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ADOPTION OF CLOUD COMPUTING AND SERVICE DELIVERY OF COMMERCIAL BANKS IN RIVERS STATE.

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ABSTRACT

The study examined the profitability inherent in adoption of cloud computing amongst commercial banks in Rivers State. Four research questions and four hypotheses guided the study. It adopted descriptive survey research design. The population was twenty-one registered commercial banks in Rivers State with (126) top management staff out of which, sixty-three (63) was drawn as sample size for the study using the stratified random sampling technique. The key instrument for this study was a 20-item researchers' designed questionnaire titled: Adoption of Cloud Computing and Service Delivery of Commercial Banks in Rivers State Questionnaire code-named: (ACCSDQUEST). It was validated and a test-retest method was adopted in establishing the reliability of the study instrument. While the scores of the two tests were correlated using the Pearson Moment Correlation Coefficient (PMCC) to establish a reliability index of 0.74. It found amongst others that e-banking offered customers the opportunity to carry out banking transactions from the comfort of their homes; offered 24/7 (twenty-four hours in a day and seven days in a week) services; increased convenience with which banking transactions are carried out; increased efficient management of cash and stimulated cashless transactions. We therefore conclude that adoption of cloud computing necessitated e-banking which is pivotal to increase in profitability and customer satisfaction. It therefore recommends that other organizations should adopt cloud computing since it can significantly lower the organizations' IT expenses

Key Words: Software-as-a-Service, e-banking, Profitability.

INTRODUCTION

In recent times, most organizations, particularly banks, desirous of controlling costs associated with computing, devised means of consolidating their own information technology operations and implementing virtualization technology, that is, optimizing the servers capacity to store and process data by hosting the servers on their own premises. This measure was considered necessary because computing cost forms substantial part of organizational operating cost, since IT is critical to the success of every organization. Although the hosting of servers within the premises of an organization has the potential to reduce computing cost. However, there are other costs inherent in such measure that forms heavy expenditure which affects the profitability of the organization. These costs includes: infrastructural cost, personnel cost, maintenance cost, updating cost etc. Sometimes these costs outweigh the benefits accruable from hosting the servers in the organization's premises. The need to avoid these costs informed some organizations to adopt cloud computing.

Cloud computing is one of the most promising information technology innovations in today's technological world. The trend is enabled by the rapid development of high speed internet connectivity occasioned by breakthrough in digital technology. Elnaz, Tania and Baharak (2014) opined that cloud computing has significant effect on organisational performance as it has the potentials to increase efficiency and cost savings through expanding the flexibility of an organisation's assets and decreasing cost of storage. This means that Cloud computing enables organizations to reduce their hardware costs, that is, instead of investing huge amount of money in a large number of powerful servers, organizations can use the cloud computing power to replace or improve the internal computing resources. Therefore, cloud computing constitutes a

fundamental shift in the way organizations are provided with computing resources. Organisational computing service is moving from computing as a product to computing as a service; hence cloud computing has changed the way organizations use computers and the internet.

It can be said that cloud computing offers an alternative to the traditional way of providing and delivering information services. In the traditional approaches, software applications are developed to run on a specific computer that users of the application are able to access., this paradigm has changed; through cloud computing, applications can now be developed to run on a virtual computer that runs on the internet. According to Miller (2009), this change relates mainly to how the information is stored and the applications used. He noted that in cloud computing, information is stored in the "cloud" instead of on desktop computers. Cloud is a nebulous assemblage of computers and servers accessed via the internet. It provides users with access to all of their data, documents and applications when they are connected to the internet. The users are no longer tied to their desktop computers and it is easier for them to collaborate from different locations. He penned further that cloud computing is used to describe both a platform and type of application. These servers are provided, configured, and reconfigured by the cloud computing platform. This enhances easy access to information which in turn promotes profitability, service delivery and e-banking.

In his view, Ahmed (2017) opined that there are three basic categories of cloud technology service models. This means that cloud computing is provided or delivered in three forms. They are as follows: Software-as-a-Service (SaaS**);** In this model, instead of installing software on the client's machine and updating it with regular patches, frequent version upgrades etc., applications like word processing, CRM (Customer Relationship Management), ERP (Enterprise Resource Planning), Google docs, are made available (hosted) over the internet for the consumption of the end-user. On the other hand, Platform-as-a-Service (PaaS); involves the provision of facilities to support the whole application development lifecycle including design, implementation and debugging. In other words, PaaS provides facilities and enabling environment to organizations that aids the organization to build, test, install and embrace their own software and web-based applications in the cloud.

Infrastructure-as-a-Service (IaaS); This refers to the tangible physical devices (raw computing) like virtual computers, servers, storage devices, network transfer, which are physically located in one central place (data centre) but they can be accessed and used over the internet using the login authentication systems and passwords from any dumb terminal or device. The whole of these implies that cloud computing is offering resources in an economical, scalable and flexible manner, which are affordable and attractive to information technology customers and investors and thus improves customers' satisfaction and organisational performance. More so, Cloud Security Alliance (2009), maintain that cloud computing has four deployment models; they include public, private, community and hybrid. Their differentiation is based on the cloud infrastructure`s location and how and by whom it is managed and owned. This implies a different user`s control over the data and its security. Public cloud is a model where the cloud infrastructure is owned by the organization that sells cloud services and is available to the general public. It is the most open model and is appropriate in cases when a high level of data confidentiality is not required. The most closed model is the private cloud, where the infrastructure existing on-premises or off-premises is used only by a single organization and managed by the organization itself or a third party. Organizations employing this model have the fullest control over their data and its security as the cloud is not shared with other organizations. For organizations willing to share cloud resources a community cloud exists.

Community cloud on the other hand, is an infrastructure used by several organizations that have shared concerns, e.g. mission, policy, security requirements, or compliance considerations. It may also be on-premises or off-premises and is managed by these organizations or a third party. In addition, the fourth deployment cloud model is hybrid cloud, which is composed of two or more cloud infrastructures (private, community, or public) that are linked by standardized technology

allowing data and application portability, this improves speed, makes the system more flexible, reduces implementation costs, and so forth. Generally, cloud computing provides organization with high availability, virtualization, and dynamic resource pools by improving utilization, reducing infrastructure and administration costs, and promoting faster deployment cycles thereby improving performance. Cloud computing allows organizations to use their hardware and software investments in a more efficient manner. This is achieved by overcoming the physical barriers of the isolated systems and automated management of a group of systems as a single unit (Safiriyu ,Olatunde , Ayodeji , Adeniran Oluwaranti, Onime 2011).

Cloud computing provides organizations with a fundamentally different model of operation in which the service providers are responsible for hardware parts in using software installation, upgrade, maintenance, backups, failover functions, and security. As a result, the users of cloud computing services will see the increased reliability and cost decline due to economies of scale; organizations do not need to invest in their own servers or employ staff to take care of them. Instead, they just need to pay for the services on demand. These advantages are important to banks that operate in highly competitive, dynamic, complex, and global environments as it promotes good service delivery, customers' satisfaction, e-banking, profitability etc.

Problem Statement

Despite the numerous advantage of adopting cloud computing, uncertainties still exist on the profitability in adoption of cloud computing by various commercial banks in Rivers State. Although there are many studies on cloud computing, most researches have examined its value from the strategic adoption point of view and its impact from an organization's information technology strategy perspective, the few that focused on the cost, benefits, risks and security effect of cloud computing on organizations are not in-depth and their results are contradictory.

More so, scholars are of the view that there are different organizations that provide cloud computing services such as: Amazon Web Services, Microsoft Azure, Google Cloud Platform, Adobe, VMware, IBM Cloud, Rackspace, Red Hat, Salesforce, Oracle Cloud, SAP, Verizon Cloud, Navisite, Drop box, Egnyte among others. These organizations are making profit in providing cloud services but the extent to which bank customers in Rivers State are satisfied in adopting e-banking is equally unknown. Hence the need for this study. A framework used to give a clearer understanding of the concept is displayed in figure 1.1 below:

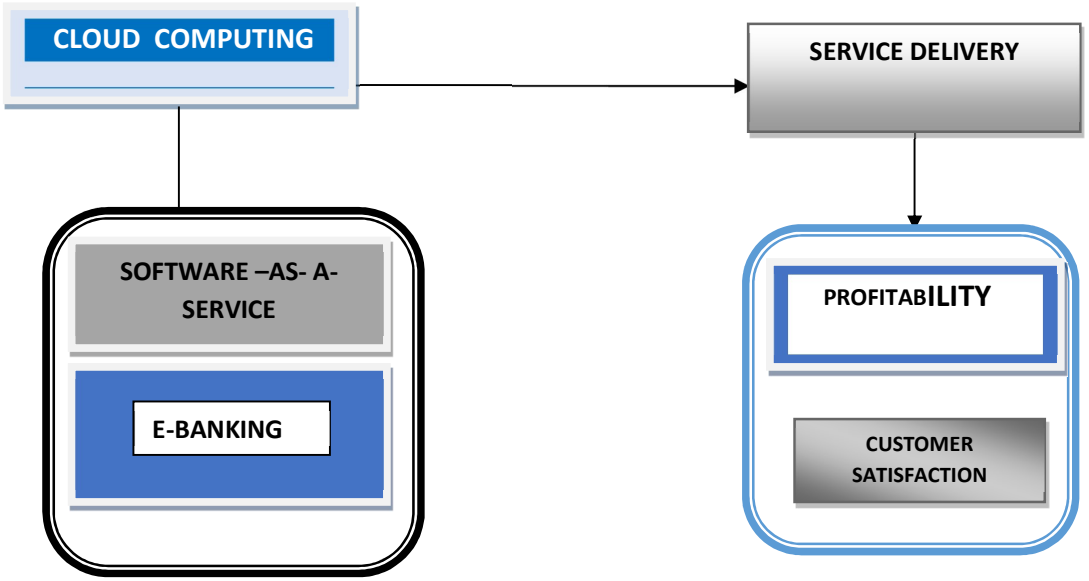

Fig.1.1: Conceptual Framework showing relationship between dimensions of Cloud Computing (Independent Variable) and Service Delivery in commercial banks in Rivers State (Dependent Variable).

Source: Researchers' Conceptualization 2021.

Objectives

The main objective of this study is to examine the profitability inherent in adoption of cloud computing amongst commercial banks in Rivers State. Specifically, it examined the:

1. Relationship that exist between Software-as-a Service (SaaS) and profitability of commercial banks in Rivers State.

2. Relationship that exists between Software-as-a Service (SaaS) and customers satisfaction of commercial banks service in Rivers State.

3. Relationship that exist between e-banking and profitability of commercial banks in Rivers State.

4. Relationship that exist between e-banking and customers satisfaction of commercial banks service in Rivers State.

Research Questions

Four research questions guided the study as follows:

1. What is the relationship between Software-as-a-Service (SaaS) and profitability of commercial banks in Rivers State?

2. What is the relationship between Software-as-a Service (SaaS) and customers' satisfaction of commercial banks service in Rivers State?

3. What is the relationship between e-banking and profitability of commercial banks in Rivers State?

4. What is the relationship between e-banking and customers' satisfaction of commercial banks service in Rivers State?

Research Hypotheses

$Ho_{1:}$ There is no significant relationship between Software-as-a-Service (SaaS) and profitability of commercial banks in Rivers State.

Ho_2 There is no significant relationship between Software-as-a Service (SaaS) and customers' satisfaction of commercial banks service in Rivers State.

Ho_3 There is no significant relationship between Software-as-a Service (SaaS) and customers' satisfaction of commercial banks in Rivers State.

Ho_4 There is no significant relationship between e-banking and customers' satisfaction of commercial banks service in Rivers State.

Area of coverage

In terms of content coverage, the study focused on cloud computing and service delivery of commercial banks in Rivers State. It was limited to two dimensions of cloud computing such as Software-as-a-Service (Saas) and e-banking as they both relate to profitability and customer satisfactions while the geographical scope was limited to commercial banks in Port Harcourt city and Obio Akpor local government areas of Rivers State. The unit of measure was restricted to General Manager, Assistant General Manager, Head of ICT units, Assistant Head of the ICT, the

Head of Marketing unit and the Assistant Head of marketing unit of the various banks in Rivers State.

Benefits

It is hoped that this study would be beneficial to shareholders of banks as the relationship between cloud computing and organizational performance is highlighted. The study proved a veritable aid to management of organizations in the decision of whether to adopt cloud computing or host the servers on their own premises. It is envisaged that small, medium and large organizations whether profit making or non would find the study beneficial as it highlighted the costs, benefits, security and risk implications of cloud computing. More so, students and researchers stand to benefit from this study as it serves as reference point for both reviews of literature and empirical study. The results of the study have also highlighted the views of commercial banks customers as regards to their satisfaction with the service delivery of banks and adoption of e-banking and cloud computing.

Method

The study adopted the descriptive survey research design since it is concerned with describing existing phenomenon. The population for the study comprised of the entire twenty-one (21) registered commercial banks operating in Rivers State. The headquarters of these banks located in Port Harcourt and Obio Akpor Local government areas were used as respondents for the study. They comprised of the General Manager of each of the banks, the Assistant General Manager, the Head of ICT units, the Assistant Head of ICT, the Head of Marketing unit and the Assistant Head of Marketing unit. This implies that six (6) respondents were drawn from each of the twenty one (21) banks. These respondents are deemed by the researchers to posses the knowledge, skill, and experience to respond appropriately to what the research instrument demands. For the purpose of this study these respondents are regarded as information managers. Out of this hundred and twenty-six (126) respondents, three (3) was selected to represent each bank to draw a sample size of sixty-three (63) using the stratified random sampling technique. The key instrument for this study is a 20-item researchers' designed questionnaire titled: Adoption of Cloud Computing and Service Delivery of Commercial Banks in Rivers State Questionnaire code-named: (ACCSDQUEST). The questionnaire was structured on a 4-point modified Likert-type scale of Very High Extent (4) High Extent (3) Moderate Extent (2) and Low Extent (1). While a test-retest method was adopted in establishing the reliability of the study instrument. To do this, copies of the questionnaire were administered to respondents outside the sample area. After two weeks interval, the same was re-administered and retrieved. The scores of the two tests were correlated using the Pearson Moment Correlation Coefficient (PMCC) to establish a reliability index of 0.74.

The instrument was face and content validated by experts in Office and Information Managers and experts in computer science department of Ignatius Ajuru University of Education who scrutinized it to ensure its validity. To do this, copies of the questionnaire was given to these experts who made corrections and their corrections were effected before administration. The mean and standard deviation was used to analyze the data relating to research questions and Pearson Product Moment Correlation coefficient was used to test the hypotheses. The level of agreement or disagreement of each item of the questionnaire was determined based on mean rating of the item interpreted relative to real limits of numbers.

Decision was made according to the average of the rating scale revealed by the results. With reference to the research questions, the decision was that any mean score of 2.50 and above suggested that the item is agreed and below 2.50, suggests disagreement of the item; Standard deviation was applied to measure the dispersion of respondents' responses on the mean. The smaller the standard deviation the more homogeneous the responses are. Positive correlation coefficient suggests positive association or relationship while negative correlation coefficient means negative association or relationship; zero correlation coefficient on the other hand indicates

no relationship. Acceptance and rejection of the result was determined at 0.05 level of significance. In all Statistical Package for Social Sciences (SPSS) version 20, 0 was used for the analysis.

Results

Research question 1: What is the relationship between Software-as-a-Service (SaaS) and profitability commercial of banks in Rivers State?

Table 1. Mean Rating and Standard Deviation on the Relationship between Software-as-a-Service (SaaS) and profitability of banks in Rivers State.

Descriptive Statistics	N	Sum	Mean	Std. Deviation
Software as a service (SaaS) has helped to improve profitability as it reduces hardware and software maintenance costs	63	200	3.30	0.29
With (SaaS) eliminating the delay and difficulty arising from development of software, bank's profitability has improved	63	198	3.32	0.30
The accessibility of (SaaS) application has increased the profitability of your bank	63	210	3.40	0.30
The taking over of hardware and software upgrades by (SaaS) providers, has improved the profitability of the organization	63	199	3.35	0.28
The scalability of Software as a service (SaaS) application (Subscription options) has aided profitability .	63	205	3.40	0.29
Valid N (leastwise)	63			

Source: SPSS 20.0 Output (based on 2018 field survey data)

Table 1. above represents the mean rating and standard deviation of respondents on the relationship between Software-as-a-Service (SaaS) and profitability of banks in Rivers State. The analysis indicates that the mean ratings for the respondents are: 3.30, 3.32, 3.40, 3.35 and 3.40 and the standard deviation are 0.29, 0.30, 0.30, 0.28 and 0.29. Based on the analysis, the respondents agreed to all the items in the table since the mean responses are all above the criterion mean of 2.50. The standard deviation indicates that there is less variation in the data set, that is, the values are concentrated or close to the mean. This means that the respondents agreed that cloud computing through SaaS reduced hardware and software maintenance costs in banks; eliminated the delay and difficulty of software development; made computing services affordable; shouldered the upgrade of hardware and software; provided subscription option and that all these have direct positive effect on the profitability of banks.

Research question 2: What is the relationship between Software-as-a Service (SaaS) and customers' satisfaction of commercial banks service in Rivers State?

Table 2: **Mean Rating and Standard Deviation on the Relationship between Software-as-a-Service (SaaS) and customers' satisfaction of commercial banks services in Rivers State.**

Descriptive Statistics	N	Sum	Mean	Std. Deviation
The accessibility of software as a service has improved customers' satisfaction	63	189	3.20	0.59
With (SaaS) eliminating delay and difficulties arising from development of software, customers' satisfaction has increased	63	198	3.27	0.86
The scalability of Software as a service (SaaS) application (Subscription options) has increased customers satisfaction	63	200	3.21	0.66
Taking over hardware and software upgrades by Software- as- a - service (SaaS) providers has increased customers' satisfaction	63	204	3.23	0.72
The reduction in maintenance cost of computing which came through (SaaS) has increased customers' satisfaction	63	200	3.25	0.78
Valid N (leastwise)	63			

Source: SPSS 20.0 Output (based on 2021 field survey data)

1.

Table 2 above represents the mean rating and standard deviation of respondents on the relationship between Software-as-a-Service (SaaS) and customers' satisfaction of banks services in Rivers State. The analysis indicated that the mean ratings for the respondents are: 3.30, 3.27, 3.21, 3.23 and 3.55 and the standard deviation are 0.59, 0.86, 0.66, 0.72 and 0.78. Based on the analysis, it can be said that the respondents agreed to all the items in the table since the mean responses are all above the criterion mean of 2.50. The standard deviation indicates that there is less variation in the data set, that is, the values are concentrated or close to the mean. This means that the respondents agreed that cloud computing through SaaS reduced computing cost; eliminated the delay and difficulty of software development; provided subscription option window; took over the responsibility of upgrade of hardware and software; reduced hardware and software maintenance costs in banks; and that all these promoted customers' satisfaction of banks services.

Research Question 3: What is the relationship between e-banking and profitability of commercial banks in Rivers State?

Table 3: **Mean Rating and Standard Deviation on the Relationship between e-banking and profitability of banks in Rivers State**

Descriptive Statistics	N	Sum	Mean	Std. Deviation

The efficient management of cash as a result of e-banking has promoted profitability of your bank	63	204	3.30	0.59
The convenience which e-banking offers has improved the profitability of your bank	63	202	3.21	0.80
Serving customers 24/7 (twenty four hours in a day and seven days in a week) has helped to increase profitability	63	203	3.23	0.62
Conducting banking transactions from the comfort of customers' home has aided profitability of your bank	63	200	3.25	0.70
E-banking has helped to increase the number of your customers which aided profitability	63	204	3.42	0.76
Valid N (listwise)	63			

Source: SPSS 20.0 Output (based on 2021 field survey data)

Table 3 above shows the mean rating and standard deviation of respondents on the relationship between e-banking and profitability of banks in Rivers State. The analysis indicated that the mean ratings for the respondents are: 3.33, 3.21, 3.23, 3.25 and .3.42 and the standard deviation are 0.59, 0.80, 0.62, 0.70 and 0.76. Based on the analysis, it implies that the respondents agreed to all the items in the table since the mean responses are all above the criterion mean of 2.50 on a 4 point rating scale. The standard deviation indicates that there is less variation in the data set, that is, the values are concentrated or close to the mean. This means that the respondents agreed that e-banking promoted efficient cash management; offered convenience, gave the customers the opportunity to carry out banking transactions from the comfort of their homes; offered 24/7 (twenty four hours in a day and seven days in a week) services and that all these promoted profitability of banks in Rivers State.

Research Question 4: What is the relationship between e-banking and customers' satisfaction of commercial banks service in Rivers State?

Table 4: **Mean Rating and Standard Deviation on the Relationship between e-banking and customers' satisfaction of bank services in Rivers State**

Descriptive Statistics				
	N	Sum	Mean	Std. Deviation
Carrying out banking transaction from one's own home has contributed to customers' satisfaction	63	200	3.20	0.60
The 24/7 banking services has promoted customers' satisfaction	63	198	3.27	0.86
The convenience which e-banking offers has promoted customers satisfaction of banks service	63	200	3.21	0.66
	63	204	3.23	0.72

Effective management of fund which e-banking aided contributed to customers' satisfaction of banks service				
E-banking has helped to increase the number of your customers thus enhancing profitability	63	200	3.25	0.78
Valid N (leastwise)	63			

Source: SPSS 20.0 Output (based on 2018 field survey data)

Table 4. above shows the mean rating and standard deviation of respondents on the relationship between e-banking and customers' satisfaction of bank services in Rivers State. The analysis indicated that the mean ratings for the respondents are: 3.30, 3.27, 3.21, 3.23 and 3.25 and the standard deviation are 0.60, 0.86, 0.66, 0.72 and 0.78. Based on the analysis, it implies that the respondents agreed to all the items in the table since the mean responses are all above the criterion mean of 2.50 on a 4 point rating scale. The standard deviation indicates that there is less variation in the data set, that is, the values are concentrated or close to the mean. This means that the respondents agreed that e-banking offered customers the opportunity to carry out banking transactions from the comfort of their homes; offered 24/7 (twenty-four hours in a day and seven days in a week) Services; increased convenience with which banking transactions are carried out; increased efficient management of cash and stimulated cashless transactions and that all these are factors that promoted customers' satisfaction of bank services in Rivers State.

Test of Research Hypotheses

$Ho_{1:}$ There is no significant relationship between Software-as-a-Service (SaaS) and profitability of commercial banks in Rivers State.

Table 5: Computation of (r) for testing Hypothesis 1
Significant Relationship between Software-as-a-Service (SaaS) and Profitability of Banks in Rivers State

Correlations

		Software as a Service	Profitability of banks
Software as a Service	Pearson Correlation	1	.353**
	Sig. (2-tailed)		.000
	N	63	63
Profitability of banks	Pearson Correlation	.353**	1
	Sig. (2-tailed)	.000	
	N	63	63

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

Source: SPSS 20.0 Output (based on 2019 field survey data)

Table 5 above shows that the correlation coefficient is .353** which indicate a strong relationship between software as a service and profitability of banks The correlation coefficient is positive which implies that there is positive relationship between software as a service and profitability of banks. This can be interpreted to mean that increase in profitability of banks is associated with improvement in software as a service. Also it was revealed from the table that the probability or

significant value of 0.000, is less than 0.05 level of significance therefore the researchers concludes that there is a significant positive relationship exist between software as a service and profitability of banks; therefore, the null hypothesis is rejected in favour of the alternative hypothesis.

Ho_2 There is no significant relationship between Software-as-a Service (SaaS) and customers' satisfaction of commercial banks service in Rivers State.

Table 6: Computation of (r) for testing Hypothesis 2

Significant Relationship between Software-as-a-Service (SaaS) and Customers' satisfaction of Banks services in Rivers State

		SaaS	Customer' satisfaction
SaaS	Pearson Correlation	1	. 531**
	Sig. (2-tailed)		.000
	N	63	63
Customer' satisfaction	Pearson Correlation	.531**	1
	Sig. (2-tailed)	.000	
	N	63	63

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

Source: SPSS 20.0 Output (based on 2019 field survey data)

Table 6 above shows that correlation coefficient is 0. 531**. This indicates a very strong association between software as a service and customers' satisfaction of banks service. The correlation coefficient is positive which implies that there is very strong positive relationship between software as a service and customers' satisfaction of banks service. This implies that an improvement in software as a service will increase customers' satisfaction of bank services in Rivers State.

Also it was revealed from the table that the probability or significant value is 0.000, the value is less than 0.05 level of significance hence the researchers concludes significant positive relationship exist between software as a service and customers' satisfaction of banks service; therefore, the null hypothesis is rejected in favour of the alternative hypothesis and so it can be concluded that there is significant relationship between software as a service and customers' satisfaction of banks service.

Ho_3 There is no significant relationship between e-banking and customers' satisfaction of commercial banks service in Rivers State.

Table 7: Computation of (r) for testing Hypothesis 3

Significant Relationship between E-banking and Profitability of Banks in Rivers State.

		E-banking	Profitability
E-banking	Pearson Correlation	1	.432**
	Sig. (2-tailed)		.000
	N	63	63
Profitability	Pearson Correlation	.432**	1
	Sig. (2-tailed)	.000	
	N	63	63

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

Source: SPSS 20.0 Output (based on 2019 field survey data)

Table 7 above shows the relationship between e-banking and profitability of banks. The table reveals that the correlation coefficient of e-banking and profitability of banks is 0. 432**. This indicates that there is a very strong relationship between e-banking and profitability of banks. The correlation coefficient is positive which portrays a positive relationship between e-banking and profitability of banks in Rivers State. Therefore, e-banking has the potential to promote profitability of banks. The table also revealed a significant value of 0.000, the value is less than 0.05 level of significance.; therefore the researchers concludes that there is a significant positive relationship that exists between e-banking and profitability of banks in Rivers State. Based on the result, the researchers reject the null hypothesis in favour of the alternative hypothesis.

Table 8: Computation of (r) for testing Hypothesis 4
Significant relationship between e-banking and customers satisfaction of banks service in Rivers State

		E-banking	Customers satisfaction
E-banking	Pearson Correlation	1	..440**
	Sig. (2-tailed)		.000
	N	63	63
Customers satisfaction	Pearson Correlation	.63**	1
	Sig. (2-tailed)	.000	
	N	63	63

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

Source: SPSS 20.0 Output (based on 2019 field survey data)

Table 8 above shows the relationship between e-banking and customers' satisfaction of banks service in Rivers State. The table revealed that the correlation coefficient of e-banking and customers' satisfaction is 0.440**. As such, there is a very strong evidence of relationship between e-banking and customers' satisfaction. The correlation coefficient is positive which implies a positive relationship between e-banking and customers' satisfaction of banks service in Rivers State. This means that e-banking has improved customers' satisfaction of banks service. The table also revealed a probability value of 0.000, this value is smaller than 0.05 level of significance; therefore the researchers concludes that a significant positive relationship exist between e-banking and customers satisfaction of banks service in Rivers State. Based on the result, the null hypothesis is rejected and the alternate hypothesis is accepted; therefore it can be concluded that significant relationship between e-banking and customers' satisfaction of banks service in Rivers State.

Summary of Findings

Based on the data collected and analyzed, the following findings emanated and are summarized thus:-

Software-as-a- Service (SaaS) promoted profitability of banks, enhanced service delivery and increased customers' satisfaction of banks service in Rivers State. All the respondents affirmed

that Software-as-a-Service (SaaS) has positive relationship with profitability, service delivery and has impacted positively on customers' loyalty on banks service. Although it can be argued that profitability of banks and customers' satisfaction of banks service are natural follow-up of the enhancement of service delivery which SaaS evoked. That is, good service delivery led to customers' satisfaction of banks service and that this loyalty was instrumental to profitability of banks.

CONCLUSIONS/RECOMMENDATIONS

Based on the findings of the study, the researchers therefore concludes that adoption of cloud computing necessitated e-banking practices which is pivotal to increase in profitability of banks, impressive service delivery as well as improved customers' satisfaction of banks service in Rivers State. As such, we recommend that since adoption of cloud computing is instrumental to increase in banks profit, other organizations should adopt cloud computing since it can significantly lower the organizations' IT expenses; as cloud computing service is available at much cheaper rates.

REFERENCES

Agwu, M. E. & Murray, P. J. (2014). Drivers and inhibitors to e-commerce adoption among SMEs in Nigeria*; Journal of Emerging Trends in Computing and Information Sciences 5*(3) *192-196*

Ahmed, Y. A. (2017). The impact of cloud based information systems on organization's performance. *Journal of Computer Engineering (IOSR-JCE) 19* (2) *42-46*

Amies, A. Sluiman, H., Tong, Q. G. & Liu, G. N. (2012). Infrastructure as a service cloud concepts*. **Error! Hyperlink reference not valid.***

Andrew, C. O. (2012). Which freaking paas should I use? *http://www*. Info *world*.com/article/2615165

Brandon, B. (2013). PaaS primer: What is platform as a service and why does it? *Network World*. *http//www.networkworld.com/article/2163430/cloud-computing*

Buyya, R., Yeo, C.S., Venugopal, S., Broberg, J. & Brandic, I. (2009). Cloud computing and emerging IT platforms: Vision, hype, and reality for delivering computing as the 5th utility. *https://www.researchgate.net/..*

Chandran, S. & Angepat, M. (2010). Cloud computing: Analyzing the risks involved in cloud computing environments. *Proceedings of Natural Sciences and Engineering*, *1*(6) 1-6

Cloud Security Alliance (2009). *Security guidance for critical areas of focus in cloud computing*. https://cloudsecurityalliance.org/csaguide

Elnaz, M., Tania,H. & Baharak, M. (2014). The perceived advantages of cloud computing for SMEs *Journal on Computing 4* (1) 61-65

Eric, P. (n.d). 10 advantages of platform–as-a-service. https://www. engineyard.whitepapers.com

Greenberg, J. (2011). *Behaviour in organizations*. Upper saddle Rivers NJ Prentice Hall. https://www.coursehero.com › Columbia Southern University

Hamann, P. M., Scjiemann, F. & Bellora, L. (2013). Exploring the dimensions of organizational performance: A construct validity study. *Journals. com /doi/full/ 10.1177/1094428112470007*

Hammond, S. (2008). Cloud computing: IT of the future or powder puff? Enterprise innovation. http://www.enterpriseinnovation.com

Hartig, K. (2008). What is cloud computing? *Cloud computing Journal.* http: **//cloud** computing.syscon.com

Hashem, S. J. (2015). An overview of organizational performance index: Definitions and measurements: *https://www.researchgate.net /publication/*

Haslinda, H. (2017). Organisational factors affecting cloud computing adoption **in small** and medium enterprises (SMEs) in service sector. *Procedia Computer Science*. https://doi.org/10.1016/j.procs.2017.11.126

Hui, H., Jenatabadi, H. S. & Radu, S. (2013) Knowledge management and organizational learning in food manufacturing industry. *International Conference on Economic Finance and Management Outlooks.* Kuala Lumpur, Malaysia Kuala http://www. pakacademicssearch.com/ebooks

Iacob–Emanuel, B. (2013) Advantages and disadvantages of cloud computing services. from the employee's point of view *http:// www.nos.iem.ro/bitstream/handle /123456789/285*

IBM (2009). The benefits of cloud computing: A new era of responsiveness, effectiveness and efficiency in IT service delivery. *http//www.ibm.com/ibm/smart*

Jenatabadi, H. S. (2014). Situation of innovation in the linkage between culture and performance: A mediation analysis of Asian food production industry *contemporary engineering sciences,* 7(7): 323-331.

McAfee, A. (2011). *What Every CEO Needs to Know About the Cloud*. Harvard Business

Review. https://hbr.org/2011/11/

Miller, M. (2009). Cloud computing: Web-based applications that change the way you work and collaborate online. Indianapolis, Que Publishing. https://dl.acm. **Error! Hyperlink reference not valid.**

Mohammad, A. O. & Tayfun, T. (2012). Empirical analysis for the factors affecting the adoption of cloud computing initiatives by information technology executives. *Journal of Management research 5*(1)

Nelson, D. & Quick, C. J. (2011). Understanding organizational behavior. Mason, OH: South Wester cengage learning. www.business.unr.edu/faculty/ simmonsb/badm720/

Onodugo, I. C. (2015). Overview of electronic banking in Nigeria. *International Journal of Multidiscipline Research and Development.* 2 (7),

Ouangyen, T. & Yezhuang, T. (2013). Organizational structure: Influencing factors and impact on a firm. *American Journal of Industrial and Business Management 3* (2) 229-236

Safiriyu, E., Olatunde, A., Ayodeji, O., Adeniran, O., Clement, O. & Lawrence, K. (2011). *A Journal of user identity management protocol for cloud computing paradigm, international communications, network and system sciences 4* (3)

Wikipedia, the free encyclopedia (2019). National development. www.yourarticlelibrary.com