European Journal of Accounting, Auditing and Finance Research
Vol.6, No.3, pp.53-64, April 2018
Published by European Centre for Research Training and Development UK (www.eajournals.org)

THE IMPACTING OF THE 4.0 INDUSTRIAL REVOLUTION TO VIETNAM COMMERCIAL BANKS: A CASE OF THE OPPORTUNITY AND CHALLENGE FOR THE PAYMENT

Nguyen Thi Kim Ngoc (Ph.D) and Le Thi Kim Anh

Mientrung Industry and Trade College

ABSTRACT: *In Vietnam, the 4.0 industrial revolution has had a strong impact and promises to create more opportunities and motivation for commercial banks to develop retail banking, especially in enhancing the application of innovative business solutions and breakthrough technology to improve management capabilities, automate business processes and develop cutting-edge retail banking services to deliver seamless customer experience for developing the payment. In addition to the great opportunities, the 4.0 industrial revolution also poses many challenges for commercial banks in enhancing their competitive advantage, upgrading their information technology infrastructure to ensure security and security. New distribution channels and service products for developing the payment. The objectives of this paper were not only to look into the relevant literature but also to find common ground regarding the payment development of commercial banks in Vietnam and reports the results of a survey of 300 persons working for the financial sector in Vietnam. In this paper, the researcher used explore factor analysis (EFA) for determining that are components of the payment of commercial banks in Vietnam. This paper conducted during the time from July 2017 to March, 2018. In addition, the research result showed that there were 300 persons working for the financial sector in Vietnam interviewed but 270 persons processed and answered 12 questions. The researcher had analyzed KMO test, the result of KMO analysis used for multiple regression analysis. Persons' responses were measured through an adapted questionnaire on a 5-point Likert scale. Hard copy and online questionnaire were distributed among persons working for the financial sector in Vietnam.*

KEYWORDS: The Commercial Bank, Financial Sector, E-Banking, Internet Payment.

INTRODUCTION

Currently, the world is entering the 4.0 industrial revolution in which technologies such as Virtual Reality, Internet of Things (IOT), Big Data are applied in all fields included social-economic life. For Vietnam bank branches, the 4.0 industrial revolution can impact the organizational model, management in banks through the appearance of IOT and the impact of distribution channels, products and services such as traditional banks...

The 4.0 industrial revolution in Vietnam is rapidly changing the industry and the industry with a full range of cutting-edge technologies such as artificial intelligence, automation, internet connectivity, cloud computing. Many successful models from the application of technologies of this revolution such as Uber, Grab, Traveloka, Alibaba, Amazon... are putting banks ahead of the big challenges in attracting loyal customers and payment. Besides, the 4.0 technology revolution will have major impacts on the banking industry. We can see: *First of all*, technology will help the banking system reduce costs by 30-80% depending on the job. *Secondly*, the banking system will improve competitiveness, improve quality control, especially risk management. *Thirdly*, some people worry that technology will reduce jobs but

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

this is not too worrying because banks have the opportunity to access new business opportunities, create new job opportunities such as information technology, information security. *Finally*, increase the ability to participate in global and regional value chains, participate in e-ecological ecosystems combining finance, health, insurance, tourism, education, trade, payment and real estate business. Now when customers want to deal with banks are through ATM system and transaction office. In the near future, however, transactions will be made using digital technology and robots, with 60% replacing automation and robotics. Thus, the above mentioned things in combination with the practical requirements of the job, the researcher has boldly chosen the theme: *"**The impacting of the 4.0 industrial revolution to Vietnam commercial banks: A case of the opportunity and challenge for the payment**"*. As a paper for researching in the developing of the payment sector of commercial banks in the future.

LITERATURE REVIEW

The definition of electronic banking varies among researchers, because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone by Jayshree Chavan (2013). The definition of electronic banking used in this study is adopted from the Basel committee report which defined it the provision of retail and small value banking products and services through electronic channels as well as a large value electronic payment and other wholesale banking services which are delivered electronically. Such products and services can include deposit taking, lending, account management, the provision of financial device, electronic bill payment, and the provision for other products and services such as electronic money (Basel committee on banking supervision, 2003). Electronic banking services have benefits for both banks and customers. For banks, electronic banking is conceded a strategy weapon; help them to achieve competitive advantage and increase their market share. Furthermore, using electronic services can save the cost of resources, which are needed for traditional banking services by Jenet Manyi Agbor (2011). From the customers' point of view by Kumar, V., & Reinartz, W. J. (2006) found that electronic banking provide faster, easier and more reliable services to customers. However, customers are still hesitant to use electronic banking services, because they are concerned with security issues, and they may do not have sufficient ability to deal with the applications of electronic banking.

A payment is the trade of value from one party (such as a person or company) to another for goods, or services, or to fulfill a legal obligation. Payment can take a variety of forms. Barter, the exchange of one good or service for another, is a form of payment. The most common means of payment involve use of money, cheque, or debit, credit or bank transfers. Payments may also take complicated forms, such as stock issues or the transfer of anything of value or benefit to the parties. In US law, the payer is the party making a payment while the payee is the party receiving the payment. In trade, payments are frequently preceded by an invoice or bill.

In general, the payee is at liberty to determine what method of payment he or she will accept; though normally laws require the payer to accept the country's legal tender up to a prescribed limit. Payment is most commonly effected in the local currency of the payee, unless if the parties agree otherwise. Mohammed Abdur Razzaque (2013) showed payment in another currency involves an additional foreign exchange transaction. The payee may compromise on

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

a debt, ie., accept a part payment in full settlement of a debtor's obligation, or may offer a discount, for example, for payment in cash, or for prompt payment, etc. On the other hand, the payee may impose a surcharge, for example, as a late payment fee, or for use of a certain credit card, etc. Besides, the acceptance of a payment by the payee extinguishes a debt or other obligation. A creditor cannot unreasonably refuse to accept a payment, but payment can be refused in some circumstances, for example, on a Sunday or outside banking hours. A payee is usually obligated to acknowledge payment by producing a receipt to the payer. A receipt may be an endorsement on an account as "paid in full". The giving of a guarantee or other security for a debt does not constitute a payment by Oduro Richard (2012).

Pavla Vodová (2011) showed that Internet banking, it is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. The online banking system will typically connect to or be part of the core banking system operated by a bank and is in contrast to branch banking which was the traditional way customers accessed banking services. To access a financial institution's online banking facility, a customer with internet access will need to register with the institution for the service, and set up a password and other credentials for customer verification. The credentials for online banking is normally not the same as for telephone or mobile banking. Financial institutions now routinely allocate customers numbers, whether or not customers have indicated an intention to access their online banking facility. Customer numbers are normally not the same as account numbers, because a number of customer accounts can be linked to the one customer number. Technically, the customer number can be linked to any account with the financial institution that the customer controls, though the financial institution may limit the range of accounts that may be accessed to, say, cheque, savings, loan, credit card and similar accounts.

The customer visits the financial institution's secure website, and enters the online banking facility using the customer number and credentials previously set up. The types of financial transactions which a customer may transact through online banking are determined by the financial institution, but usually includes obtaining account balances, a list of the recent transactions, electronic bill payments and funds transfers between a customer's or another's accounts. Most banks also enable a customer to download copies of bank statements, which can be printed at the customer's premises (some banks charge a fee for mailing hard copies of bank statements). Some banks also enable customers to download transactions directly into the customer's accounting software. The facility may also enable the customer to order a cheque book, statements, report loss of credit cards, stop payment on a cheque, advise change of address and other routine actions by Sallehuddin Mohd Nor (2011). Today, many banks are internet-only institutions. These "virtual banks" have lower overhead costs than their brick-and-mortar counterparts. In the United States, many online banks are insured by the Federal Deposit Insurance Corporation (FDIC) and can offer the same level of protection for the customers' funds as traditional banks.

METHODS OF RESEARCH

This paper used of quantitative research methods to survey the factors affecting the payment of commercial banks in Vietnam. The results obtained from quantitative research processed by SPSS statistical software version 20.0. Research processing for the factors affecting the payment of commercial banks in Vietnam.

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

Figure 1: Research processing for the factors affecting the payment of commercial banks in Vietnam

Quantitative research methods describe and measure the level of occurrences based on numbers and calculations. Quantitative research is the collection of numerical data and exhibiting the view of relationship between theory and research as deductive, a predilection for natural science approach, and as having an objectivist conception of social reality. Therefore, this specific form of research uses the quantitative data to analysis. The researcher interviews 30 experts in banking. After preliminary investigations, formal research is done by using quantitative methods questionnaire survey of 300 persons related financial sector and answered nearly 12 questions. The reason tested measurement models, model and test research hypotheses.

Data collected were tested by the reliability index (excluding variables with correlation coefficients lower < 0.30 and variable coefficient Cronbach's alpha < 0.60), factor analysis explored (remove the variable low load factor < 0.50). The hypothesis was tested through multiple regression analysis with linear Enter method. Present research relies on self-reported data, but socially desirable responses have been found to be a major challenge when dealing with self-reported data. In order to get more reliable research data, a short form of the scale was used in the questionnaire as well. The questionnaires were sent to persons with a job related financial sector, but it is obvious that there are different types of financial managers. This also gives evidence to the fact that the results of the study can be generalized to portray the financial payment on the financial sector of commercial banks in Vietnam.

The researchers are to analyze the data and to test hypotheses, multiple linear regression technique was used in this paper. The assumptions of using multiple regression analysis were met. Linearity and homoscedasticity were examined through the analysis of residuals, and partial regression scatter plot, the scatter plot does not exhibit any non linear pattern and shows that the points are randomly distributed through the scatter plot. This is an indication that the assumption of linearity and homoscedasticity for all variables has been met by Creswell, J. (2003). Multicollinearity assumption was tested through variance inflation factor and tolerance. Variance inflation factors are less than 10, and all the tolerance values are greater than 0.1. Hence, multicollinearity assumption has been met. The independent error assumption is tested by Durbin-Watson statistic. The value of Durbin-Watson test in all regression models in this study is more than 1 and less than 3. Hence, the independent error assumption has been met by Creswell, J. (2003).

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

Research results

Descriptive Statistics for the factors affecting the payment of commercial banks in Vietnam

Table 1: Descriptive Statistics for challenge factors (CF)

Items	N	Mean	S.D
CF1: Challenges in completing the legal framework for electronic payment and total loans to total assets and debt capital to equity capital are small size	270	3.30	.893
CF2: The legal framework and policies related to online payment services, electronic payment, modern, virtual currency, virtual card, electronic money ... are new issues	270	3.20	.959
CF3: Capacity of forecasting labor demand and supply in high tech is not good for financial payment development and the rapid development of information and telecommunications technology	270	3.38	1.023
CF4: The ever-increasing sophistication of digital technology, the rise of security vulnerabilities has made it increasingly common for high-tech crime	270	3.40	.926
CF5: The safety of the banking system, payment system and information security… on high-tech crimes, as well as challenges in the level, capacity, quantity and quality of information technology staff.	270	3.36	.920

(Source: The researchers' collecting data and SPSS 20.0)

The research results of the table 1 showed that there were 270 persons (lack of 30 persons) related financial sector processed and answered 5 questions. Besides, Std. Deviation (S.D) is around 1.0, mean is around 3.0 and this showed that the Data is very good for the next analysis.

Table 2: Descriptive Statistics for opportunity factors (OF)

Items	N	Mean	S.D
OF1: In Vietnam, the political environment is very good for developing the payment of the commercial banks	270	3.66	.973
OF2: In Vietnam, the stable economic environment is good opportunity for business development of internet banking payment sectors	270	3.80	.988
OF3: Vietnam GDP and average income are growing annual for good opportunity for developing the payment of the commercial banks	270	3.62	1.083
OF4: In Vietnam, low inflation and young population for developing the payment of the commercial banks and applying new technology trends	270	3.49	1.117
OF5: High technology such as smart phone, wifi… are growing in Vietnam. This helps the banks automation in business processes, speeding up the process of direction. to the standard model	270	3.44	1.122

(Source: The researchers' collecting data and SPSS 20.0)

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

The research results of the table 2 showed that there were 270 persons related financial sector processed and answered 5 questions. Besides, Std. Deviation (S.D) is around 1.0, mean is around 3.0 and this showed that the Data is very good for the next analysis.

Table 3: Cronbach's Alpha for opportunity factors (OF)

Reliability Statistics

Cronbach's Alpha	N of Items
.933	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OF1	14.36	15.354	.762	.929
OF2	14.21	15.180	.773	.927
OF3	14.40	13.764	.892	.904
OF4	14.53	13.663	.872	.908
OF5	14.57	13.963	.821	.919

(Source: The researchers' collecting data and SPSS)

The research results of the table 3 showed that there were 270 persons related financial sector processed and answered 5 questions. Besides, Std. Deviation is around 1.0 and Cronbach's Alpha is 0.933 (> 0.6) and Corrected Item-Total Correlation is high 0.3. This showed that the Data is very good for the next analysis.

Table 4: Cronbach's Alpha for challenge factors (CF)

Reliability Statistics

Cronbach's Alpha	N of Items
.902	5

Item-Total Statistics

Code	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CF1	13.33	10.877	.739	.883
CF2	13.43	10.387	.764	.878
CF3	13.25	9.853	.798	.871
CF4	13.23	10.722	.733	.884
CF5	13.27	10.705	.743	.882

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

(Source: The researchers' collecting data and SPSS)

The research results of the table 4 showed that there were 270 persons related financial sector processed and answered 5 questions. Besides, Std. Deviation is around 1.0 and Cronbach's Alpha is 0.902 (> 0.6) and Corrected Item-Total Correlation is high 0.3. This showed that the Data is very good for the next analysis.

Exploratory Factor Analysis

Cronbach's alpha is computed in terms of average inter-correlations among items, which determine the concepts. Although Creswell, J. (2003) suggested that, it is just fine when Cronbach's alpha is 0.8 or above 0.8, while Jamil Osman (2012) stated that it is still acceptable with the value of 0.6, especially for initial investigation like in this research. Therefore, in this research, the value is confirmed when it is greater than 0.7.

Table 5: Total Variance Explained for factors affecting the payment of commercial banks in Vietnam

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.857
Bartlett's Test of Sphericity	Approx. Chi-Square	2460.513
	df	45
	Sig.	.000

Total Variance Explained

Com.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.625	56.246	56.246	5.625	56.246	56.246	4.786
2	1.969	19.687	75.934	1.969	19.687	75.934	4.526
3	.702	7.025	82.959				
4	.525	5.254	88.213				
5	.311	3.115	91.328				
6	.284	2.842	94.169				
7	.251	2.511	96.680				
8	.149	1.486	98.166				
9	.131	1.313	99.480				
10	.052	.520	100.000				

(Source: The researchers' collecting data and SPSS)

The research results of the table 5 showed that Kaiser-Meyer-Olkin Measure of Sampling Adequacy was statistically significant and high data reliability (KMO = 0.857 > 0.6). This result was very good for data analysis. Table 5 showed that Cumulative percent was

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

statistically significant and high data reliability was 75.934 % (> 60 %). This is factors for independent variables.

Table 6: Rotated Component Matrixa for factors affecting the payment of commercial banks in Vietnam

Code	Component	
	X1	X2
OF4	.953	
OF5	.947	
OF3	.945	
OF1	.794	
OF2	.762	
CF2		.924
CF3		.849
CF4		.842
CF1		.814
CF5		.782

(Source: The researchers' collecting data and SPSS)

The research results of the table 6 showed that Structure Matrix for the factors affecting the payment of commercial banks in Vietnam. We had two Components. Component 1 (X1) was the opportunity factors (OF) and Component 2 (X2) was the challenge factors (CF). The researcher can call Y: the payment of commercial banks in Vietnam.

Table 7: Total Variance Explained for the payment of commercial banks in Vietnam

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	288.278
	df	1
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.812	90.608	90.608	1.812	90.608	90.608
2	.188	9.392	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

Code	Component
	1
PAY2	.952
PAY1	.952

(Source: The researchers' collecting data and SPSS)

The research results of the table 7 showed that Kaiser-Meyer-Olkin Measure of Sampling Adequacy was statistically significant and high data reliability (KMO = 0.500). This result was very good for data analysis. Table 7 showed that Cumulative percent was statistically

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

significant and high data reliability was 90.608 % (> 60 %). This is factor for dependent variable.

Table 8: Regression for factors affecting the payment of commercial banks in Vietnam

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.831[a]	.691	.688	.55829461	1.694

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	185.778	2	92.889	298.015	.000[b]
	Residual	83.222	267	.312		
	Total	269.000	269			

b. Predictors: (Constant), X2, X1

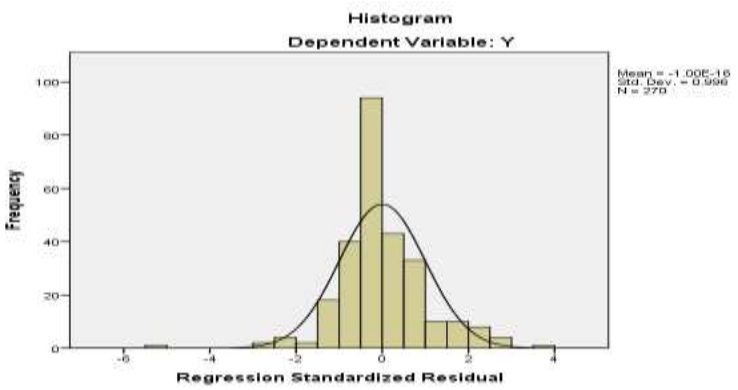
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tol.	VIF
1	Con.	1.194E-016	.034		.000	1.000		
	X1	.752	.039	.752	19.477	.000	.778	1.286
	X2	.147	.039	.147	3.797	.000	.778	1.286

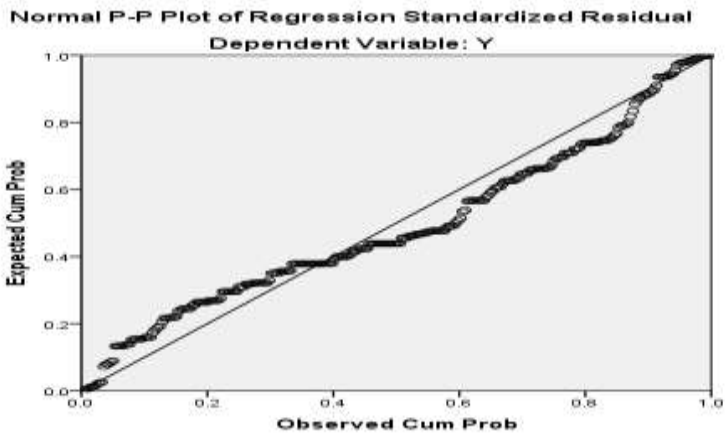
a. Dependent Variable: Y

(Source: The researchers' collecting data and SPSS)

The research results of the table 8 showed the coefficient of adjustment R^2 = 0.688 (verification F = 298.015, significance < 0.05); which means 68.8 % of the variable Y shift is explained by two independent variables (Xi). The coefficient of Durbin - Watson (d) = 1.694. Results showed that two independent variables affecting the payment of commercial banks in Vietnam with significance level 5 %. Verifying the conformity of the model showed the multicollinearity did not violate (VIF < 10).



ISSN 2053-4086(Print), ISSN 2053-4094(Online)



(Source: The researchers' collecting data and SPSS)

Figure 02: Normal P-P Plot of Regression Standardized Residual

Figure 02 showed Regression Standardized Residual is normal P-P Plot

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Vietnam commercial banks are shifting from traditional banking to digital banking, applying new technology trends with artificial intelligence applications, automating... to interact and manage customers, risk management. The research results showed the regression coefficients were positive. This showed that the effects of independent variables in the same direction with the payment of commercial banks in Vietnam with significance level 5 %. The researchers had two the findings following: First of all, the researchers had the component 1 (X1): the opportunity factors (OF) affecting the payment of commercial banks in Vietnam with significance level of 5%. Secondly, the researchers had the component 2 (X2): The challenge factors (CF) affecting the payment of commercial banks in Vietnam with significance level of 5%.

Recommendations

The researchers had recommendations following: Vietnam commercial banks are the transition from traditional banking to digital banking, transforming the business model, enhancing the customer experience with new products and solutions for business; building modern digital infrastructure, managing data in the context of large data usage, applying artificial intelligence. In addition, it is a matter of improving the security and security as well as developing and perfecting retail banking services to meet the needs, expectations and improve customer satisfaction, especially customers and sharp with new technology. Besides, Vietnam commercial banks focuses on the development of electronic payment and ensure that payment activities in Vietnam are on par with advanced countries in the region, in the project of trade promotion in Vietnam in the period 2016-2025. **First of all**, Vietnam commercial banks continue to study on amendment and supplement of regulations on trade

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

sale, including regulations on new trade fairs and services, payment services, electronic money, e-commerce in order to issue regulations on responsibilities of service-providing organizations, service users and new customers. **Secondly**, Vietnam commercial banks should study and apply the international financial standard ISO 20022 for some important payment systems in Vietnam right from the time of investing and upgrading the new system in order to strengthen the interconnection between the systems. The system of payment and exchange of electronic data among the concerned agencies and organizations; facilitate the connection with other payment systems in the region and in the world; minimizing business costs, limiting operational and operational risks. **Thirdly**, Vietnam commercial banks continue completing the development of the domestic chip card standard, updating the achievements of card payment technology and implementing the plan of converting from magnetic cards to chip cards in Vietnam, achieving the objectives set to ensure uniform the management and technical orientation of card payment activities; ensuring security and safety in card payment; facilitate the connection with other payment systems; and develop more value-added services on the card. **Fourthly**, Vietnam commercial banks should promote interconnection and standardization in the field of payment; Applying the best international practices and standards to a number of means and payment systems. To study and apply solutions to ensure security, safety and security of the new generation in order to increase the efficiency and speed of payment for Vietnam's payment systems, stepping up measures security, safety, security for the retail payment system in Vietnam. **Finally**, Vietnam commercial banks should pay attention to and develop the key strategies in developing new distribution channels, modern banking products and services with high integration and regard to this issue. Vietnam commercial banks need to consolidate all related documents, accelerate the completion of the non-cash payment scheme to ensure the basis for modern banking services in the future.

Recommendations for the future Research

The above mentioned things of this paper, the future research should survey more than 300 persons relating to commercial banks in Vietnam and other banks in other countries. This will help to collect the data that is more significant. Because the study topic is very wide as commercial banks is a big area. The commercial banks just mentioned should not reflect the entire operational banking for all commercial banks in the country. Moreover, the result of the study cannot be generalized, as the sample size of items is not sufficient. Therefore, the future research should survey more items that affecting not only commercial banks but also other banks in Vietnam and other banks in other countries such as Thailand, Singapore...

REFERENCES

Abedalfattah Zuhair Al-abedallat (2016). Factors Affecting Credit Risk: An Empirical Study of the Jordanian Commercial Banks. European Scientific Journal.

Creswell, J. (2003). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Thousand Oaks, California: Sage Publications.

Jamil Osman (2012). Factor Influences Selection of Islamic Banking: A Study on Malaysian Customer Preferences. American Journal of Applied Sciences.

Jayshree Chavan (2013). Factors Affecting On Customer Satisfaction in Retail Banking: An Empirical Study. International Journal of Business and Management Invention.

Jenet Manyi Agbor (2011). The Relationship between Customer Satisfaction and Service

ISSN 2053-4086(Print), ISSN 2053-4094(Online)

Quality: a study of three Service sectors in Umeå. Journal of Retail & Distribution Management.

Kumar, V., & Reinartz, W. J. (2006). Customer relationship management: A databased approach. Hoboken, NJ: Wiley.

Lawrence N. Kimando (2012). Factors That Affect Quality of Customer Service in the Banking Industry in Kenya: A Case Study of Postbank Head Office Nairobi. International Journal of Business and Commerce.

Mohammed Abdur Razzaque (2013). Service Quality, Customer Involvement and Customer Satisfaction: A Case Study of Retail Banking in Bangladesh. Journal of Business and Policy Research.

Moore, David; George P. McCabe, Bruce Craig (2012). Introduction to the practice of statistics. New York: W.H. Freeman.

Muhammad Hamid (2012). Factors Affecting the Brand Recognition; An Exploratory Study. Global Journal of Management and Business Research.

Oduro Richard (2012). Factors that determine customer satisfaction level in banking institutions: Evidence from Ghanaian Banking Industry. Asian Journal of Business and Management Sciences.

Pavla Vodová (2011). Determinants of Commercial Banks' Liquidity in the Czech Republic. Journal of Research in international Business and Management.

Pindyck, Robert S., and Daniel L. Rubinfeld (1998). Econometric Methods and Economic Forecasts. McGraw-Hill.

Ronak A. Mehta (2013). Banking Services and Customer Satisfaction – A Study of Public and Private Sector Banks in Navsari City. British Journal of Marketing Studies.

Sallehuddin Mohd Nor (2011). Factors Affecting Brand Loyalty: An Empirical Study in Malaysia. Australian Journal of Basic and Applied Sciences.

Sehrish G.; Faiza Irshad and Khalid Zaman (2011). Factors Affecting bank profitability in Pakistan. The Romanian Economic Journal Year XIV.

Staikouras C. K and Wood. G..E (2004). The determinants of European Bank Profitability. International Business &Economics Research Journal.

Stephen Pambiin Jalulah (2011). Evaluation of customer satisfaction with Internet banking service quality in the banking industry in Ghana. Journal of Business and Policy Research.

Stiroh, K.L.J and Rumbie, A (2006). The dark side of diversification: The case of US financial holding companies. Journal of Banking and Finance.

Tabassum Chowdhury (2014). Customer satisfaction on service quality in private commercial banking sector in Bangladesh. British Journal of Marketing Studies.

ISSN 2053-4086(Print), ISSN 2053-4094(Online)