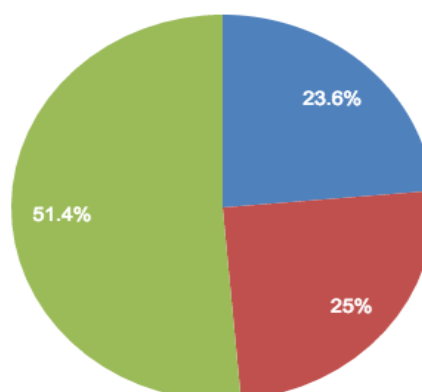


Figure 4: Precautions to protect online banking

Based on Figure 5, 67.6% of the participants use smart phone's banking apps to do their banking. The specific use of the mobile apps was not conducted in the survey. It could be as simple as checking balance or as complicated as applying for a new credit card. Moreover, roughly 26% of banks clients never

used mobile apps to do their banking. This could be due to lack of knowledge, lack of trusting mobile apps, not having the online service or any unknown reason. **Note: 12 participants skipped this question.

Do you have any mobile banking apps or do any banking on your mobile devices?

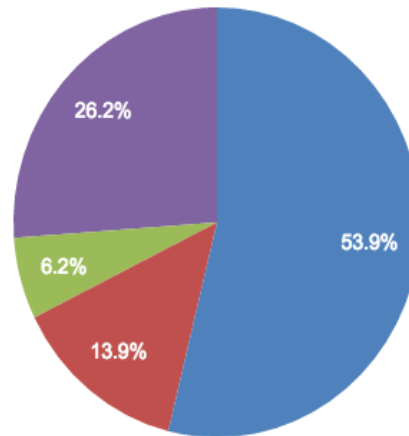


Figure 5: Cellular Apps banking

Based on Figure 6, the highest percentage of 28.6% of participants use online banking at least once a week. Right after that, 23% of participants use the service 2-3 times a week. Looking at the numbers, we can conclude that around half of participants do not do daily banking. On the other hand, 31% of participants access their online banking 4-7 times per week. And 16.8% never use their online banking on a weekly basis.

How often do you use e-banking per week?

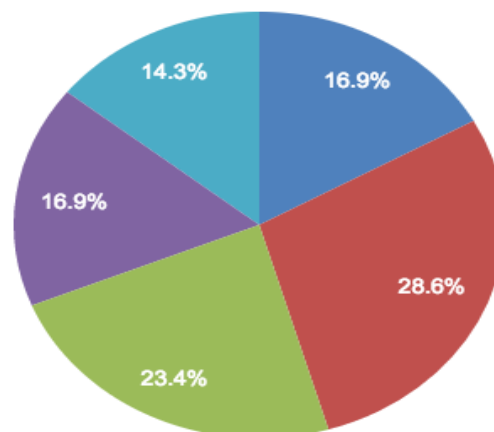


Figure 6: Times of using e-banking per week

Based on Figure 7, around 85% of participants think online banking is convenient. That proves how online banking makes banking life easier for people. However, The other 15 percent disagree and do not think online banking is convenient.

Please rate, how convenient do you think of using this e-banking item?

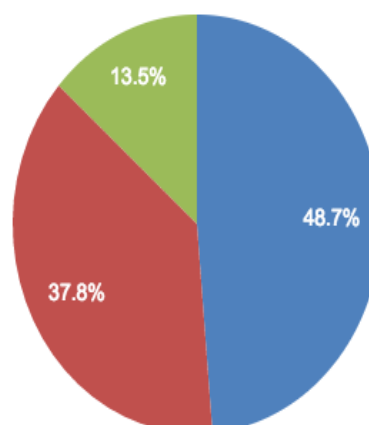


Figure 7: Convenience in online banking

Based on Figure 8, 91% of participants use online banking features. Such as; bill payments and bank transfers. Most of this 91% use these features more often than others. On the other hand, only 9% never use these features.

Do you use any online banking features (checking balances, making transfers, online bill pay, etc.)?

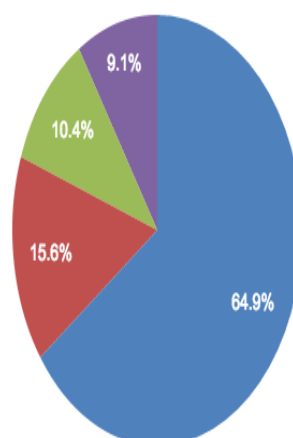


Figure 8: Online banking features

CONCLUSION

The study conducted in Saudi Arabia investigated and entailed findings from survey data on the trust and the security of electronic banking services in Saudi banks in the Centre and Western Province of the Kingdom. The data presented evidence to neutralize the answer to the question that there is significant distrust in the electronic banking services although not false but the degree of distrust is a lot less than what would be expected, due to low awareness of the threats of inserting your personal private information in online platforms and due to accountability in such cases of fraud, identity theft and other mentioned security issues is laid on the financial institutions hence,

they are obliged to recover such losses for their clients. Since the emergence of technological innovations that have come with improved innovations in the mobile and computer technologies, an aspect that has thrilled people is the ability of these technologies to transform the traditional banks to ecommerce banking platforms. Depositing, withdrawing, and transferring of funds from the main accounts of the consumers to other financial platforms for various personal and commercial reasons has become more efficient and more convenient with the presence of effective e-banking services. The ordinary consumers, the bankers, and the governments have reported various benefits associated with service efficiency, cost-effectiveness in running businesses or transferring funds, and convenience in making essential transactions. When assessed from a developmental perspective, even though the use of e-banking methods of transacting poses various risks to the consumers and the bankers alike, its potential in transforming governments into cashless economy that deems safe and more convenient in personal and business development is noteworthy.

REFERENCES

- Narteh, B. (2012). Challenges of Marketing E-banking Services in a Developing Country: The Case of Ghana. *Journal of Internet Banking and Commerce*, 17(2), 1.
- Sharma, H. (2011). Bankers' perspectives on e-banking. *Global journal of Research in Management*, 1(1), 71.
- Agarwal, R., Rastogi, S., & Mehrotra, A. (2009). Customers' perspectives regarding e-banking in an emerging economy. *Journal of Retailing and consumer services*, 16(5), 340-351.
- Chavan, J. (2013). Internet banking-Benefits and challenges in an emerging economy. *International Journal of Research in Business Management*, 1(1), 19-26.
- Drigă, I., & Isac, C. (2014). E-banking services–features, challenges and benefits. *Annals of the University of petroșani, Economics*, 14(1), 41-50.
- Koenig-Lewis, N., Palmer, A., & Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International journal of bank marketing*, 28(5), 410-432.
- Tchouassi, G. (2012). Can mobile phones really work to extend banking services to the unbanked? Empirical lessons from selected Sub-Saharan Africa countries. *International Journal of Developing Societies*, 1(2), 70-81.
- BV, S. E. (2013). *Electronic banking: The ultimate guide to business and technology of online banking*. Springer Science & Business Media.
- Chandran, R. (2014). Pros and cons of Mobile banking. *International Journal of Scientific and Research Publications*, 4(10), 1-5.
- MERMOD, A. Y. (2011). Customer's Perspectives and Risk Issues on E-Banking in Turkey; Should We Still be Online?. *Journal of Internet Banking and Commerce*, 16(1).
- Chandio, F. H., Abbasi, M. S., Nizamani, H. A., & Nizamani, Q. U. A. (2013). Online banking information systems acceptance: a structural equation modelling analysis. *International Journal of Business Information Systems*, 12(2), 177-193.

Turban, E., King, D., Lee, J. K., Liang, T. P., & Turban, D. C. (2015). E-commerce: mechanisms, platforms, and tools. In *Electronic Commerce* (pp. 51-99). Springer, Cham.