

Ability of Lebanese Market to Adopt Digital Banking and Its Effects On Economy

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ABSTRACT

The purpose of this research is to study the ability of the Lebanese market and customers to adopt digital banking. In order to analyse this situation the research conducted a study theory using quantitative approach by distributing questionnaire with specific variables and were distributed to managers and the vice managers of ten different commercial banks in Lebanon (Audi, SGBL, FNB, MASR, Credit Lebanese, Mawared, Phoenicia, LGB, Baraka, and Blom) these represents around 25% of the industry based on the Lebanese banks association. The conclusion obtained is that online banking became a major source of competition and traditional banking services are being replaced by digital banking services. Also the regression findings suggest that there is a positive correlation between e-banking transactions and the real GDP. Increases in the e-banking transactions result to a corresponding rise in the real GDP of the country.

Key Words: Digital banking, acceptance, cost minimizing, training, ability, economic growth.

INTRODUCTION

With the extensive technology innovations and telecommunications, we encompass innovative financial distribution channel growing quickly in both forms and numbers from ATMs to online banking applications and the internet banking is the newest innovation in the recent past years (Safeena, Abdullah, & Date). Internet banking qualified volatile development in several countries and have distorted the presence of traditional banking services.

Inevitably, online banking will persist to convert the traditional banking services and to work hard to provide more opportunities to lead to customer satisfaction throughout improved interactions, customizations, data removal in the internet banking services.(Hanafizadeh, Keating, & Khedmatgozar, 2014).

We will study the impact of online banking advance in the future and how the banks will be replaced by online banking applications and if Lebanese banks are ready to replace their physical branches with online banking services, also we will analyses the increases of e banking transactions throughout a 10 year- period and studies its effects on the Lebanese economic growth. The economic growth is studied in terms of Real GDP growth between year 1 and 10. The framework we will be using is the banking and finance sector.

RESEARCH PROBLEM

We must convert our research ideas into research questions, questions can be exploratory (how, what questions), descriptive (how much), explanatory (why), and finally evaluative (to what extent). However, these questions can help in the literature review writing and selection:

First Research Question: Will online banking replace real banks in future advance?

Second Research question: What is the correlation between e-banking services transactions and real GDP?

RESEARCH METHODOLOGY

The **quantitative** research method purpose in this research was to test the above research questions and to look for cause and effects with descriptive and causal research designs, and in this research we made **questionnaire** with specific variables studied and we distributed it on a large and random sample of Lebanese banks (Audi, SGBL, FNB, MASR, Credit Lebanese, Mawared, Phoenicia, LGB, Baraka, Blom) to obtain statistical relationships. Also we conducted a **regression** analysis to study the relation between introducing online banking with relation to GDP to test the second research question.

FINDINGS AND RESULTS

The aim of the paper in testing if online banking services would replace traditional services the questionnaire in Appendix A gave us the following results:

Regarding the role of digital banking in competition 45% stated that they strongly agreed that D.B is a major source for competition between banks and also 45% agreed that D.B is a major source for competition between banks, however only 10% neither agreed nor disagreed that D.B is a source of competition, knowing that none have disagreed or strongly disagreed that D.B is a major source for competition between bank.

This result shows that 90% in majorities agreed and strongly agreed, this implies that the majority of the banking sector believes that digital banking is major competition between banks.

As a descriptive analysis, we also studied the mean to study on average the position of the answers of the sample and since 45% answered strongly agree that refers to rank 1, and 45% answered agree that refers to rank 2, and 10% neither agreed nor disagreed and none disagreed and agreed. Then the mean = $(0.45 \times 1) + (0.45 \times 2) + (0.1 \times 3) + (0 \times 4) + (0 \times 5) = 1.65$, this 1.65 refers to rank 1 which is strongly agree, so we can state that on average the sample was strongly agree that Digital banking is major source of competition between banks.

Risk (standard deviation): $(1 - 1.65)^2 (0.45) + (2 - 1.65)^2 (0.45) + (3 - 1.65)^2 (0.1) + (4 - 1.65)^2 (0) + (5 - 1.65)^2 (0) = 0.4275 = 65.38\%$ Regarding the risk we gave studied the standard deviation which shows how much the data varies around the mean. This shows that in average

there is a high risk concerning answering that digital banking is major source for competition between banks.

The graph below shows the distribution of answers regarding the first question” do you think that digital banking is a major source for competition”

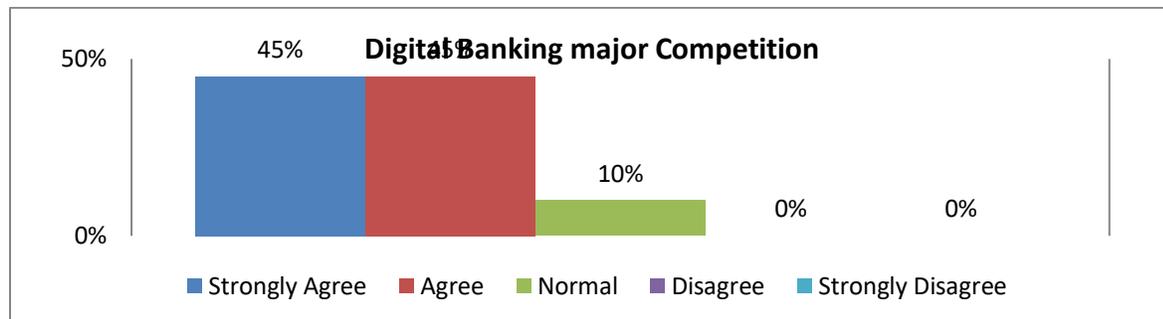


Figure 1: *D.B major Competition*

As a result, 90% majority of people actually believe that digital banking is a strong source of competition between banks.

Regarding the digital banking security without threats, none strongly agreed and agreed that digital banking can be applied without banking threats, 35% neither agreed nor disagreed that digital banking can be applied with optimum security without any banking threats, 40% disagreed that digital banking can be applied without banking threats, and also 25% strongly disagreed that digital banking can be applied without banking threats.

This result shows that 65% in majority disagreed and strongly disagreed that digital banking can be applied without banking threats.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 35 % neither agreed nor disagreed that refers to rank 3 , and 40% disagreed that refers to rank 4, and 25 % strongly agreed that refers to rank 5 then the Mean= $(0*1) + (0*2) + (0.35*3) + (0.4*4) + (0.25*5) = 4$, this 4 refers to rank 4 which is disagree , so we can state that on average the sample disagreed that digital banking services can be done without threats.

Risk (standard deviation) : $(1 - 4)^2 (0) + (2 - 4)^2 (0) + (3 - 4)^2 (0.35) + (4 - 4)^2 (0.4) + (5 - 4)^2 (0.25) = 77.45\%$ regarding the risk studied the standard deviation which shows how much the data varies around the mean. This shows that in average there is high risk concerning answering that digital banking security without threats.

The graph below shows the distribution of answers regarding the second question” Do you think that digital banking can be applied with optimum security without threats”.

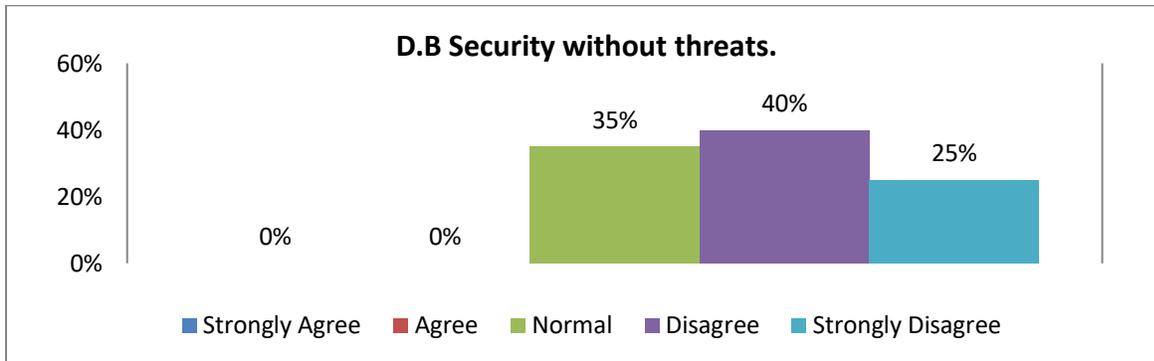


Figure 2: D.B security without threats

As a result, the majority of people believed that digital banking can cause many threats when applied.

Regarding the replacement of traditional banking in Lebanon with digital banking services, 10% strongly agreed that digital banking would replace the traditional banking services in Lebanon in the future, 70% agreed that digital banking would replace the traditional banking services in Lebanon in the future, 10% neither agreed nor disagreed that digital banking would replace the traditional banking services in Lebanon in the future, and none disagreed that digital banking would replace the traditional banking services in Lebanon in the future, and 10% strongly disagreed that digital banking would replace the traditional banking services in Lebanon in the future. This result shows that

80% majority agreed and strongly agreed, this implies that the majority of banking sector believes that digital banking service would replace traditional banking services in the future.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 10% strongly agreed that refers to rank 1, and 70% agreed that refers to rank 2, and 10% neither agreed nor disagreed that refers to rank 3, and 10% strongly disagree that refers to rank 5. Then the Mean : $(0.1 \cdot 1) + (0.7 \cdot 2) + (0.1 \cdot 3) + (0 \cdot 4) + (0.1 \cdot 5) = 2.3$, this 2.3 refers to rank 2 which is agree, so we can state that on average the sample was agree that digital banking would replace traditional services in the future.

Risk (standard deviation) : $(1 - 2.3)^2 (0.1) + (2 - 2.3)^2 (0.7) + (3 - 2.3)^2 (0.1) + (4 - 2.3)^2 (0) + (5 - 2.3)^2 (0.1) = 100\%$ regarding the risk we studied the standard deviation which shows how much data varies around the mean. This shows that in average there is a high complete risk concerning the answer that digital banking would replace traditional banking services.

The graph below shows the distribution of answers regarding the third question "do you think that digital banking would replace traditional banking service in the future".

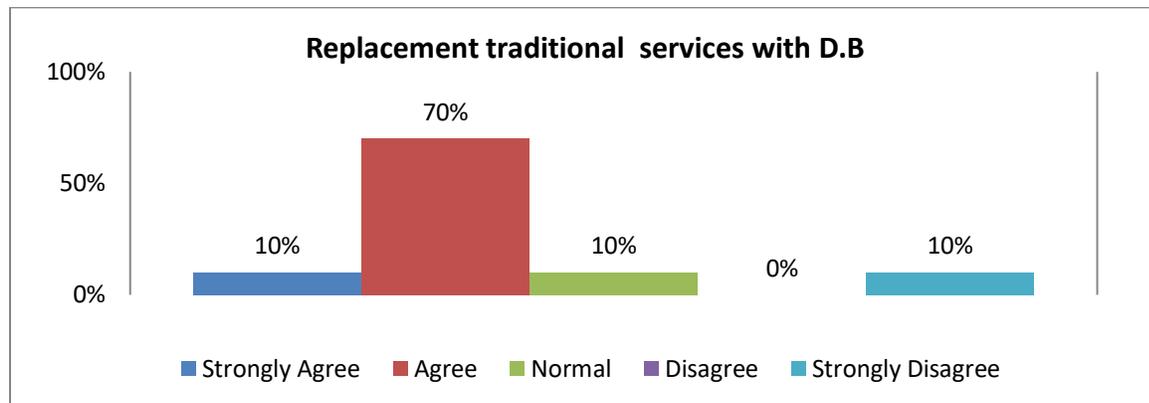


Figure 3: *Replacement traditional services with D.B*

As a result, the majority of people agreed that digital banking would replace the traditional banking services in Lebanon the future.

Regarding the Lebanese market technological capacity adaption to advanced digital banking, none strongly agreed that the Lebanese market technological capacity is able to adapt to advance digital banking, 30% agreed that the Lebanese market technological capacity is able to adapt to advance digital banking, 45% neither agreed nor disagreed that the Lebanese market technological capacity is able to adapt to advance digital banking, and 25% disagreed that Lebanese market technological capacity is able to adapt to advance digital banking, and none strongly disagreed that the Lebanese market technological capacity is able to adapt to advance digital banking.

This result shows that 75% majority agreed and neither agreed nor disagreed; this implies that the majority of bankers believed that the Lebanese market have the technological capacity to adopt advanced technological services.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 30% agreed that refers to rank 2, and 45% neither agreed nor disagreed that refers to rank 3, and 25% disagreed that refers to rank 4, Then the Mean = $(0 \cdot 1) + (0.3 \cdot 2) + (0.45 \cdot 3) + (0.25 \cdot 4) + (0 \cdot 5) = 3$, this 3 refers to rank 3 which is normal, so we can state that on average the sample normal, neither agreed nor disagreed that Lebanese market technological capacity are able to adopt advanced digital banking.

Risk (standard deviation) = $(1 - 3)^2 (0) + (2 - 3)^2 (0.3) + (3 - 3)^2 (0.45) + (4 - 3)^2 (0.25) + (5 - 3)^2 (0) = 74.16\%$ regarding the risk we studied the standard deviation which shows how data varies around the mean. This shows that in average there is high risk answering that market technological capacity is able to adapt advanced digital banking service.

The graph below shows the distribution of answers regarding the fourth question” is Lebanese market technological capacity is able to adopt advanced digital banking”

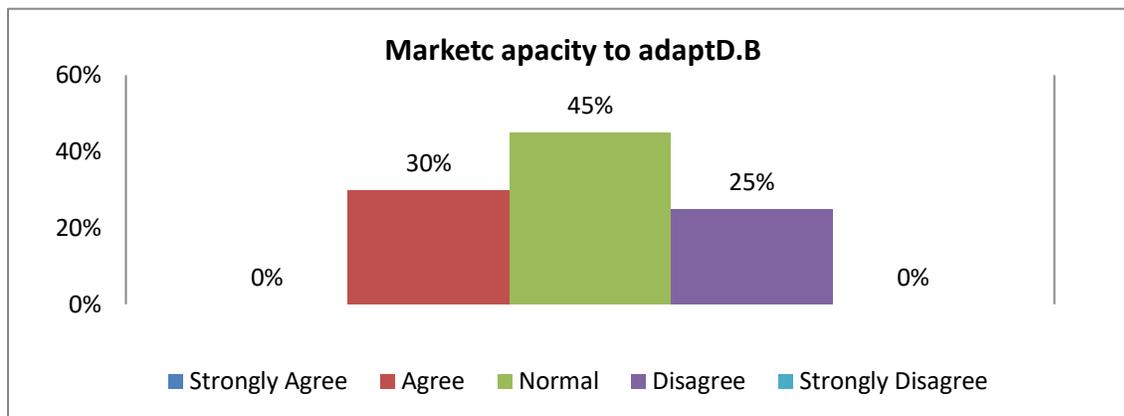


Figure 4: *market capacity to adapt D.B*

As a result, the majority of people had normal answer toward Lebanese market adaption to advance digital banking. Regarding if Lebanese customers knowledgeable capacity to adopt advanced digital banking, 45% strongly agreed that Lebanese people’s knowledge capacity is able to adapt to advanced digital banking, 40% agreed that Lebanese people’s knowledge capacity is able to adapt to advanced digital banking, 15% neither agreed nor disagreed on that Lebanese people’s knowledge capacity is able to adapt to advanced digital banking, however none disagreed and strongly disagreed that Lebanese people’s knowledge capacity is able to adapt to advanced digital banking

This result shows that 85% majority agreed and strongly agreed, this implies that the majority of banking sector believed that Lebanese customers knowledgeable capacity to adopt advanced digital banking.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 45% strongly agreed that refers to rank 1, and 40% agreed that refers to rank 2, and 15% neither agreed nor disagreed that refers to rank 3,

Then the Mean= $(0.45*1) + (0.4*2) + (0.15*3) + (0*4) + (0*5) = 1.7$ this 1.7 refers to rank 1 which is strongly agree, so we can state that on average the sample strongly agreed that Lebanese customers have the capacity to adopt advanced digital banking.

Risk (standard deviation): $(1 - 1.7)^2 (0.45) + (2 - 1.7)^2 (0.4) + (3 - 1.7)^2 (0.15) + (4 - 1.7)^2 (0) + (5 - 1.7)^2 (0) = 71.41\%$ regarding the risk we studied the standard deviation which shows how data varies around the mean. This shows that on average there is high risk answering that customers have the knowledgeable capacity to adopt advanced digital banking.

The graph below shows the distribution of answers regarding the fifth question” Is Lebanese people knowledgeable capacity able to adopt advanced digital banking?”

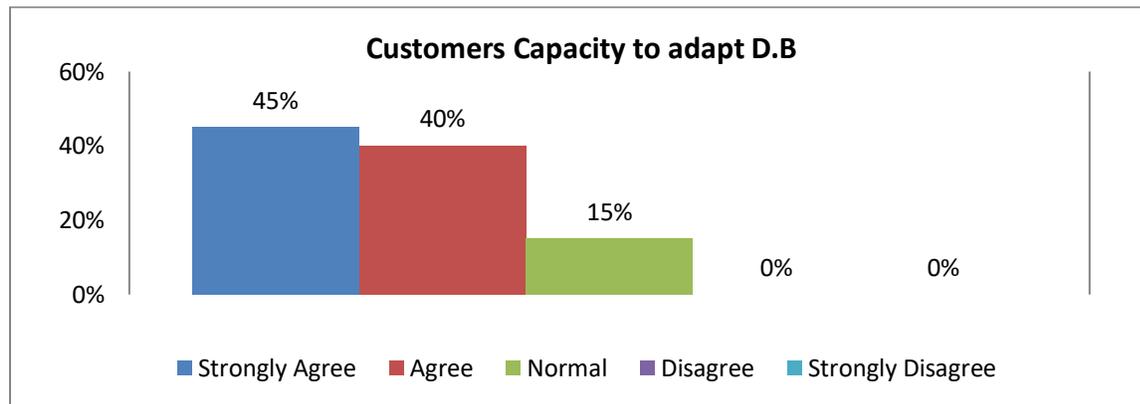


Figure 5: *Customers Capacity to adapt D.B*

Therefore, the majority of banks strongly agreed that Lebanese people have the knowledge capacity to adopt advanced digital banking.

Regarding the banks financial capacity to adopt digital banking, none strongly agreed that their banks have enough financial capacity to adopt digital banking, 75% agreed that their banks have enough financial capacity to adopt digital banking, also 25% neither agreed nor disagreed that their banks have enough financial capacity to adopt digital banking, and none disagreed and strongly disagreed that their banks have enough financial capacity to adopt digital banking.

This result shows that 75% of majority agreed this implies that majority of banks believed that they have, the financial capacity to adopt digital banking.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 75% agreed that refers to rank 2, and 25% neither agreed nor disagreed that refers to rank 3, Then the Mean= 2.25, this refers to rank 2 which is agree, so we can state that the average sample agreed that banks have the financial capacity to adopt digital banking.

Risk = 43.30% regarding the risk we studied the standard deviation which shows how data varies around the mean. This shows that on average there is medium risk answering that banks have the financial capacity to adopt digital banking.

The graph below shows the distribution of answers regarding the sixth question” does your bank have the financial capacity to adopt digital banking?”

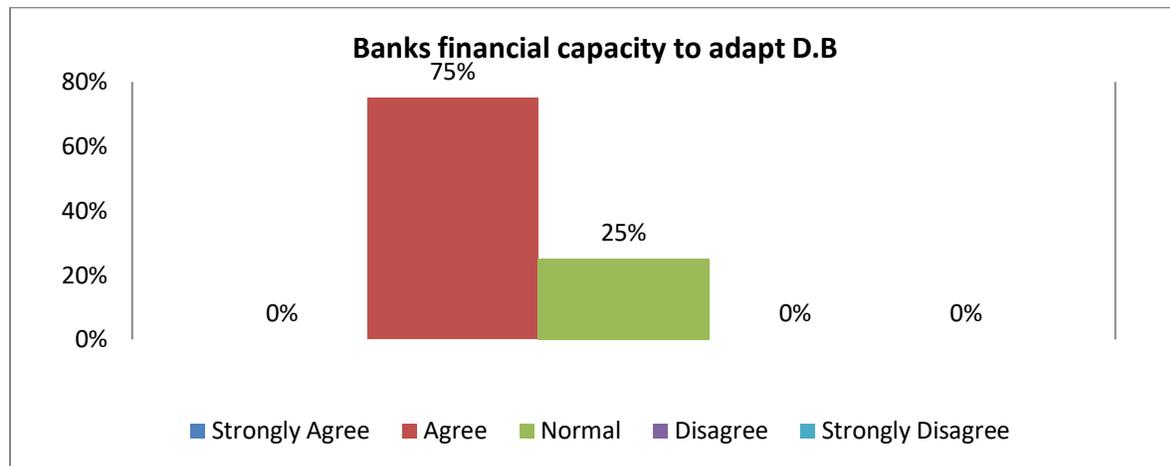


Figure 6: *Banks financial capacity to adapt D.B*

Therefore, the majority of bankers agreed that their banks have the financial capacity to adapt to digital banking.

Regarding if banks employee have the capacity to adapt digital banking services, none strongly agreed that their employees and staff capacity are able to adapt to digital banking sectors, 75% agreed that their employees and staff are able to adapt digital banking sectors, 25% neither agreed nor disagreed that their employees and staff capacity are able to adapt to digital banking sectors, and none disagreed and strongly disagreed that their employees and staff capacity are able to adapt to digital banking sectors.

This result shows that 75% majority agreed this implies that majority of banks believed that they have appropriate employee or staff capacity to adapt to digital banking sectors.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 75% agreed that refers to rank 2, and 25% neither agreed nor disagreed that refers to rank 3, Then the Mean=2.25, this refers to rank 2 which is agree, so we can state that the average sample agreed that banks employee have the capacity to adapt digital banking services.

Risk = 43.30% regarding the risk, we studied the standard deviation which shows how data varies around the mean. This shows that on average there is medium risk answering that banks employee have the capacity to adapt digital banking services.

The graph below shows the distribution of answers regarding the seventh question” does your bank have the employee and staff capacity to adopt digital banking”?

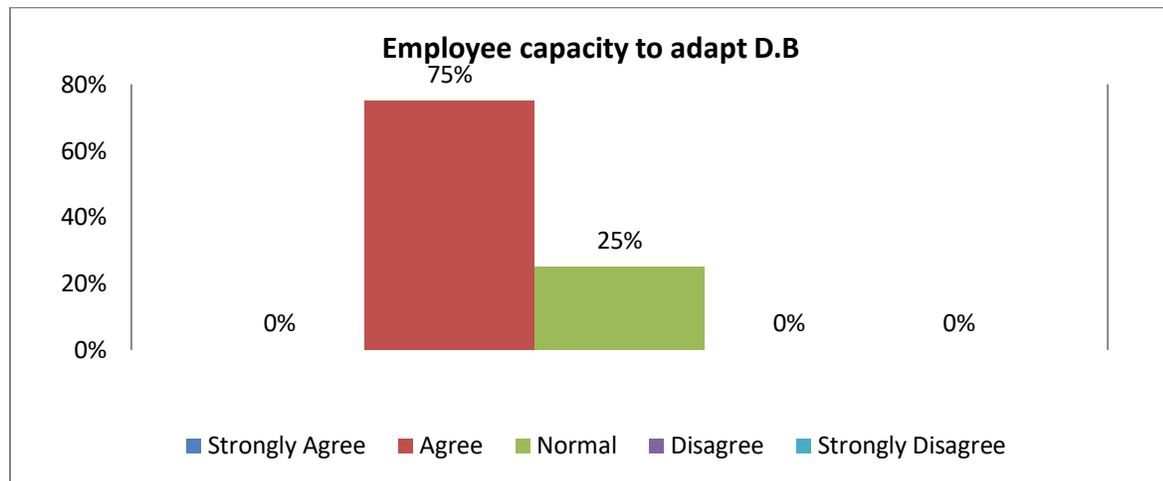


Figure 7: *Employee Capacity to adapt D.B*

As a result, the majority of bankers agree that they have appropriate employee and staff capacity to adopt digital banking sectors.

Regarding on banks encouragement to train customers on any new technology adapted, 100% of bankers agreed that their banks always encourage and train customers on any new technology.

This result shows that 100% majority agreed, this implies that majority of bankers believed that they always train and encourage their customers on any new technology.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 100% agreed that refers to rank 2, Then the Mean=2this refers to rank 2 which is agree, so we can state that the average sample agreed that bankers always encourage and train customers for new technology adaption.

Risk = 0% regarding the risk, we studied the standard deviation which shows how data varies around the mean. This shows that on average there is zero risk answering that bankers encourage customers for new technology adaption.

The graph below shows the distribution of answers regarding the eighth question” does your bank encourage and train customers on any new technology adapted”?

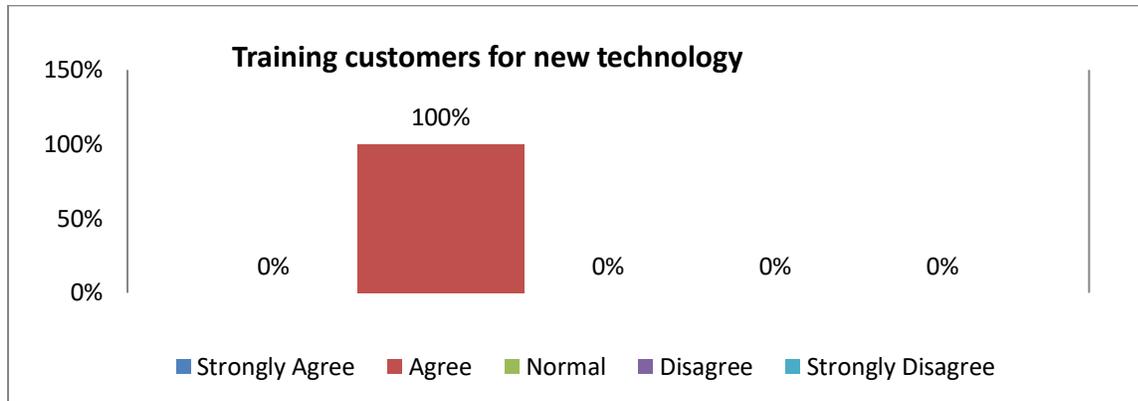


Figure 8: *Training customers for new technology*

Therefore, all bankers agreed that they encourage and train customers on new technology.

Regarding if digital banking customers are increasing each year, 25% stated that they strongly agreed that the number of Lebanese customers adapting digital banking increasing each year, 65% agreed that the number of Lebanese customers is increasing each year, and 10% neither agreed nor disagreed that the number of Customers is increasing yearly, however none disagreed and strongly disagreed on that the number of Lebanese customers is increasing each year.

This result shows that 90% in majorities agreed and strongly agreed this implies that digital banking customers are increasing each year.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 25% strongly agreed that refers to rank 1, 65% agreed that refers to rank 2, 10% neither agreed nor disagreed that refers to rank 3. Then the Mean=1.85 this refers to rank 1 which is strongly agree, so we can state that the average sample strongly agreed that digital banking customers are increasing each year

Risk = 57.22% regarding the risk, we studied the standard deviation which shows how data varies around the mean. This shows that on average there is medium risk answering that digital Lebanese customers are increasing each year.

The graph below shows the distribution of answers regarding the ninth question "is the number of customers in digital banking at your bank increasing each year"?

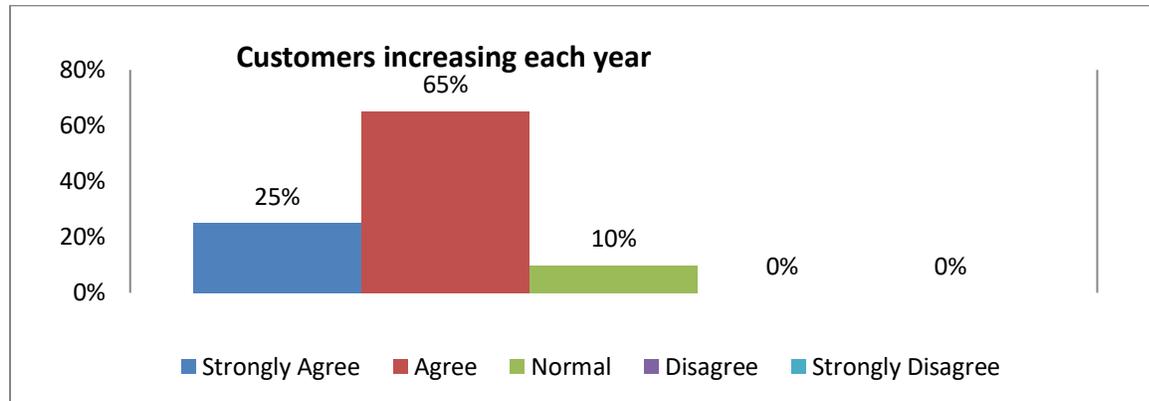


Figure 9: *Customers increasing each year*

Therefore, majority strongly agree that Lebanese customers adapting digital banking are increasing each year.

Regarding if digital banking customers are satisfied using digital banking services, none strongly agreed that customers are satisfied with digital banking, 20% agreed that customers are satisfied with digital banking, 80% neither agreed nor disagreed that customers are satisfied with digital banking, however none disagreed and strongly disagreed on that customers are satisfied with digital banking.

The result shows that 80% in majorities neither agreed nor disagree; this implies that most bankers have neutral answer about satisfaction of customers using digital banking.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 20% agreed that refers to rank2, 80% neither agreed nor disagreed that refers to rank 3. Then the Mean=2.8 this refers to rank 2 which is agree, so we can state that the average sample agreed that customers are satisfied with digital banking services.

Risk = 40% regarding the risk, we studied the standard deviation which shows how data varies around the mean. This shows that in average there is low risk answering that customers are satisfied with digital banking services.

The graph below shows the distribution of answers regarding the tenth question” are customers optimally satisfied by the advanced digital banking services”?

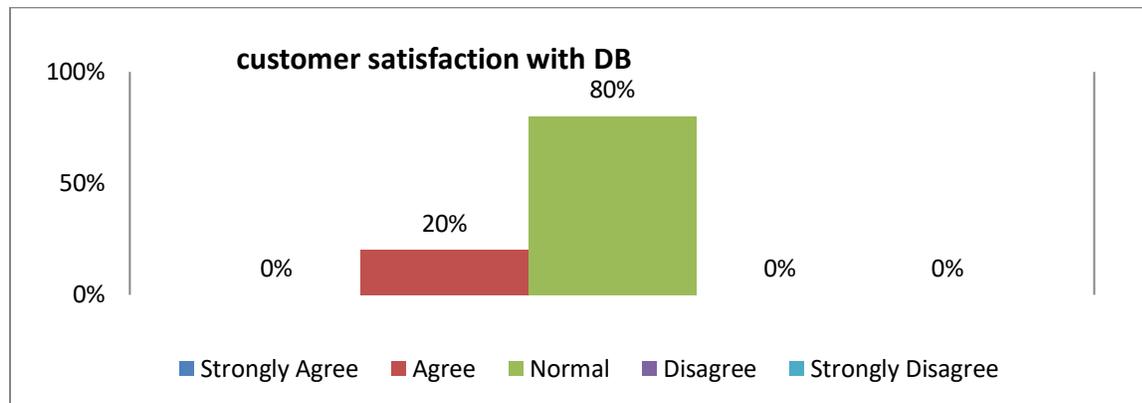


Figure 10: *Customers satisfaction with D.B*

Therefore, the majority of bankers agreed that customers are satisfied using digital banking services.

Regarding if the physical bank branches would be replaced by digital banking, none strongly agreed that after 10 years or more physical bank branches would be replaced by Digital banking services, 20% agreed that after 10 years or more physical bank branches would be replaced by D.B, 45% neither agreed nor disagreed, and 15% disagreed that after 10 years or more physical bank branches would be replaced by Digital banking services, however none strongly disagreed that after 10 years or more physical branches would be replaced.

This result shows that 45% majorities neither agreed nor disagreed, this implies banks majority had a neutral answer if banks would be replaced by digital banking services after 10 years or more.

As a descriptive analysis we studied the mean to study on average the position of the answers of the sample and since 20% agreed that refers to rank2, 45% neither agreed nor disagreed that refers to rank 3, and 15 % disagreed. Then the Mean=2.35 this refers to rank 2 which is agreed, so we can state that the average sample agreed that bank branches would be replaced by digital banking services.

Risk = 78.9% regarding the risk, we studied the standard deviation which shows how data varies around the mean. This shows that on average there is a high-risk answering that physical bank branches would be replaced by digital banking services.

The graph below shows the distribution of answers regarding the eleventh question” do you think that after 10 years or more the physical bank branches would be replaced by digital banking”?

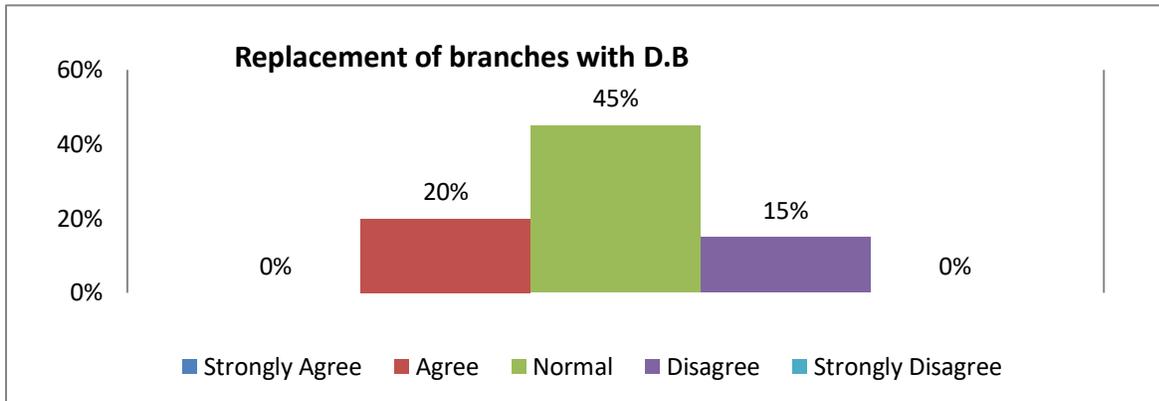


Figure 11: *Replacement of branches with D.B*

Therefore the majority of bankers agree to normal that banks would be replaced by digital banking services after 10 years or more.

RELATION BETWEEN ONLINE BANKING AND ECONOMIC GROWTH IN LEBANON

The table below shows the e-banking transactions and the real GDP from years 2008 until 2017.

Table 1:

E-banking transactions & GDP (2008-2017)

Year	e-banking transactions (Billion USD)	Real GDP (Billion USD)
2008	2.5	29.23
2009	2.6	35.48
2010	2.9	38.42
2011	3.2	40.08
2012	3.6	43.87
2013	3.75	46.01
2014	4.25	47.83
2015	5.12	49.46
2016	5.68	49.6
2017	6.16	51.84

Based on the above data we have conducted regression analysis to study the relation between e-banking and GDP.

Table 2:
Regression results

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.90234
R Square	0.81422
Adjusted R Square	0.791
Standard Error	3.31043
Observations	10

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	384.2459	384.2459	35.0621	0.000353
Residual	8	87.67207	10.95901		
Total	9	471.918			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	23.1129	3.547271	6.515	0.000	14.93293	31.292	14.9329	31.2929
X Variable 1	5.04754	0.852435	5.921	0.000	3.081828	7.0132	3.08182	7.01326

The regression model is designed as follows.

$$Y = 23.11295 + 5.047547 X_1 \quad \text{given that; } \rightarrow X: \text{ represents e-banking transactions.}$$

$\rightarrow Y$: represents the real GDP.

The simple regression model is meant to evaluate the impact of e-banking transactions to the economic growth of the country that is measured as real GDP. Thus, e-banking transactions was employed as the predictor variable while the real GDP was used as the response variable. Data analysis was done using Microsoft Excel. The output shows there is a positive correlation between e-banking transactions and the real GDP in Lebanon. This implies that any increase in e-banking transactions results to a corresponding rise of the real GDP. A constant of 23.11295 implies that when the predictor variable that is the e-banking transactions is at zero, the real GDP of the nation is at 23.11295 billion USD.

CONCLUSIONS & RECOMMENDATIONS

Digital banking sectors permit banks to offer for their customers to reach their goals with less time and difficulties. This research paper studied the relationship between customers, banks and online banking services. The first research question was online banking would/wouldn't replace traditional banking in Lebanon, and the result obtained was that online banking would be replaced by the advanced online banking sectors since 90% majority of people actually believed that digital banking services are a major source of competition between banks, and 75% of bankers believed that their banks own the financial capacity to adapt the digital banking services, 90% of bankers had neutral answer toward that digital banking customers are increasing each year and the majority of bankers had neutral answers that customers are satisfied by the advanced digital banking sectors, but 65% mentioned that digital banking services can't be applied without threats and all these results support the stated hypothesis that online banking would replace the traditional banking sectors in the future since these online banking are making service more efficient and effective with greater banks profit and customers satisfaction.

The second research question there is/ isn't significant correlation between e-banking services transactions and real GDP, and the result obtained that there is a positive correlation.

As a conclusion, online banking is a major competition and by the development and the increase of customer satisfaction using this online application the traditional banking services would be replaced totally and in advance future, the physical bank branches and bank employees would be reduced due to the huge usage of online banking applications.

The regression analysis suggests that there is a positive correlation between e-banking transactions and the real GDP. Consequently, any increase in the e-banking transactions leads to a resultant rise of the real GDP.

RECOMMENDATIONS

Banks should improve their protection policy at banks in their applications because 65% of customers disagreed that digital banking services can be applied without threats and by providing security customers would be more trustworthy. Also, banks should improve their applications since customers neither agreed nor disagreed that their customers are totally satisfied using the online applications, so they should improve and fix the applications problems to let customers increase their level of satisfaction and thus using this application more.

Moreover, introducing and supporting online and digital banking would have a positive impact in stimulating the economy of the country.

REFERENCES

Bibliography

1. Cognizant. (2015) The future of branch banking: four things to know. Available at:
2. <https://www.cognizant.com/perspectives/the-future-of-branch-banking-four-things-to-know> (Accessed on 21.06.2015).
3. chapanda, k. (2018). Chapter Three 3.0 Research Methodology 3.1 Introduction. *SCRIBD*, 11.
4. Clayton, T. (2018). 7 Trends Happening in Digital Banking You Should Know About Right Now. *NETGURU*, 13.
5. Cort O'Haver. (n.d.). Umpqua Bank Doubles Down On Its 'Human Digital' Strategy.
6. Desai, F. (2015, Dec). The Evolution Of Fintech. *Forbes*, 4.
7. DeVault, M., Bogdan, R., & Taylor, S. J. (2015). *Introduction to Qualitative Research Methods: A Guidebook and Resource*. UNITED STATES: WILEY.
8. Duggan, F. (2018). Glimpse into the Future, what banking looks like 10 years from now? *Financial Brand*, 4.
9. FRANKENFIELD, J. (2018). Chatbot. *TECH FINANCIAL TECHNOLOGY*, 6.
10. Groenfeldt, T. (2018). Kony In Deal With Umpqua Bank For Digital Engagement App. *FORBES*, 4.
11. Hanafizadeh, P., Keating, B., & Khedmatgozar, H. R. (2014). A Systematic Review of Internet Banking Adoption. *Research gate*, 24.

12. Ismail, K., Zakuan, N., Ariff, M. S., & Yun, I. O. (2013). The Impacts of Service Quality and Customer Satisfaction on Customer Loyalty in Internet Banking. *Procedia - Social and Behavioral Sciences*, 81, 469-473.
13. KAGAN, J. (2018). What is Fintech. *Fintech*, 10.
14. Kamra, S. (2014). DIGITAL TRANSFORMATION. *happiest minds*, 13.
15. Karimi, S. (2018). Pros and Cons of Online Savings Accounts. *Go Banking Rates*, 10.
16. Khanna, S., & Martins, H. (2018). Six digital growth strategies for banks. *Digital Mckincy*, 9.
17. Lau, T. (2018). Why digital banking should include a human component:. *THE FINANCIAL BRAND*, 4.
18. Marcu, S., deighton, J., Gordon, f., & Ullrich, M. (2013). Banking in a Digital World. *ATKEARNEY*, 23.
19. Marous, J. (2018). 2018 GUIDE TO FINANCIAL MARKETING. *Digital Banking Report*, 90.
20. Marous, J. (2018). How Leading Financial Brands Are Using Digital Marketing To Win Consumers. *The Financial Brand*, 7.
21. Marous, J. (2018). Umpqua Sells Digital Banking Innovation Unit to Fintech. *THE FINANCIAL BRAND*, 4.
22. Nicolls, D. (2018). Why millennial refuse to open banks account digitally? *THE FINANCIAL BRAND*, 4.
23. Noto, G. (2016). 10 ways banking will be different in 2020. *Bank innovation*, 4.
24. Raza, S. (2018). Fintech – The Evolution Of Modern Financial Technology In The 21st Century. *ValueWalk*, 22.
25. Rivas, A. (2018). 10 L&D trends for 2018 - A glimpse into the future. *Associaton for Talent Development*, 7.
26. Safeena, R., Abdullah, & Date, H. (n.d.). Customer Perspectives on E-business Value: Case Study on Internet Banking. *Journal of Internet Banking and Commerce*, 9.
27. Sarreal, R. (2018). History of Online Banking: How Internet Banking Went Mainstream. *Go Banking Rates*, 14.
28. StoryWorks. (2017). seven Ways We Will Bank in the Future. *Standard Chartered*, 10.
29. Streeter, B. (2018). Umpqua Bank Doubles Down On Its ‘Human Digital’ Strategy (Here’s Why). *THE FINANCIAL BRAND*, 7.
30. team, M. I. (2016). Are Indian banks ready for the upcoming ‘Uberization’? *Money and Banking*, 8.
31. Yan, X., and Su, X. (2009). Linear regression analysis: theory and computing. Singapore; Hackensack, N.J.: World Scientific Pub. Co.