

Measuring the satisfaction of employees based on the service quality of (ATM) Automated Teller Machine of the directorate of education in Thi Qar province

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Abstract: The internet and networks have broadened the electronic financial business specifically the transaction of money. The novel banking industry in Iraq countering many obstacles especially security issues. The aggressive competition among the banks to attracting more customers resulting that the quality of the services became the cornerstone. The private banks try to improve the services for the customer by using Automated Teller Machine (ATM). The purpose of this study is describing the explanatory variables for service quality in the research model and examine the effect of service quality variables on employee satisfaction. Two hypotheses were formed to verify if their effect on service quality or not. using Quantitative approach with survey method to quantifies the responses collected via questionnaire. The questionnaires distributed to employees working in the directorate of education are 350 just 302 was returned and after the examination only 210 questionnaire was valid. Descriptive statistics, Pearson-correlation and multiple linear regression techniques in SPSS were used to analyze quantitative data collected from the questionnaire. the findings are medium agree of ease of use ATM, moderate disagree for accessibility and moderate disagree of security. Regression model finds the service quality factors affect employee satisfaction and as result H1 hypothesis accepted. finally, Pearson-correlation showed a positive relationship to all independent variable on employee's satisfaction and mentioned the highest positive correlation was the ease of use variable.

Keywords: TAM, Service Quality, employee, ATM

قياس رضا الموظفين بناء على جودة الخدمة لماكينة الصرف الآلي (ATM) مديرية التربية والتعليم في محافظة ذي قار-العراق

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مديرية التربية والتعليم في محافظة ذي قار || وزارة التربية || العراق

الملخص: لقد وسعت الإنترنت والشبكات الأعمال المالية الإلكترونية وتحديداً المعاملات المالية. تواجه الصناعة المصرفية الجديدة في العراق العديد من المعوقات وخاصة القضايا الأمنية. أدت المنافسة الشرسية بين البنوك لجذب المزيد من العملاء إلى أن أصبحت جودة الخدمات حجر الزاوية. تحاول البنوك الخاصة تحسين الخدمات المقدمة للعميل باستخدام ماكينة الصرف الآلي (ATM). الغرض من هذه الدراسة هو وصف المتغيرات التفسيرية لجودة الخدمة في نموذج البحث ودراسة تأثير متغيرات جودة الخدمة على رضا الموظفين. تم تكوين فرضيتين للتحقق مما إذا كان هناك تأثير على جودة الخدمة على الرضا أم لا. الاستبيانات الموزعة على العاملين في مديرية التربية والتعليم هي 350 استبانة فقط أعيدت 302 فقط وبعد الاختبار فقط 210 استبانة كانت صالحة. تم استخدام الإحصاء الوصفي وترابط بيرسون وتقنيات الانحدار الخطي المتعددة في برنامج SPSS لتحليل البيانات الكمية التي تم جمعها من الاستبيان. تتفق النتائج المرتفعة مع سهولة استخدام أجهزة الصرف الآلي، ومتوسط عدم الموافقة على إمكانية الوصول وعدم الموافقة على الأمان بدرجة

متوسطة وجد نموذج الانحدار أن عوامل جودة الخدمة تؤثر على رضا الموظف ونتيجة لذلك تم قبول فرضية H1. أخيرًا، أظهر ارتباط بيرسون علاقة إيجابية مع جميع المتغيرات المستقلة على رضا الموظف وذكر أن أعلى ارتباط إيجابي كان متغير سهولة الاستخدام. الكلمات المفتاحية: نوعية الخدمة، الموظف، صراف آلي.

Introduction

The new technology' failure to be accepted from the user is the main obstruction facing the new technology implementation (Davis, 1993, p. 475). Most organizations goal to improve employee willingness and job performance specifically in communication and information technology by creating new initiative ideas (Bashir, 2014, p. 41). In addition, the vital activities of the business in the banking sector give the ICT an important role. The banking sector has been supplied by special services to reduce the cost, increase and faster customer transactions such as automated teller machine (ATM) and Internet banking. on the other side, the rejection of the system from the users has negative impacts cause weakness for those new technologies. the effective factor to accept the system or reject it and playing a vital role as a determiner is the user acceptance (Jun & Cai, 2001; Yen et al., 2010). The customers can conduct the transactions with bank in 24/24 hours using new technology the automatic teller machine (ATM) (Hossain et al., 2015, P 69). The government in Iraq gave the order to apply the conversion of receiving the salaries for employees electronically. This paper was used the acceptance model to measure the extent of the employee of accepting the (ATM) services. Also, the cognitive or affective response used to measure the customer's acceptance of ATM services quality rendered by ATM stakeholders. Previous researches items used to measure the affective response. Figure 1 below represents the research model:

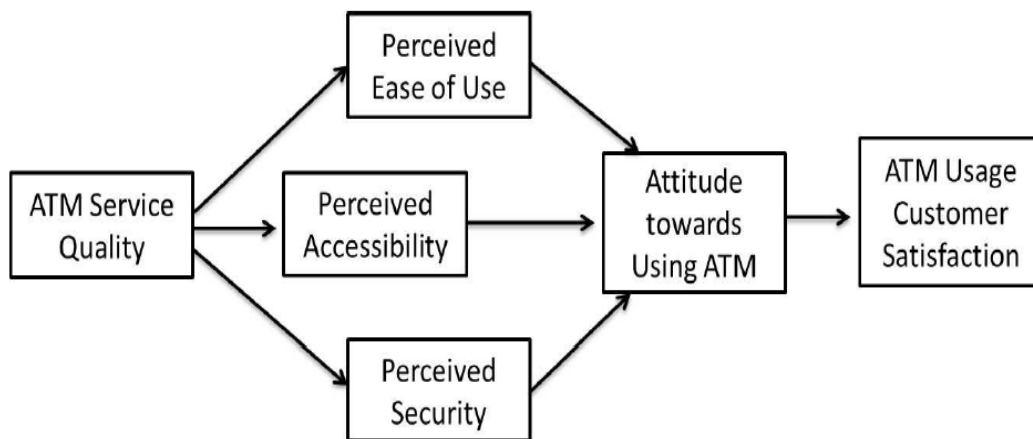


Figure (1) research model. Adopted (Bashir, 2014, P 42)

Problem Discussion

The service quality especially in online banking has substantial importance for banks and researchers. Discovering by investigating the factors of service quality that have a greater effect on customer satisfaction is the desire in online banking (Yang & Fang, 2004). Furthermore, the effect of the

service quality factors varies depending on the context and research method. According to (Negi, 2009, P. 31) it is not clear which service quality factor has a greater positive contribution on customer satisfaction. Therefore, that opening way for more investigation on how service quality affects customer satisfaction.

Objectives

- 1- To describe the acceptance of ease of using ATM for employee
- 2- To describe the acceptance of the access level to the ATM for employee
- 3- To describe the acceptance of security for ATM for employee
- 4- To examine if service quality factors (ease of using, accessible level, security) affecting on customers satisfaction

Important of Research

The research was not just to explain the attitude of the employee towards the ATM but besides that, the study has been sought how can the quality of the service enhances the employee's acceptance towards ATM. Based on that, if the service quality affects the employee's satisfaction positively that will pay out the other banks to adopt ATM in their transaction with users and lower overloading on banks.

The attitude towards using ATM is a key determinant to accept the ATM technology from employees and it is consisting of three beliefs which the quality of the service has a direct effect on them. The beliefs are perceived security, perceived ease of use, and perceived accessibility.

Previous studies

Table (2) Previous Studies

#No.	Problem	Objective	Importance
1	Banks in Pakistan must be able to deliver a high level of service quality to their customers to increase their cost-effectiveness and attractiveness	examines the impact of automated teller machine (ATM) service quality on customer satisfaction and its effect on customer loyalty	acceptance of ATMs as a service delivery choice in retail banking, the research into the dimensions of service quality of ATM and their association with customer satisfaction and customer loyalty is an important requirement
2	Trust of using automated teller machine (ATM) is a daunting task for many Indonesians, where	examines the collaborative issues related to the ATM security	present the current situation faced by many Indonesians when dealing with the

#No.	Problem	Objective	Importance
	Acceptance Model Author: (Fitriyani et al., 2016)	the security issues associated with it, still haunting them	ATM security
3	Title: The influence of ATM location characteristics on ATM usage in Vietnam Author:(Trang et al., 2019,P 1)	The competitive to reduce costs for banks and retention of customers	examine the relationship between Automated Teller Machine (ATM) location characteristics and ATM usage in Vietnam through the theory of planned behavior stress the importance of trust and perceived usefulness and ease of use for predicting e-commerce adoption
4	Title: Using GIs for optimal locations of automated teller machines (ATMs): the case of Stellenbosch Author:(Wambugu, 2001)	ATMs are primarily designed to serve customers and should therefore be accessible and convenient to the customers	To determine how easy or difficult it is to access our bank accounts by ATM Where the ATMs should be located is a prime issue to both the customer and the bank
5	Title: Customer satisfaction of automated teller machine (ATM) based on service quality Author: (Bashir, 2014,p. 41)	competitions among organizations become the business of the day. Service quality therefore becomes the focal point of every organization in order to attract as many customers as possible	to measure customer satisfaction in relation to ATM service quality in order to attract as many customers as they can so as to maximize banks profit

Literature Review.

The main objective of the well-known (TAM) model is to clarify the accept and reject the users for any system in information technology based on independent variable ease of use and effectiveness that affect the dependent variable attitude towards technology (Taylor & Todd, 1995, p 561).The quality of service is determined by the differences between the expected service provided to a customer and the real service received. Besides, regarding the association between customer satisfaction and service of quality is a topic of strategic and significant concern(Bolton & Drew, 1991,p 1; Cronin Jr & Taylor, 1992,p 55). One of the variables that include in the technology acceptance model (TAM) and as well as in service quality is the independent variable ease of use(Doll & Torkzadeh, 1988, p 259). In addition, according to Fishbein and Ajzen (1977)the ease of use is using a certain system with a free degree of mental and physical effort

from the users. The supply of the banks with ATM will increase the belief of users of ease the finance access ways. Another dimension to measurement ease of contact and approachability to services is accessibility (Johnston, 1995, p 55; Joseph et al., 1999, p 185). Moving on improving the accessible and approachable to ATM should take a step to provision ATM in public places such as Gas/Petrol station, Airport, mall/shopping. Additionally, the ATM should be accessible when the banks' premises are on or off to reduce the overcrowding of customers. The overcrowding of customer on the ATM is a major restriction that prominent fraud and customer dissatisfaction (Jayawardhena & Foley, 2000, p 24). Open methodologies (ISECOM) defined the security as a protection form that created a separation between threats and assets. The fraud problems for ATM are a global issue was rising in recent years, not for the bank operator only and the customers as well (Gyamfi et al., 2016, p 102; Kasanda & Phiri, 2018, p 1; Mathi, 2016, p 43). There are various types from ATM fraud the traditional ones like pin fraud that the attacker using the shoulder surfing where the attacker do acting of direct observation in time of the withdrawal to catch the number that the customer press on the keypad. Also, the fake pin pad with memory place on the ATM original pad to store customer password as well as the pin interception (Jun & Cai, 2001, p. 517). The recently type of ATM fraud is cyber-criminals such as ATM card skimming and ATM jackpotting. In the research, perceived security, perceived accessible and perceived ease of use are an independent service quality variables and the attitude toward ATM is a dependent variable, and depending on these variables the paper will answer on three questions.

Research Question:

To concentrate on the purpose of the study, set boundaries, investigation and clear the direction of study using the questions research (Sapsford & Jupp, 1996, p 210). besides, according to Mazzocchi (2008) the precise and details are requirements of questions research to lead the quantitative analysis.

- 1- To what the extent does the ease of using the ATM?
- 2- What accessible level to the ATM during the local area?
- 3- To what the extent the security for ATM is safe?
- 4- Is the service quality factors (ease of using, accessible level, security) affect customer's satisfaction?

Hypotheses

hypotheses are processed statistically and further analyzed to draw conclusions (Saunders, Lewis, & Thornhill, 2007, p 38). There are wide researches on online banking and that allowed to coin hypotheses. the followed hypotheses base on the research model to strengthen the findings in the analysis.

H0. The service quality has no significant effect on employee's satisfaction

H1. The service quality has a significant effect on employee's satisfaction

Theoretical Framework

It could be understood the theoretical framework as a rational development offered by the fundamental theories. Additionally, It is a framework to detail and depict the important information relatively.providing the relationship among the variables such as moderator or control variables, independent, dependent, as well as extraneous with a comprehensive link and detailed manner is the conceptual framework merit(Elliott et al., 2002,P 24)

After the background of the variables, the research was used the (TAM) model as a theoretical basis to measure the acceptance of the employee through the quality of the service to(ATM). The three variables involved in this study and adopted from service quality and TAM models are security, accessibility, and ease of use.

Methodology

According to Kothari, the research methodology is a way to solve the research' problem systematically and the research methodology constitutes of many parts the research method constitutes one part. The standardization of quantitative survey questions set a general view on the desired outcome as the respondents are assigned with the same questions. In this research a quantitative approach applied to get general view on outcome. The survey as method to collect and quantify data as numerical data to make the measure of employee satisfaction possible.

The employees have employed in the directorate of education in This Qar province received their salaries from a private bank (Al Tanmia bank) and as a result, the bank was subjected to investigation. Furthermore, 350 questionnaires distributed to employees inquiring about the quality of services provided by ATM. Only 210 questionnaires were valid and therefore have been analyzed.

Research Instrument:

Describing a phenomena's characteristics and phenomena itself with more concerned about what happened to something not why or how is a descriptive research (Gall et al., 2007,p 438).According to Mazzocchi (2008) collection data primarily is a multiplicity of options to determine the process and the options for each other is not independent. In addition, the quantitative method utilizing by researchers to manage a survey to the whole population or sample is Survey research design in which defines the responder's attitudes, opinions, behaviors, and characteristics(Kumar, 2019,p 177).Therefore, survey are often utilized to data gathering. The researcher has employed a questionnaire that is structured and developed carefully to gather the quantitative data from the sample during the survey to produce numerical data can analyze statically. Also, the questionnaire questions were gathered from previous literature of (TAM) technology acceptance model and service quality model. Additionally, the questionnaire consists of twelve (12) items in which the responder should answer all items regarding the

questionnaire to be valid. Every four items cover one question from research questions. The questionnaire designed with a Likert scale to measure responses. The 5-point scale (undecided, agree, strongly agree, disagree, strongly disagree) according to Albert and Tullis (2013) is rating the level of the agreement of respondents which appropriate and easier to understanding. The survey of the study lasted for four months.

Data Analysis:

SPSS package was used to analyze the valid data that has been collected. A Cronbach Alpha has done to test the reliability of the data for each variable then overall variables. Pearson-correlation was conducted to examine the relationship among dependent and independent variables. Finally, multiple linear regression to find out if there a significant for independent variables on employee's satisfaction or not.

Pilot Study:

According to Arnold et al. (2009); Thabane et al. (2010) the first step before work on the whole research protocol to assist in modification and planning the main study is a pilot study. Additionally, the pilot study helps researchers to adopt a suitable research method for clarifying the research question. on the other hand, Notwithstanding the researchers will be beneficiary from the pilot study there is not interested from researchers. The size of the sample that less than 500 and greater than 30 is suitable for most research (Saunders et al., 2007, p 218; Sekaran & Bougie, 2003, p 742). To ensure there is no misunderstanding and the participants are understanding the questions 40 participants were selected as a pilot study. Also, measuring the validity and reliability of the questionnaire by Cronbach alpha. The reliability for all scales (12) items is 0.754.

Table (2) Riability (Cronbach's alpha)

Scale	Cronbach's alpha
Perceived Ease of Use	0.805
Perceived Accessible	0.843
Perceived Security	0.758

Sample Size

According to the interview with the financial department (Mustafa, personal communication, February 2, 2020), the number of employees who received salaries from the private bank (AL Tanmia Bank) are approximately 600 employees. The researcher to yield the minimum sample size recommended to survey was applied Steven K. Thompson equation (Thompson, 2012). The equation parameters are $N=600$ (population size), $z=95\%$ (confidence level), $d=0.05$ (error proportion), $p=50\%$ (probability) and the result is $n=207$ (sample size) the minimum sample size for the survey.

$$n = \frac{Np(1-p)}{(N-1)\left(\frac{d^2}{z^2}\right)+p(1-p)} \quad (1)$$

Results

Statistical analyses such as frequencies, standard deviation mean, averages, and percentages to analyze the descriptive research (Nassaji, 2015, p 129). The responses returned from respondents were analyzed by descriptive statistics using standard deviation, mean, and frequencies which that statistical analyses measured the degree of agreeing and disagree for the respondent's response. The SPSS software was used to analyze the scores of questionnaire.

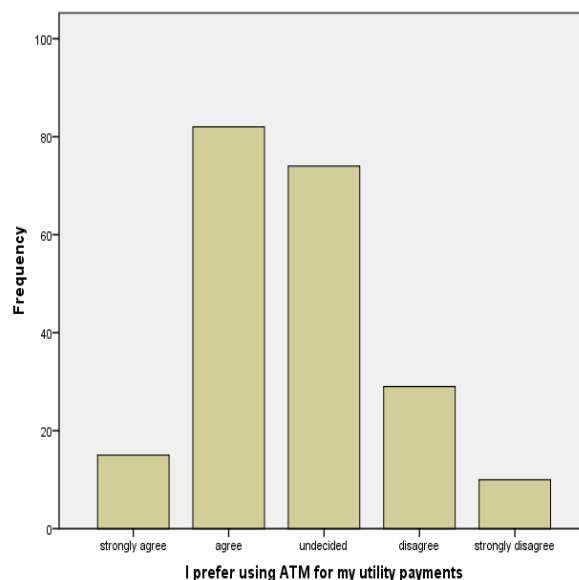
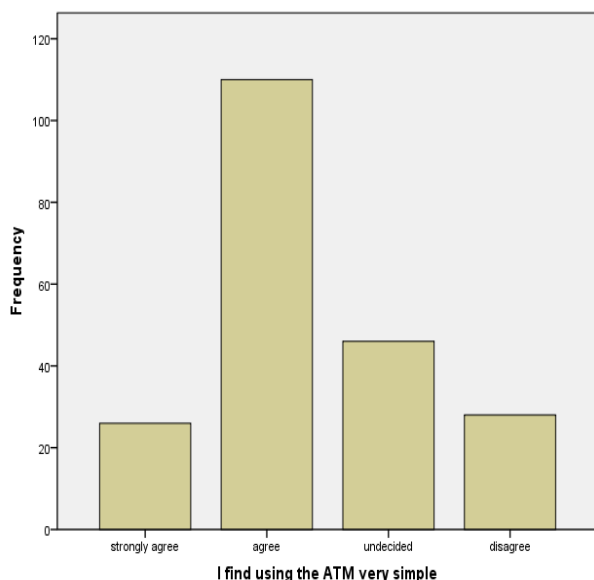
Q1: To what the extent does the ease of using the ATM?

The first question constitutes from four sub-question was targeted the degree of ease of use of ATM for the employees. Furthermore, the descriptive analysis (mean, standard deviation, frequency) utilized to investigate. Table 2 below demonstrates the analysis of the first four items.

Table (3) Ease of Use (Mean, Standard Deviation)

Item No.	Survey	Mean	Standard Deviation
1.	I find using the ATM very simple	2.36	0.865
2.	I prefer using ATM for my utility payments	2.7	0.959
3.	I require nobody to interpreted the ATM command for me	2.58	0.743
4.	I use other banks ATM with my bank ATM card easily	2.62	0.810

Standard Deviation and Mean are ranged from 0.743 to 0.959 and 2.36 to 2.7 as mentioned in Table 2 above that measure the ease of use of ATM from the employee's response.



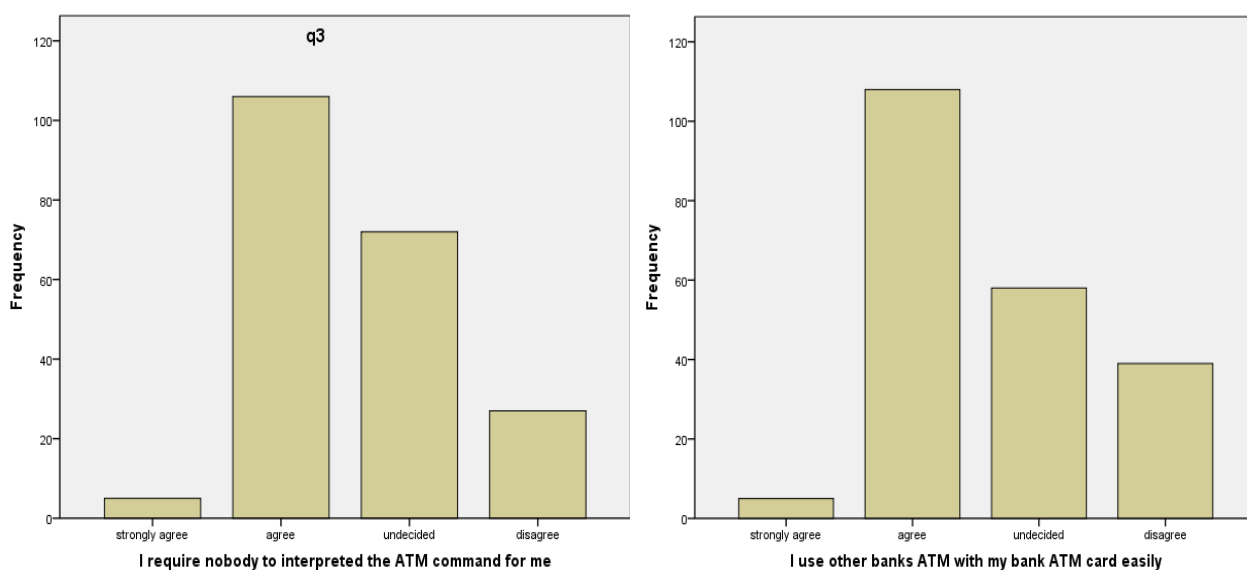


Figure (2) Represented the response's frequency for employees for ease of use

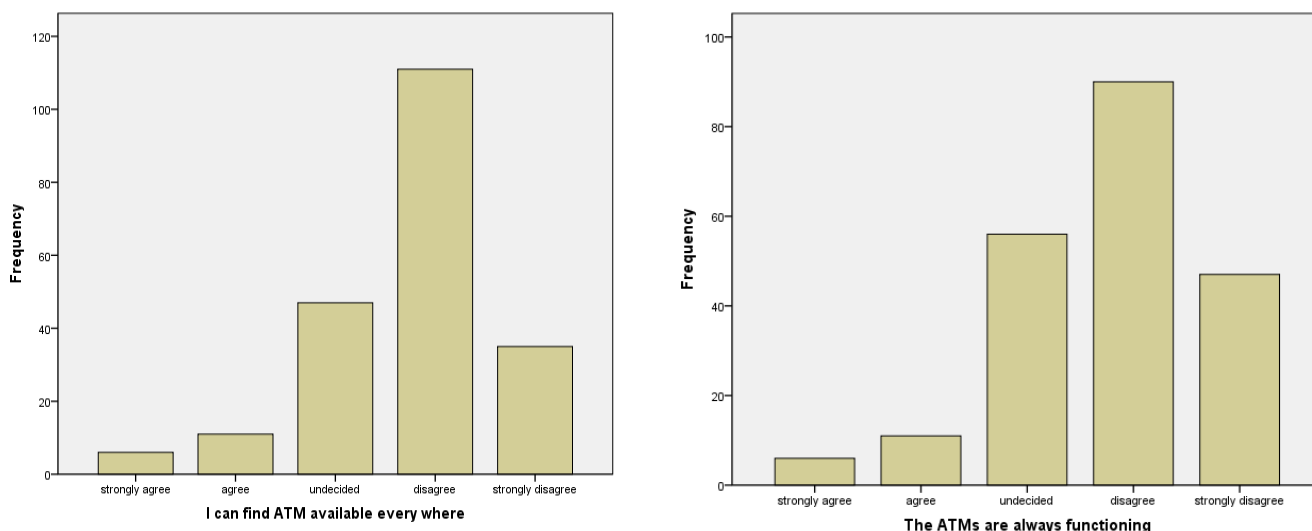
Q2: What accessible level to the ATM during the local area?

The second question constitutes from four sub-question was targeted the degree of accessibility of ATM for the employees. Furthermore, the descriptive analysis (mean, standard deviation, frequency) utilized to investigate. Table 3 below demonstrates the analysis of the first four items.

Table (4) Accessibility (Mean, Standard Deviation)

Item No.	Survey	Mean	Standard Deviation
1.	I can find ATM available every where	3.75	0.894
2.	The ATMs are always functioning	3.77	0.952
3.	ATM locations address is well known	3.74	0.875
4.	I can access many ATM points at a very close distance	3.79	0.977

Standard Deviation and Mean are ranged from 0.875 to 0.977and 3.74to 3.79as mentioned in Table 3 above that measure the accessibility of ATM from the employee's response.



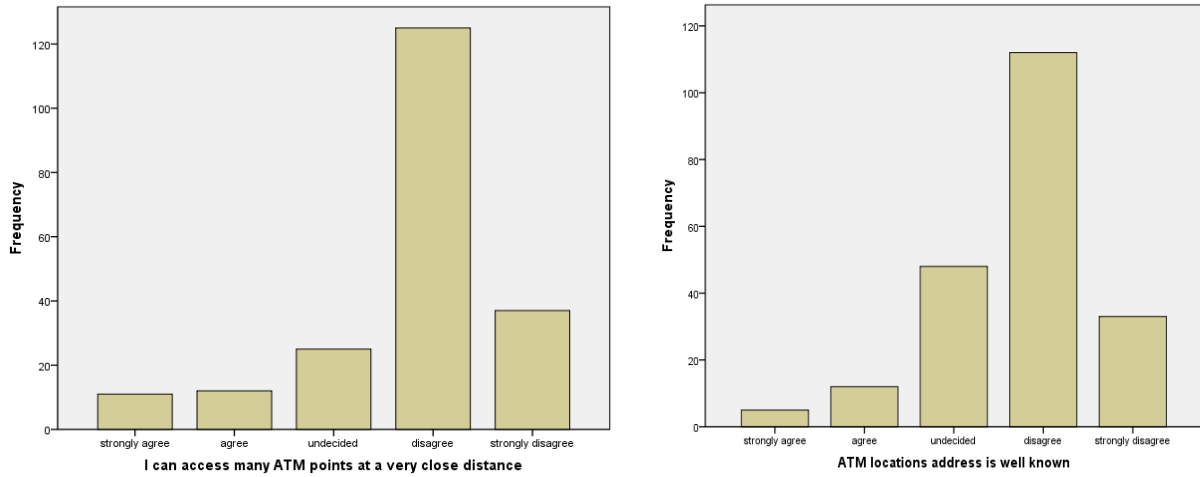


Figure (3) Represented the response's frequency for employees accessibility.

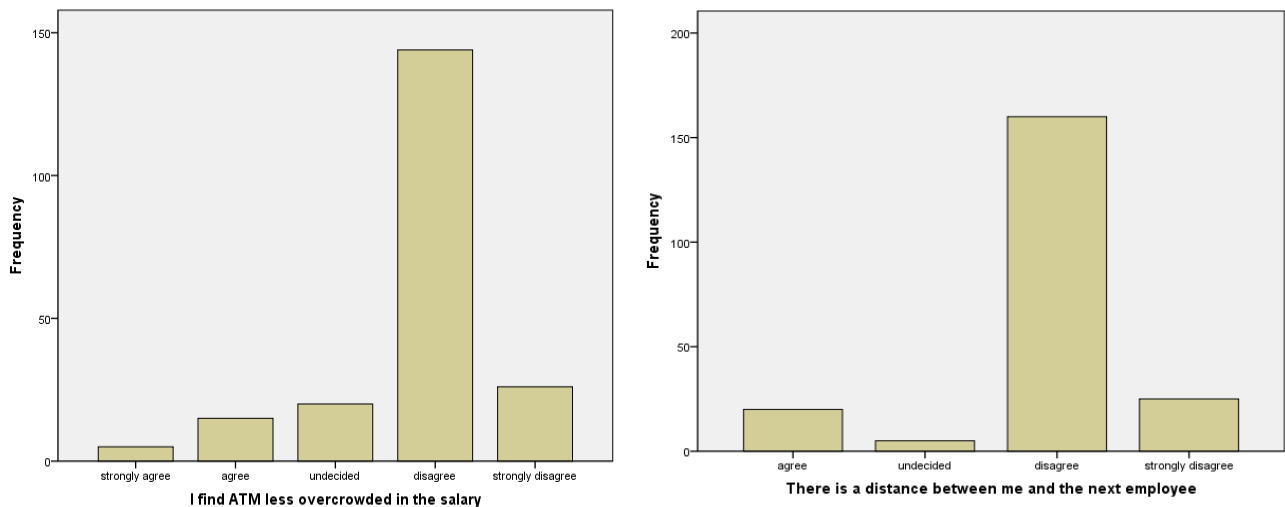
Q3: To what the extent the security for ATM is safe?

The third question constitutes from four sub-question was targeted the degree of security of ATM for the employees. Furthermore, the descriptive analysis (mean, standard deviation, frequency) utilized to investigate. Table 4 below demonstrates the analysis of the first four items.

Table (5) Security (Mean, Standard Deviation)

Item No.	Survey	Mean	Standard Deviation
1.	I find ATM less overcrowded in the salary	3.81	.829
2.	There is a distance between me and the next employee	3.90	.719
3.	There are always enough security guards to monitor the customers at ATM points	3.97	.874
4.	Banks constantly sent me alerts on ATM frauds	3.95	.756

Standard Deviation and Mean are ranged from 0.719 to 0.874 and 2.36 to 2.7 as mentioned in Table 4 above that measure the security of ATM for the employee's response.



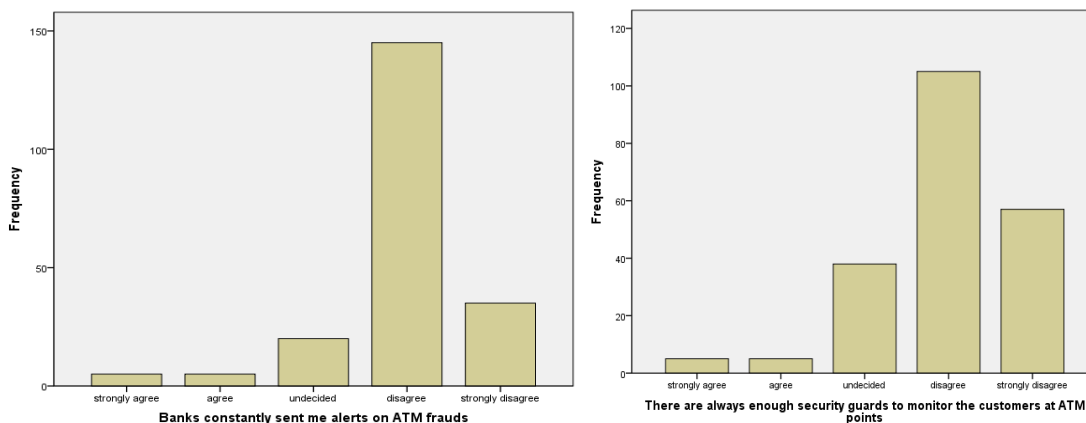


Figure (4) Represented the response's frequency for employees Security.

Q4) Is the service quality factors (ease of using, accessible level, security) affect customer's satisfaction?

To answer on this question(Q4) the researcher was used two techniques:

- 1- **Pearson Correlation:** Depending on (Pallant, 2016,p 110) pearson correlation ranged from +1 to -1 to indicate the relationship between two variables is positive or negative and in case the correlation coefficient is zero that mean no relationship between variables. pearson correlation matrix was used to examine the relationship between service quality variables and customer satisfaction.

Table (6) Pearson-Correlation Matrix

Pearson Correlation	Employee's Satisfaction	Ease of use	Level of Accessible	Security
Employee's Satisfaction	1.000			
Ease of use	.692**	1.000		
Level of Accessible	.319**	.450**	1.000	
Security	.357**	.409**	.325**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

The service quality variables identified as independent factors (ease of use, level of access, security) have a positive correlation with the dependent variable (employee satisfaction). Employees (responders) overall are satisfied with the ATM.

- 2- **Multiple Linear Regression:** Multiple linear regression is a statistical technique based on correlation to examine and refine the relationship between more than one independent variable and one dependent variable and it is extended from a linear regression (Pallant, 2016,p 134).in this study multiple linear regression was used to present the significance between service quality and employee satisfaction.

Table (7) Multiple Linear Regression outputs

R Square	0.246
F Value	48.574
F (Significance)	0.000
Beta of ease of use	0.593
Beta of Level of access	0.232
Beta of Security	0.205
VIF factor	1.088

The explanatory variables in multiple linear regression model with employee satisfaction have a significant relationship and has been inferred from t and p-value associated with it. r square was explained by 0.24% of the variation in employee satisfaction by service quality variables and the percentage of variation showing the strength of the relationship between service quality variables and satisfaction is moderate. From F value and its p-value can conclude there is a correlation between independent variables and dependent variable as well as can infer the model of multiple linear regression is valid. A multicollinearity test has been carried out. The VIF value is lower 3 ($1.088 < 3$) which means no multicollinearity problem found. as result the equation can indicate:

$$\text{Employees satisfaction} = 0.593(\text{ease of use}) + 0.232(\text{Level of access}) + 0.205(\text{Security}) + e$$

Discussion

The purpose of this study is describing the explanatory variables for service quality in research model and examine the effect of service quality variables on employee satisfaction. as well, the conceptual model was used to answer the research question. The independent variables (Security, ease of use, level of access) all was found affect employee satisfaction as showed in Multiple linear regression results. furthermore, the three independent variables demonstrated 0.24% of variation from the dependent variable. Pearson-correlation matrix showed the explanatory factors have a positive correlation with satisfaction factor the ease of use factor have the highest positive correlation with employee satisfaction. depending on the outcomes above the hypothesis H0 was reject and accept H1 that service quality has a significant effect on employee satisfaction.

The variables (ease of use, accessibility, security) played as a key motivation for measuring the employee's satisfaction towards ATM through the quality of services. Four positive statements were used to measure the first variable (ease of use) and after analyzing the entire questionnaire a researcher has found a high percentage of the employees have chosen agree on ease of use for ATM from employees. Moreover, the mean and SD ranged from 2.36 to 2.7 and 0.743 to 0.959 respectively and the frequency showed the results with a chart for more illustration.

The accessibility is the second variable of service quality was implied in the TAM model to measure the employee's satisfaction for ATM. Positive questions used to measure the accessibility of ATM and after analyzing the entire questionnaire the researcher has found a moderate percentage of disagreeing of the ease of accessibility of ATM. Moreover, the mean and SD ranged from 3.74 to 3.79 and 0.875 to 0.977 respectively and the frequency showed the results with a chart for more illustration.

The security is the third variable of quality of services that was implied in the TAM model to measure the employee's satisfaction for ATM. Positive questions used to measure the degree of security of ATM and after analyzing the entire questionnaire the researcher has found a moderate percentage of disagreeing of the security of ATM. Moreover, the mean and SD ranged from 3.81 to 3.97 and 0.719 to 0.874 respectively and the frequency showed the results with a chart for more illustration.

Findings

The study has highlighted some valuable insight into employee' acceptance of an ATM from the perspectives of service quality. Based on results previously demonstrated herein which seem to produce the following implications:

- 1- The study shows the behavior of acceptance technology could be predicted via TAM through service quality and that agree with (Bashir, 2014,P 47; Lin & Wu, 2002,P 1).
- 2- unfolding a positive interconnection between the proposed factors and employee's satisfaction. Furthermore, the ease of use and security has a significant effect on customer satisfaction, and that consistent with (Fitriyani et al., 2016)that mentioned the ease of use and security contributed to improving satisfaction for the customer.
- 3- The ease of use found have a positive correlation with customer's satisfaction and that result is consistent with(Khan et al., 2019,P 233) findings. as well, the ease of use have a high standard beta coefficient (0.593) among others factors and that mean a high impact of ease of use on employee's satisfaction that consistent with(Khan et al, 2019,P 233; Khorasani et al., 2014,P 112).
- 4- The level of access to ATM has a significant effect on employee's satisfaction that agrees with many studies mentioned the location of ATMs positively affects the attitude of using ATMs, which requires banks to determine appropriate locations for their ATMs. (Awaghadell et al., 2014,P 19; Trang et al., 2019,P 1; Wambugu, 2001,p 3)

Recommendations

Based on the outcome from analyzing the responses of a questionnaire distributed on the employees in the directorate of education in ThiQar province there are some recommendations:

- 1- The ATM's machine should be placed in the public places that will be enhancing employees acceptable in terms of the accessibility.

- 2- The bank should be working on increasing awareness for the employee by sending continuous alerts such as avoid reveal the security pin. Moreover, the presence of security guards on on-site ATMs have increased the satisfaction factor in customers during transactions
- 3- It also may be facilitated tracing of the cash and criminals even after they are able to run far away from the robbery location.
- 4- ATMs must have technical and functional reliability and provide error-free services through Performing maintenance for ATM by creating an active team and hot numbers

References

- 1- Albert, W., & Tullis, T. (2013). Measuring the user experience: collecting, analyzing, and presenting usability metrics. Newnes.
- 2- Arnold, D. M., Burns, K. E., Adhikari, N. K., Kho, M. E., Meade, M. O., & Cook, D. J. J. C. c. m. (2009). The design and interpretation of pilot trials in clinical research in critical care. 37(1), S69-S74.
- 3- Awaghadell, S., Dandekar, P., Ranadell, P. J. I. J. o. A. i. R. S., GIS, & Geography. (2014). Site selection and closest facility analysis for automated teller machine (ATM) centers: Case study for Aundh (Pune), India. 2(1), 19-29.
- 4- Bashir, I. (2014). Customer Satisfaction Of Automated Teller Machine (ATM) Based On Service Quality. WEI International Academic Conference Proceedings New Orleans, USA,
- 5- Bolton, R. N., & Drew, J. H. J. o. m. (1991). A longitudinal analysis of the impact of service changes on customer attitudes. 55(1), 1-9.
- 6- Cronin Jr, J. J., & Taylor, S. A. J. J. o. m. (1992). Measuring service quality: a reexamination and extension. 56(3), 55-68.
- 7- Davis, F. D. J. I. j. o. m.-m. s. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. 38(3), 475-487.
- 8- Doll, W. J., & Torkzadeh, G. J. M. q. (1988). The measurement of end-user computing satisfaction. 259-274.
- 9- Elliott, J., Adams, L., & Bruckman, A. (2002). No magic bullet: 3D video games in education. Proceedings of ICLS,
- 10- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research.
- 11- Fitriyani, A., Sfenrianto, S., Wang, G., & Susanto, A. (2016). Examining the security issues of automated teller machine based on revised technology acceptance model.
- 12- Gall, M., Gall, J., Borg, W. J. E. R. A. I. B., Massachusetts: Pearson Publishing Allyn, & Bacon. (2007). In Burvikovs AE.

- 13- Gyamfi, N. K., Mohammed, M. A., Nuamah-Gyambra, K., Katsriku, F., & Abdulah, J.-D. J. I. J. o. A. (2016). Enhancing the Security Features of Automated Teller Machines (ATMs): A Ghanaian Perspective. 6(1).
- 14- Hossain, M. S., Russel, A. H., & Robidas, L. C. J. I. J. o. B. (2015). Analysis of factors affecting the customer's satisfaction with reference to ATM services in Dhaka City. 17(11), 1.
- 15- Jayawardhena, C., & Foley, P. J. I. r. (2000). Changes in the banking sector—the case of Internet banking in the UK.
- 16- Johnston, R. J. I. j. o. s. i. m. (1995). The determinants of service quality: satisfiers and dissatisfiers.
- 17- Joseph, M., McClure, C., & Joseph, B. J. I. j. o. b. m. (1999). Service quality in the banking sector: the impact of technology on service delivery.
- 18- Jun, M., & Cai, S. J. I. j. o. b. m. (2001). The key determinants of internet banking service quality: a content analysis.
- 19- Kasanda, E. N., & Phiri, J. J. I. J. o. A. S. i. C., Science. (2018). ATM Security: A case study of Emerging Threats. 7(10), 1.
- 20- Khan, S., Abdullah, N. N. J. R. J. o. A., & Sciences, S.-E. (2019). THE EFFECT OF ATM SERVICE QUALITY ON CUSTOMER'S SATISFACTION AND LOYALTY: AN EMPIRICAL ANALYSIS. 89(5).
- 21- Khorasani, G., Zeyun, L. J. I. J. o. I. T., & Engineering, E. (2014). Implementation of technology acceptance model (tam) in business research on web based learning system. 3(11), 112-116.
- 22- Kothari, C. R. (2004). Research methodology: Methods and techniques. New Age International.
- 23- Kumar, R. (2019). Research methodology: A step-by-step guide for beginners. Sage Publications Limited.
- 24- Lin, C. S., & Wu, S. (2002). Exploring the impact of online service quality on portal site usage. Proceedings of the 35th Annual Hawaii International Conference on System Sciences,
- 25- Mathi, M. (2016). A Comparative Study of Banking Services and Customer Satisfaction in Public, Private and Foreign Banks.
- 26- Mazzocchi, M. (2008). Statistics for marketing and consumer research. Sage.
- 27- Sapsford, R., & Jupp, V. (1996). Data collection and analysis. Sage.
- 28- Saunders, M., Lewis, P., & Thornhill, A. (2007). Research methods for business students. sl: FT Prentice Hall.
- 29- Sekaran, U., & Bougie, R. J. I. N. Y. (2003). Research Methods For Business, A Skill Building Approach, John Willey & Sons.
- 30- Taylor, S., & Todd, P. J. M. q. (1995). Assessing IT usage: The role of prior experience. 561-570.
- 31- Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rios, L. P., Robson, R., Thabane, M., Giangregorio, L., & Goldsmith, C. H. J. B. m. r. m. (2010). A tutorial on pilot studies: the what, why and how. 10(1), 1.
- 32- Thompson, S. K. J. S. (2012). Simple random sampling. 9-37.

- 33- Trang, P. T., Sonb, N. L. N., & Giangc, P. T. (2019). THE INFLUENCE OF ATM LOCATION CHARACTERISTICS ON ATM USAGE IN VIETNAM.
- 34- Wambugu, J. N. (2001). Using GIS for optimal locations of automated teller machines (ATMs): The case of Stellenbosch Stellenbosch: Stellenbosch University].
- 35- Yen, J.-C., Tsai, C.-H., & Chen, I.-J. J. W. T. o. I. S. (2010). Exploring the effects of game-based instructional design on 3D animation: a perspective of technology acceptance. 7(7), 955-964.
- 36- Negi, R. (2009). Determining customer satisfaction through perceived service quality: A study of Ethiopian mobile users. *International Journal of Mobile Marketing*, 31(10), pp. 1543-1554.
- 37- Yen, J.-C., Tsai, C.-H., & Chen, I.-J. J. W. T. o. I. S. (2010). Exploring the effects of game-based instructional design on 3D animation: a perspective of technology acceptance. 7(7), 955-964.
- 38- Nassaji, H. (2015). *Qualitative and descriptive research: Data type versus data analysis*. In: Sage Publications Sage UK
- 39- Pallant, J. (2001). *SPSS survival manual*. Maidenhead.