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### STRUCTURAL EQUATION MODEL ON INTERNATIONAL STUDENTS' SATISFACTION WITH SERVICES PROVIDED BY BANKS IN CHINA

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### ABSTRACT

The study aims is to evaluate the determinants of International customer satisfaction on services provided by banks in China. A total of 314 international students, customers of different banks in China have been surveyed. Data were derived from a well-structured questionnaire that was administered through esurvey creator online. In our study, international students are asked the questions prepared concerning customer satisfaction, and the answers received are processed through SPSS 23 and AMOS 21 statistical software programs, factor analyses of the same are made, their reliabilities are tested. The results of the study demonstrate that international customers are satisfied with the services provided by banks in China.

### **KEYWORDS**

Banks, International Students, Satisfaction, Services, China

### **1 INTRODUCTION**

In China, banks are divided into several forms. In today's world, competition among companies is very severe, but most of the companies present nearly the same product or service with their competitors. To differentiate from competitors a firm needs to offer superior services (Mei et al., 2016). It is known that higher service quality leads to more satisfied customers and higher customer satisfaction leads to customer loyalty (Ozatac, Saner, & Suzmen, 2016). Service quality takes the stage and offers more satisfied and loyal customers, and in return, more profit is gained than of your competitors. Some studies have revealed the direct impact of the service quality of bank customers (Zeithaml et al., 1996). Sometimes services rendered by some banks create dissatisfaction with consumers due to inadequate quality (Nimako & Mensah, 2014). The bank acknowledges that the financial industry is being thoroughly refurbished by technology, so they too need to upgrade their services and products. Banking industries today in the People's

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Republic of China is growing massively in financial transactions (Brenya & Cui, 2018). Institution's ability to enhance growth in moderate and global banking services is consistently changing the approach of doing business with customers, whom without fail to expect the good quality of services and more conveniences.

According to Anderson, E. W., & Fornell, 2000, the customer's conclusion goes a long way to have a positive or negative impact on the institution as a whole. Considering the nature of international students living in China and the difficulties such as language barrier, consistent visa regulatory policies, and the like they face when transacting businesses with Banks in China. It is for these reasons that an academic study is needed to check how the service quality of Banks will improve the level of satisfaction of International students' satisfaction. Kotler & Keller, 2012, postulated that satisfaction is a person's displeasure resulting from comparing the product's perceived outcome to his or her expectations.

#### **Research Objective**

General objective

To determine the efficiency and effectiveness of bank products and services quality on international customer satisfaction.

Specific objectives

To determine the level service quality of Banks in China for international customers To determine the level of international customer satisfaction of Banks in China.

### **2 LITERATURE REVIEW**

Today, customer satisfaction has become one of the busiest segments of marketing (Gümüs, Apak, Burçin, & Gülnihal, 2015). According to Zhang, 2009 The performance measurement system in China has its own characteristics compared to those of other countries. It was created to meet the government's needs to manage the state-owned assets rather than to meet the enterprises' needs to manage their own assets. Traditional quality indicators cannot be used in measuring the quality of services (Nyarku, Kusi, Domfeh, Koomson, & Owusu, 2018). In a viable financial institution where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly become a key commodity in decision making (Fornell, C., Rust, R. T., & Dekimpe, 2010, Hume & Mort, 2004). Institutions have to bring forth innovative ideas to beat competitions as well as increasing the needs of customers (Cavusgil, S. T., Calantone, R. J., & Zhao, 2003). The degree to which the customer is happy depends on the numerous services they received. Prior studies suggest that customer involvement seems to be closely related to satisfaction and/or influences customers' perceptions of service experience (Grissemann, U. S., & Stockburger-Sauer, 2012). According to Frank & Enkawa (2008), customers with high product connection, participate more in the continuity of that particular product. Therefore, customer satisfaction is a probable element that banks use to gain a tactical advantage over other financial institutions (Brenya & Cui, 2018). Customer satisfaction is the

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groundwork for any institute to keep its existing customers (Khan, 2012). Banks make policies to maintain their old customers because the cost involves in getting new ones are high. Besides loyal customers are reluctant to risk their relationship with an institution, which is a reason for customers not complain; (Vikas Mittala, John W.Huppertz, 2008). Existing literature shows that customers share their experiences with their colleagues and spread the information quickly when they have had a bad experience with a financial institution (Nimako & Mensah, 2014). Banks are aware of the essence in improving both products and services of customers which leads to satisfaction. As the service qualities exceed customer's prior expectations, it's easily influencing them (Bus, Review, Study, & Dawro, 2018). Banks that fail to build a strong bond with their customers lose on customer loyalty (Shoki, Yun, Zakuan, & Ismail, 2013). The going concern of a bank has small worth without the existence of the customer. International students in the People's Republic of China have a wide range of banks selecting choice. So the bank main duty is not to win customers but to retain them through effective customer service.

### **3 RESEARCH METHODOLOGY**

To investigate international Students' satisfaction, the following hypotheses have been developed by using 9 aspects of service quality determinants by using questions in the survey. A sample of 314 international students of different banks completed the questionnaires concerning the international students' satisfaction with services provided by banks in China. The survey consists of ten questions: I feel well in doing business with my bank, my bank is quick to respond to any banking query I have, my bank is reliable in handling customer service problems, ATM cater for me common language, Bank employers communicate with me in the language that I can understand, Mobile application is usable in common language, Visa ATM is available in my bank, Western Union is available in my bank, I am satisfied by services provided by my bank, what is your age? What is your gender? The questionnaire of this research is available upon request. the questionnaires were randomly given to international students who transact business with any bank in China. The respondent had to select answers such as Strongly agree, Agree, Neutral, Disagree, and Strongly disagree. The study used SPSS and AMOS Structural Equation Modeling (SEM) software in order to determine the relationship between the postulated hypotheses of language barrier, international transaction, quality of service, and customer satisfaction in the presentation and interpretation of data.

#### **Conceptual Model and Hypotheses**

To understand the factors influencing bank services towards customer service delivery, this paper proposes a conceptual model (see figure 1 below). This conceptual model is developed based on and customer satisfaction.

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Figure 1: Conceptual Research Model

The following hypotheses are developed based on the conceptual model and literature review discussed:

H1: There is a positive relationship between language and customer satisfaction

H2: There is a positive relationship between international transaction and customer satisfaction

H3: There is a positive relationship between quality of service and customer satisfaction

### **4 DATA COLLECTION**

### 4.1 Demographic data

### 4.1.1 Gender

Out of 314 students that answered the questionnaires, a majority of 232 (73.9%) respondents are male and the remaining 82 (26.1%) respondents representing are female. The information is from Figure 2 below:



Figure 2. Gender respondents. Source: Field survey 2019

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### 4.1.2 Age

79 (25.1%) of the respondents are in the age category of 18 and 24 years. 177 (56.4%) of total respondents fall under 25 to 32 years and 58 (18.5%) respondents represent above 32 years. The information is from Figure 3.



Figure 3. Age range respondents. Source: Field survey 2019.

### 4.2 Quality of service

### 4.2.1. Assurance

The responses below indicate that employees are very well trained and customers feel safe in doing business with the bank. 16.88% (53) strongly agree with the statement, whereas 133 respondents representing 42.36% agree with the statement. Some of the respondents feel undecided, 28.03% (88) respondents were neutral. On the other hand, 30 respondents disagree and 10 strongly disagree with employees are much trained and you feel safe doing business with the bank; and this indicates 9.55% and 3.18% respectively. Customers feel confident in working with the bank.

### 4.2.2. Responsiveness

57 (18.15%) respondents strongly agree with the fact that the bank is quick to respond to any banking query customers have. 167 responses representing 53.18% agree with the statement followed by 19.75% (62) who have no stands in the matter (neutral). 24 (7.64%) disagree and only 1.27% (4) strongly disagree with the matter. Customers feel positive from the employees.

### 4.2.3. Reliability

59 respondents indicating 18.79% strongly agree with the statement, the bank is reliable in handling customer service problems. 50.64% (159) respondents Agree to the below statement. This is followed by 68 (21.66%) respondents who are neutral with the statement. However, 23 respondents disagree with the statement as well as 5 respondents strongly disagree with the statement representing 7.32% and 1.59% respectively.

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#### 4.3 Language barrier

#### 4.3.1 ATM language

85 (27.07%) respondents strongly agree with the fact that ATM caters to common language for customers. 168 responses representing 53.50% agree with the statement followed by 13.69% (43) who have no stands in the matter (neutral). 16 responses (5.10%) disagree and only 0.64% (2), strongly disagree with the matter.

#### 4.3.2 Communication with employees

39 respondents indicating 12.42% strongly agree with the statement that bank employees communicate with customers in the language that they can understand. 48.09% (151) respondents Agree to the below statement. This is followed by 60 (19.11%) respondents who are neutral with the statement. However, 55(17.51%) respondents disagree with the statement as well as 9(2.87%) respondents strongly disagree with the statement.

#### 4.3.3 Mobile Application

49 (15.61%) respondents strongly agree with the fact that Mobile application is usable in common language. 111 responses representing 35.35% agree with the statement followed by 14.33% (43) who were neutral with the statement. 70 responses (22.29%) disagree and 12.42% (39), strongly disagree with the matter.

#### 4.4 International transaction/trade

### 4.4.1 Visa ATM

The responses below indicate the availability of Visa ATM in customers' bank. 28.34% (89) strongly agree with the statement, 100 respondents representing 31.85% agree with the statement. 21.02% (66) respondents were neutral. On the other hand, 37 (11.78%) respondents disagree and 22 (7.01%) strongly disagree with the statement.

#### 4.4.2 Western Union

60 respondents indicating 19.11% strongly agree with the statement that Western Union is available in their bank. 27.39% (86) respondents Agree to the below statement. This is followed by 68 (21.65%) respondents who are neutral with the statement. However, 53(16.88%) respondents disagree with the statement as well as 47(14.97%) respondents strongly disagree with the statement.

#### **4.5 Service satisfaction**

The responses below indicate the satisfaction of the service provided by the customers' bank. 18.47% (58) strongly agree with the statement, whereas 180 respondents representing 57.32% agree with the statement. 19.75% (62) respondents were neutral. On the other hand, 9 (2.87%) respondents disagree and 5 (1.59%) strongly disagree with the statement.

### **5 DATA ANALYSIS**

1. A reliability test was carried out with Cronbach to test the study tools.

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2. The correlations between study variables were analyzed with Amos Program's concept correlation matrix.

3. Maximum likelihood estimation was used for the hypothetical model's goodness-of-fit and hypothesis validation. The model's goodness of fit was evaluated using  $\chi^2$  statistics, goodness-offit index, adjusted goodness-of-fit index, comparative fit index, normed fit index, incremental fit index, root mean square residual, and root mean square error of approximation.

### **5.1 Reliability**

We use the SPSS software to calculate the correlation coefficient matrix of 9 parameters and analyze these parameters. The number of parameters can be reduced and classified by factor analysis so that the final estimation of results will be more appropriate.

Cronbach's alpha reliability test is used to examine the validity of items used in the survey. According to Hair, J. et al., 2010 the alpha of a scale should be greater than 0.60 for items to be used together as a scale. From Table 1, Cronbach's alpha for instrument (9 items) was 0.791.

### Table1 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.791	0.807	9

We analyze all the data and through KMO and Barlet's test we found that: 1. KMO measure of sampling adequacy 0.5is >2. Approx Chi-square with significance value is < 0.5, so all the variables can be processed in factor analysis. (Field, 2009)

Table3 KMO and Bartlett's Test<sup>1</sup>

Kaiser-Meyer-Olkin Measure of San	.785	
Bartlett's Test of Sphericity	Approx. Chi-Square	823.687
	Df	36
	.000	

#### <sup>1</sup> Based on correlations

### Table4 Rotated Component Matrix<sup>2</sup>

	Component						
	1	2	3	4			
Y2	.845						
Y1	.755						
Y3	.751						
Y7		.852					
Y8		.818					
Y6			.876				
Y5			.648				
Y9							
Y4				.955			

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

- Y1: Assurance
- Y2: Responsiveness
- Y3: Reliability
- Y4: ATM language
- Y5: Communication with employees
- Y6: Mobile application
- Y7: Visa ATM
- Y8: Western Union
- Y9: Customer satisfaction

The rotated component matrix shows that we have 4 factors rotated means the process of manipulation or adjusting the factor axes to achieve a simpler and pragmatically more meaningful factor solution (Hair, J. et al., 2010). The first factor is quality of service, the second is international transaction/trade, the third is the language barrier and the fourth is the ATM language.

 Table 5 Sample Correlations (Group number 1)

	Y4	Y5	Y6	Y9	Y7	Y8	Y2	Y1	Y3
Y4	1.000								
Y5	.297	1.000							
Y6	.106	.398	1.000						

<sup>2</sup> Rotation converged in 4 iterations.

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	374	375	116	1/0	377	<b>T</b> 70	1/0	<b>X</b> 74	1/0
	Y4	¥5	¥6	¥9	Y /	Y 8	¥2	Υl	¥3
Y9	.416	.539	.472	1.000					
Y7	.215	.199	.249	.398	1.000				
Y8	.135	.300	.308	.429	.490	1.000			
Y2	.151	.432	.229	.423	.206	.185	1.000		
Y1	.289	.338	.283	.478	.139	.287	.543	1.000	
Y3	.205	.386	.266	.406	.184	.095	.484	.454	1.000

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Condition number = 11.480

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Eigenvalues 3.617; 1.265; 0.927; 0.813; 0.645; 0.591; 0.468; 0.360; 0.315



Figure 4. Path coefficients of the hypothetical model

### 5.2 Confirmatory Factor Analysis (CFA)

To confirm the factor structure, CFA was performed. Overall, the fit indices improved from the default to the revised model after adjusting certain variables. The fit indices demonstrated a good fit of the measurement models to the data. The entire model was tested based on the measurement model previously validated from CFA in this study (Fig. 4). The fit indices of the

entire model were  $\chi^2/df = 3.4567$  ( $\chi^2 = 65.677$ , df =19); GFI =0.961; AGFI = 0.908; RMSEA =0.079; CFI =0.941; NFI = 0.921 (Table 6). Although a relative Chi-square statistic ( $\chi^2/df = 1.8084$ ) indicated a good fit, other indices were at the lower end of acceptable ranges to indicate a good model fit. To test the mediation, this research then sought to determine the international students' satisfaction with services provided by banks in China.

Table 6 Summary of goodness-of-fit indices for full model testing.

Model	$\chi^2$	df	$\chi^2/df$	GFI	AGFI	RMSEA	CFI	NFI
Default	65.677	19	3.4567	0.961	0.908	0.079	0.941	0.921

AGFI =adjusted goodness-of-fit index; CFI =comparative fit index; GFI = goodness-of-fit index; NFI =normed fit index; RMSEA = root-mean-square error of approximation.

Table 7 E	stimates o	of the	mentioned	variables
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		Estimate of regression weight	S.E. of regression weight	C.R. of regression weight	P (level of significance for regression weight)
Y3 <	Quality of service	.813	.084	9.631	***
Y1 <	Quality of service	1.000			
Y2 <	Quality of service	.890	.086	10.367	***
Y8 <	International transaction	1.000			
Y7 <	International transaction	.800	.110	7.280	***
Y9 <	International transaction	.146	.074	1.990	.047
Y9 <	Y4	.145	.047	3.105	.002
Y6 <	Language barrier	1.000			
Y5 <	Language barrier	.940	.112	8.424	***
Y9 <	Language barrier	.613	.199	3.080	.002
Y9 <	Quality of service	.092	.139	.657	.511

\*\*\*indicate a highly significant at p<0.001

### 6 CONCLUSION AND RECOMMENDATION

Factor Analysis is a statistical multivariate analysis technique to analyze only common variances. The primary aim of this paper is to outline the research hypotheses and the procedure employed in Structural Equation Modeling (SEM) followed by developing scales to measure international customer satisfaction in the Chinese Banking Industry. By measuring the factors that influence international customer satisfaction using Confirmatory Factor Analysis (CFA), it is

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revealed that these factors have a significant influence with a higher cutoff Goodness-of-Fit Index (GFI) >0.95 and MSEA (spec. < 0.080) (see table 6). The empirical results of the structural model indicate that language barrier, international transaction, and quality of service have a significant effect on international customer satisfaction. This research has demonstrated that language barrier, international transaction, and quality of service are important constructs for evaluating the satisfaction of international customers of banks in China. The relevance of service delivery increases satisfaction retains customers and excels in sales of bank products and services. Services such as the customer's ability to withdraw money from any bank branch in China, quick to respond to any banking query to customers, Bank employers try to communicate with customers in the language that they can understand. The study on international students of Bank in China was guided by the following objectives: To determine service quality, the level of customer satisfaction, and the relationship between service quality and customer satisfaction development. The SPSS and AMOS, applications used assessed the satisfaction in the area of assurance, responsiveness, reliability, empathy, language barrier, services, and international transaction. This proved the performance of the banks in China services to international students has been positive and triumphant. The bank's ability to identify customer's needs and providing them was crucial to the development of customer relations that in the end promote marketing of their products (Latif, 2017). From the customers, the bank shows the good response to their plight and provides them with a good and satisfactory services.

The suggestions are based on the study's objectives and will increase customer satisfaction and services if followed by Banks in China. Below are the highlighted recommendations. Firstly, banks in China need more trained staff who are fluent in the English language to communicate with international customers. Truly, the bank's staff inability to express themselves in English absolutely hurt the feelings of foreign customer's satisfaction and their appreciation towards service quality. Secondly, I suggest that Banks in China facilitate international transaction/trade, some international students don't know if Western Union is available in their bank, others say that they can't make a deposit through Visa ATM or there is no Visa ATM in their bank, and that affect foreign customer's satisfaction and their appreciation towards service quality.

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### **CONFLICTS OF INTEREST**

There are no conflicts of interest in this work.

#### REFERENCES

Anderson, E. W., & Fornell, C. (2000). Foundations of the American Customer Satisfaction<br/>Index.TotalQualityManagement,11,869–882.

A Peer Reviewed (Refereed) International Journal Impact Factor 4.308 <u>http://www.ijbems.com</u>

https://doi.org/10.1080/09544120050135425

- Brenya, R., & Cui, W. (2018). International Students 'Satisfaction with the Services of Agriculture Bank of China, 230–241. https://doi.org/10.4236/chnstd.2018.73020
- Bus, A. J., Review, M., Study, A. C., & Dawro, T. (2018). Arabian Journal of Business and Assessment of the Factors that Affect Customer Satisfaction on Service Quality, 8(1), 1–5.
- Cavusgil, S. T., Calantone, R. J., & Zhao, Y. (2003). Tacit Knowledge Transfer and Firm Innovation Capability. *Journal of Business & Industrial Marketing*, 18,6-21.
- Field, A. (2009). Discovering Statistics Using SPSS (3rd ed.). Sage.
- Fornell, C., Rust, R. T., & Dekimpe, M. G. (2010). The Effect of Customer Satisfaction on Consumer Spending Growth. *Journal of Marketing Research*, 47, 28–35.
- Frank, B., & Enkawa, T. (2008). How Economic Growth Affects Customer Satisfaction, 13(2), 531–544.
- Grissemann, U. S., & Stockburger-Sauer, N. E. (2012). Customer Co-Creation of Travel Services: The Role of Company Support and Customer Satisfaction with the Co-Creation Performance. *Tourism Management*, 33, 1483–1492.
- Gümüş, S., Apak, S., Burçin, T., & Gülnihal, H. (2015). Ultimate Point in the Service Provided by the Banks to Their Customers: Customer Satisfaction in the Common Use of ATMs. *Procedia Social and Behavioral Sciences*, 207, 98–110. https://doi.org/10.1016/j.sbspro.2015.10.155
- Hair, J., Black, B. Babin, B., Anderson, R. and Tatham, R. (2010). *Multivariate Data Analysis*. (Upper Saddle River, Ed.) (7th edit). NJ: Prentice-Hall.
- Hume, M., & Mort, G. S. (2004). Satisfaction in performing arts : the role of value ? *European Journal of Marketing* 42(3/4):311-326
- Khan, I. (2012). Impact of Customers Satisfaction And Customers Retention on Customer Loyalty. *International Journal of Scientific & Technology Research*, 1(2).
- Kotler, P., & Keller, K. L. (2012). Marketing Management (14th ed.).
- Latif, A. A. (2017). Impact of service quality on customer satisfaction. *Australian Journal of Basic and Applied Sciences*, 11(April), 20–28.
- Mei, G., Sook, Y., Kah, L., & Seng, T. (2016). Understanding Customer Satisfaction of Internet Banking: A Case Study In Malacca. *Procedia Economics and Finance*, 37(16), 80–85. https://doi.org/10.1016/S2212-5671(16)30096-X
- Nimako, S. G., & Mensah, A. F. (2014). Exploring Customer Dissatisfaction / Satisfaction and Complaining Responses among Bank Customers in Ghana, 6(2), 58–71. https://doi.org/10.5539/ijms.v6n2p58

- Nyarku, K. M., Kusi, L. Y., Domfeh, H. A., Koomson, I., & Owusu, J. A. (2018). Moderating the Service Quality-Customer Loyalty Relation through Customer Satisfaction, Gender and Banking Status : Evidence from Mobile Money Users in University Of Cape Coast, Ghana, 8(6), 704–732. https://doi.org/10.6007/IJARBSS/v8-i6/4265
- Ozatac, N., Saner, T., & Suzmen, Z. (2016). Customer Satisfaction in the Banking Sector : The Case of North. *Procedia Economics and Finance*, *39*(November 2015), 870–878. https://doi.org/10.1016/S2212-5671(16)30247-7
- Shoki, M., Yun, L. O., Zakuan, N., & Ismail, K. (2013). The Impacts of Service Quality and Customer Satisfaction on Customer Loyalty in Internet Banking. *Procedia - Social and Behavioral Sciences*, 81, 469–473. https://doi.org/10.1016/j.sbspro.2013.06.462
- Vikas Mittala, John W.Huppertz, A. K. (2008). Customer Complaining: The Role of Tie Strength and Information Control. *Journal of Retailing*, 84(2), 195–204. https://doi.org/doi.org/10.1016/j.jretai.2008.01.006
- Zeithaml, V., Berry, L., Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing*, 60(April), 31–46.
- Zhang, C. (2009). THE IMPACTS OF CUSTOMER SATISFACTION ON PROFITABILITY : A STUDY OF STATE-OWNED ENTERPRISES IN CHINA, *1*(1), 21–30.