NETWORK INFRASTRUCTURE, SECURITY, SERVICE QUALITY AND ORGANISATIONAL PERFORMANCE: A CASE OF iWayAfrica.

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ABSTRACT

This research investigated the relationship between Network Infrastructure and Organizational Performance in iWayAfrica. It further aimed at establishing the influence of Network Infrastructure, Service Quality on Organizational Performance; and the effect of Network Infrastructure, Security, and Service Quality on Organizational Performance; as well as determining the factor structure of Network Infrastructure, Security, Service Quality and Organizational Performance. To achieve this, a descriptive exploratory research design was employed and a number of data collection and analysis methods were used. A number of findings came out of this study. This research has established that Network Infrastructure is a significant factor when assessing or measuring the performance of iWayAfrica. And it is positively related to Organizational Performance. This research further established that Network Infrastructure, Service Quality are significant factors for determining performance of iWayAfrica and the study established and confirmed that Network Infrastructure, Security, Service Quality are significant factors for determining performance of iWayAfrica. As hypothesized in the conceptual model Network Infrastructure is measured by hardware, software and connectivity; Network Security is measured by integrity, authenticity, confidentiality and non-repudiation; service quality is measured by assurance, empathy, reliability, responsiveness and tangibles while organizational performance is measured by accounting returns, liquidity, growth, stock market performance and profitability.

The research used both qualitative and quantitative approaches and descriptive exploratory research design was used in the study .this research has established that there is a positive relationship between Network Infrastructure can explain approximately 56.3 % of Organizational Performance there must be other factors that affect Organizational Performance, Network Infrastructure can

approximately explain 23.1 of Service Quality therefore there must be other factors affecting Service Quality. Service Quality affects approximately 3.2% of Organizational Performance this relationship is a weak one, therefore there must be other factors affecting Organizational Performance, Network Infrastructure affects approximately 23.3% of Network Security. Network Security affects 4.3 of Service quality and this relationship is a weak one and network Security affects approximately 46.9% of Organizational Performance, therefore Organizational Performance is also caused by other factors other than Network Security. Network infrastructure and Security are fundamental to all business functions and business processes within an organization. The organization's competitiveness depends on the flexibility of thenetwork infrastructure Security and service quality. The results of the study show that the influence of network infrastructure and Security on service Quality and Organizational performance in iWay Africa.

INTRODUCTION

For a firm with growth opportunities, network infrastructure sets the stage and creates the strategic context in which the firm can flourish. Although the nature of network infrastructure development investment depends on the type of business, its defining characteristic is that it generates other investment opportunities and leads better service quality and improved organizational performance. By setting the path for investments to follow, network infrastructure development helps create the necessary platform for the firm's growth and thus shapes the strategic position of the enterprise through providing quality service deliver to customers. (Anderson et.al. 1994)

Security as an enabling paradigm to the performance of an organization has not succeeded half as well as we might have hoped. Systems are broken or breakable, and users (people) have something of a lack of faith, understanding, or patience with security measures that exist. Whilst secure systems and solutions are the backbone of a working interconnected system of systems, they are not people-oriented, and they are oftentimes arcane enough to have an air of 'security theatre' about them. The increased reliance on the Internet has made information and communication systems more vulnerable to security attacks. Experts must design and implement security solutions to defend against well organized and very sophisticated adversaries such as malicious insiders, cybercriminals, cyberterrorists, industrial spies among others (Zhao, 2003). Therefore, Organizations need to listen to the market and document known issues, to provide quality services, and to issue specifications or guidelines that assist implementers and users in the task of making network

and hence improve organizational performance. Network security offers some numerous recommendations in collaboration with other standard development organization to secure the network infrastructure and associated services and applications in order to address the multiple facets of security by establishing frameworks and architecture. It is also imperative that security be a well-thought process from system inception and design via system implementation to policies and practices for system deployment, operation and use for the better performance of the organization (Zhao, 2003).

Service quality is needed for creating customer satisfaction and service quality is connected to customer perceptions and customer expectations. (Oliver, 1997) argues that service quality can be described as the result from customer comparisons between their expectations about the service they will use and their perceptions about the service company. That means that if the perceptions would be higher than the expectations the service will be considered excellent, if the expectations equal the perceptions the service is considered good and if the expectations are not met the service will be considered bad. (Oliver, 1997) argues that customer satisfaction can be described as a judgment that a product or service feature, or the product or service itself, provides pleasurable consumption. Satisfaction can also be described as a fulfillment response of service and an attitude change as a result of the consumption. (Gibson, 2005) put forward that satisfied customers are likely to become loyal customers and that means that they are also likely to spread positive word of mouth. Understanding which factors that influence customer satisfaction makes it easier to design and deliver service offers that corresponds to the market demands.

In today's dynamic and rapidly changing workplace and globalised economy, development of organizational performance is associated with the development personal performance, skills, knowledge and experience. However, the ability to achieve and maintain high performance and productivity in organizations is a key challenge facing management today. Continuous performance is the objective of any organization because only through performance, organizations are able to grow and progress. Knowing the determinants of organizational performance is important especially in the context of the current economic crises because it enables the identification of those factors that should be treated with an increased interest in order to improve the organizational performance. (Covey, 1989; Covey, 2004; Jones et al., 2000). Establishing network infrastructure and best supporting measures of security ensures that an organization improves its quality of service an in the end improving organizational performance.

Objectives of the study

The main objective of this study was to assess network infrastructure and security and its influence on service quality and organizational performance. The Specific Objectives were: To determine the relationship between Network infrastructure and Organizational performance of iWayAfrica. To establish the relationship between Network infrastructure, Service quality and Organizational performance of iWayAfrica. To assess the relationship between Network infrastructure, Network security, Service Quality and Organizational performance of iWayAfrica. To examine the factor structure of Network infrastructure, Network security, Service Quality and Organizational performance.

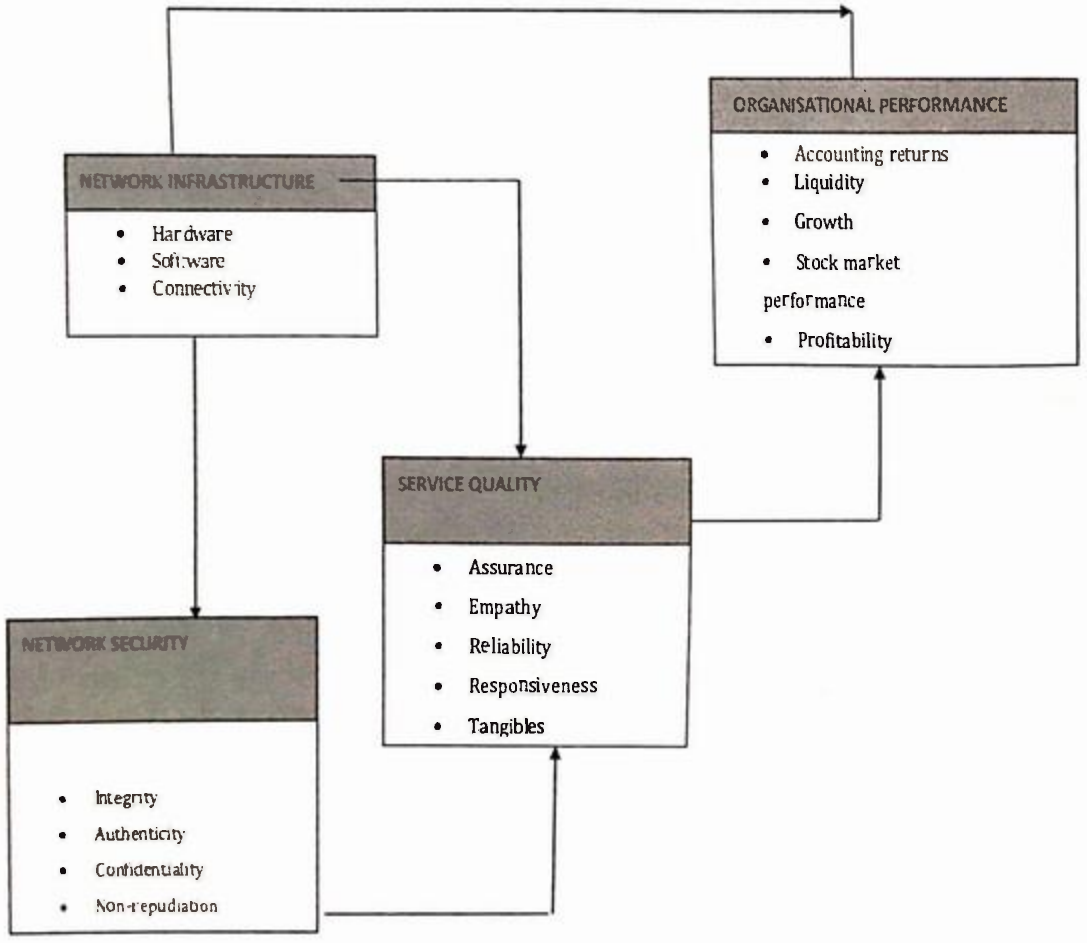

Figure 1. 1: Conceptual framework

The figure 1 above gives the conceptual frame work that guides this study. It depicts four constructs with their relationships and interdependencies. It hypothesizes that network infrastructure affects organizational performance. It also stipulates that network infrastructure affects service quality and organizational performance. The framework goes further to position that network infrastructure affects network security, service quality and organizational performance. The network infrastructure construct was based on Actor Network Theory (ANT)

recognizes that technology and organizations are not distinct actors that pre-exist and influence each other through their relationships. Instead, they are considered as the constitutive elements of these relationships and, at the same time, the output of the same relationships (Broadbent and Weill, 1999).

The security construct was based on the theory of game theory Yi et.al (2010) where the interactions between attackers and network administrator are modeled as a non-cooperative non-zero-sum dynamic game with incomplete information, which considers the uncertainty and the special properties of multi-stage attacks and the ITU_T recommendations framework (Zhao, 2003). Service quality as construct was based on the IT-based Model (Seth & Deshmukh, 2004; Zhu et al., 2002) which emphasizes the role Information Technology plays and the impact it has on service quality. The IT-based service construct used in this model is based on the service-quality construct as measured in SERVQUAL (Parasuraman et al., 1988, 1991). Organizational performance is based on The BSC Model Where "the efficient use of investment capital is no longer the sole determinant for competitive advantages, but increasingly soft factors such as intellectual capital, knowledge creation or excellent customer orientation become more important" (Seyedi et al., 2012, p.19). And the The EFQM Excellence Model (Santos et al., 2007) framework that is used to assess Organizations for the European Quality Award based on "Eight Basic Rules of Excellence".

METHODOLOGY

A descriptive exploratory research designs was used in this study. This research designs were intended to include fact-finding enquiries so as to establish the appropriateness of the framework. This was appropriate mainly because it helped establish the state of affairs, as the phenomena exist (Kothari, 2004).
It was a qualitative research because of its technical nature. The kind of data that was collected was descriptive and qualitative in nature capturing the company's details. The study was carried out from the Information Technology Department in iWayAfrica in Kampala District. The area was purposively selected on the basis of work being conducted there and the information available bearing evidence network infrastructure, security service quality and organizational performance.

The target population was employees working with iWayAfrica using the Network Infrastructure and Security and the top and middle management of iWayAfrica in ICT and other related departments. The target population comprised of 50 operational staff, 45 managerial staff and 100 customers iWayAfrica, all totaling to 195 people. The top and middle management were included because it is the planning body of the institution and others being the implementers. The sample

size of this study was 127 respondents and was selected using Krejcie& Morgan (1970). The study used random sampling where a group of a sample was selected for study from a larger a population. Each individual was chosen randomly and each member of the population had an equal chance of being included in the sample. This provided the researcher opportunity to all accessible persons to reduce on time wastage. Purposive sampling was applied to identify some stakeholders that were involved in the company's decisions undertaken in regard to the company's growth. This was because of the privileged information they have that not any one can provide.

Normality Tests

Data was tested find out whether the data collected via the research instrument (questionnaire) was normally distributed. We used the Kolmogorov-Smirnov and Shapiro-Wilk Tests (Field, 2009). The results of this test are shown in Table 3.1, 3.2, 3.3, 3.4, 3.5 and Table 3.6 using both dependents together and factors levels together.

Tables bellow illustrates Dependents together:

Table 3. 1: Tests of Normality

	Network Infrastructure	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
organisation	3	.344	45	.000	.750	45	.000
al	4	.340	60	.000	.788	60	.000
Performance	5	.350	15	.000	.643	15	.000
	6	.473	5	.001	.552	5	.000

Lilliefors Significance Correction
organisational Performance is constant when Network Infrastructure= 2. It has been omitted.
organisational Performance is constant when Network Infrastructure= 7. It has been omitted.

Table 3. 1: Tests of Normality

	Network Security	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
organisational	2	.530	12	.000	.327	12	.000
Performance	3	.322	73	.000	.789	73	.000
	4	.343	22	.000	.772	22	.000
	5	.286	15	.002	.840	15	.013
	6	.367	5	.026	.684	5	.006

Lilliefors Significance Correction

Table 3. 1: Tests of Normality

	Service Quality	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
organisational Performance	3	.253	3	.	.964	3	.637
	4	.308	68	.000	.848	68	.000
	5	.278	36	.000	.859	36	.000
	6	.213	19	.023	.900	19	.049

Lilliefors Significance Correction
Organisational Performance is constant when Service Quality= 7. It has been omitted.

The following tables illustrate Factor levels together:
Table 3. 2: Tests of Normality

	Network Infrastructure	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
organisational Performance	3	.344	45	.000	.750	45	.000
	4	.340	60	.000	.788	60	.000
	5	.350	15	.000	.643	15	.000
	6	.473	5	.001	.552	5	.000

Lilliefors Significance Correction
organisational Performance is constant when Network Infrastructure= 2. It has been omitted.
organisational Performance is constant when Network Infrastructure= 7. It has been omitted.

Table 3. 3: Tests of Normality

	Network Security	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
organisational Performance	2	.530	12	.000	.327	12	.000
	3	.322	73	.000	.789	73	.000
	4	.343	22	.000	.772	22	.000
	5	.286	15	.002	.840	15	.013
	6	.367	5	.026	.684	5	.006

Lilliefors Significance Correction

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	Service Quality	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
organisational Performance	3	.253	3	.	.964	3	.637
	4	.308	68	.000	.848	68	.000
	5	.278	36	.000	.859	36	.000
	6	.213	19	.023	.900	19	.049

a Lilliefors Significance Correction
b organisational Performance is constant when Service Quality= 7. It has been omitted.

The data was tested to find out whether the data collected via the research instrument (questionnaire) was normally distributed and we used the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) Tests (Field, 2009) to test normality using both dependents together and factor levels together. The findings in Tables 3.1, 3.2, 3.3, 3.4, 3.5, and 3.6 show that the K-S test, D = .344(45), .340(60), .350(15) and .473(5) all at $p < 0.05$ for Organizational Performance with respect with Network Infrastructure and D = .530(12), .322(73), .343(22),.286(15), .367(5) all at $p < 0.05$ for Organisational Performance with respect to were all Network Security significantly non-normal. Similarly, the K-S test, D=.253(3), .308(68), .278(36), .213(19), all at $p < .05$ for Organizational Performance with respect to Service Quality shows that the distribution was non-normal.

Table 3. 1: KMO and Bartlett's Test of Sampling Adequacy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.548
Bartlett's Test of Sphericity	Approx. Chi-Square	228.729
	df	6
	Sig.	.000

The data was tested for sample size adequacy using the Kaiser-Meyer-Olkin (KMO) sample adequacy test. The results of this test which are given in Table 3.7 give a value of KMO as 0.548 and 228.729 as Bartlett's Test of Sphericity using Approx. Chi-Square hence this test showed the sample size was adequate (Hutcheson & Sofronion, 1999).

Reliability and Validity Tests

Validity was measured via construct validity which is measured via convergent validity, discriminate validity, or factorial validity. To ensure validity of the survey instrument, the researcher ensured that the questions asked were in agreement with the research objectives of the study. The following was used for the analysis of the collected data; Independent variables (Network Infrastructure, Security, service quality and organizational performance) was measured using the seven-

point Likert scale; 1: strongly agree 2: moderately agree 3: slightly agree 4: neutral 5: slightly disagree 6: moderately disagree 7: strongly disagree. A pilot test of the survey instrument was conducted and a calculated Cronbach's alpha (Cortina, 1993) was computed for question reliability assessment. The reliability of the research instrument was tested using Cronbach's Alpha coefficient (Cronbach, 1951; Cortina, 1993).

Table 3.8 gives the results from reliability and validity tests. The research instrument measured Network Infrastructure, Security,, service quality and organizational performance each with corresponding attributes/measures. Cronbach's Alpha was used to test for reliability.. As shown in Table 3.8 these values are 0.862, 0.911 , 0.923, 0.944 for Network infrastructure, Security,, Service quality and Organizational Performance respectively.. The overall reliability value of the research instrument was 0.958. These values show that the research instrument was reliable and valid since all the values were above the recommended values in the literature which are; 0.7 and 0.8 (Cronbach, 1951; Cortina, 1993; Straub, 2004).

Table 3. 1: Reliability and Validity Test

Construct	Cronbach's Alpha
Network Infrastructure - Hardware - Software - Connectivity	**.862**
Network Security - Integrity - Authenticity - Confidentiality - Non repudiation	**.911**
Service Quality - Assurance - Empathy - Reliability - Responsiveness - Tangibles	**.923**
Organisational Performance - Accounting returns - Liquidity - Growth - Stock market performance - Profitability	**.944**
Overall Value (Reliability)	**.958**

Relationship between Variables

In the following tables we give the relationship between the different variables which are network infrastructure, security, service quality and organizational performance. Pearson correlation was computed to give the interval nature of the data and the need to test the direction and strength of the relationship between variables.

Table 4. 1: Relationship between variables

Correlations

	1	2	3	4
Network Infrastructure (1)	1			
Network Security (2)	.483(**)	1		
Service Quality (3)	.481(**)	.207(*)	1	
Organisational Performance (4)	.751(**)	.679(**)	.179(*)	1

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

* Correlation is significant at the 0.05 level (2-tailed).

Network Infrastructure and Organizational Performance in iWayAfrica.

The first objective of this study was to determine the relationship between Network Infrastructure and Organisational Performance in iWayAfrica. To achieve this objective, staff and administrators in iWayAfrica were asked to react to several statements (in the questionnaire) intended to describe the status and/or the level of Network Infrastructure and Organisational Performance in iWayAfrica. Network Infrastructure was determined in terms of Hardware, Software and Connectivity. Organisational Performance was determined in terms of Accounting returns, Liquidity, Growth, Stock market, Performance and Profitability The status and/or the level of Network Infrastructure and Organisational Performance was each measured by a 7-point Likert scale using strongly agree, moderately agree, slightly agree, neutral, slightly disagree, moderately disagree and strongly disagree.

To determine the relationship between Network Infrastructure and Organisational Performance, corresponding values were compared. Data on this objective was analyzed under the research question: "What is the relationship between Network Infrastructure and Organisational Performance?" The results are summarized in Table 4.6 above. They show a significant positive relationship between Network Infrastructure and Organisational Performance (r =0.751, P-value <0.01). This means that Network Infrastructure [illegible]

organizational performance improves as well.

Network Infrastructure, Service Quality and Organizational Performance in iWayAfrica.

The second objective of this study was to establish the relationship between Network Infrastructure, Service Quality and Organizational Performance in iWayAfrica. To achieve this objective, customers, and administrators in iWayAfrica were asked to react to several statements (in the questionnaire) intended to describe the status and/or the level of Network Infrastructure, Service Quality and Organizational Performance in iWayAfrica. Network Infrastructure and Organisational Performance were determined in terms of attributes given. Service Quality was determined in terms of Assurance, Empathy, Reliability, Responsiveness and Tangibles. The status and/or the level of Mobile Application Use and Organizational Performance was each measured by a 7-point Likert scale using strongly agree, moderately agree, slightly agree, neutral, slightly disagree, moderately disagree and strongly disagree.

To determine the relationship between Network Infrastructure, Service Quality and Organizational Performance, corresponding values were compared. Data on this objective was analyzed under the research question: "What is the relationship between Network Infrastructure, Service Quality and Organizational performance?" The results are summarized in Table 4.6. They show a significant positive relationship between service quality and organizational Performance ($r = 0.179$, P-value <0.05). This means that, Service Quality positively influences Organizational Performance. When iWayAfrica continuously upgrades its network infrastructure the service quality improves and their Organizational Performance improves as well.

Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica.

The third objective of this study was to assess the relationship between Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica. To achieve this objective, customers, staff and administrators in iWayAfrica were asked to react to several statements (in the questionnaire) intended to describe the status and/or the level of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica. Network Infrastructure and Organisational Performance were determined in terms of attributes gien. Service Quality was determined, network Security was determined in terms of Integrity, Authenticity, Confidentiality, and Non repudiation. The status and/or the level of Network Infrastructure, Security, Service Quality and Organizational Performance was each measured by a 7-point Likert scale using strongly agree, moderately agree, slightly agree,

neutral, slightly disagree, moderately disagree and strongly disagree.

To determine the relationship between Network Infrastructure, Security, Service Quality and Organizational Performance, corresponding values were compared. Data on this objective was analyzed under the research question: "What is the relationship between Network security and Organizational performance?" The results are summarized in Table 4.6 above. They show a significant positive relationship between Network security and Organizational Performance ($r \approx 0.679$, P-value <0.01). This means that Network Infrastructure, Security, Service Quality Influences Organizational Performance. When iWayAfrica improve on their Network Infrastructure, Security, service quality, their Organizational Performance improves as well.

Regression Model

To further confirm the relationships obtained in the relationship analysis using Pearson correlation given in Table 4.6, the researcher carried out regression analysis not only determine the relationships between the variables, but also predict the influence/ effect of one variable from another.

Model Fit for Network Infrastructure and Organisational Performance

The Regression Fit Model analysis results used to determine the degree to which Network Infrastructure Organizational Performance in iWayAfrica are shown.

Table 4. 7: Relationship between Network infrastructure and organizational performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.751(a)	.563	.560	.651	.563	161.256	1	125	.000

a Predictors: (Constant), Network Infrastructure

b Dependent Variable: organisational Performance

Table 4.7 provides the values of Rand R2 for the model that has been derived for network infrastructure and organizational performance for these data R=0.751 and R2=0.563. This value represents a simple correlation between network infrastructure and organizational performance. This finding confirms the finding suggested in Table 4.6 (correlation table). This study therefore established that

network infrastructure affects organizational performance in iWayAfrica. So this means that organizational performance is based on network infrastructure which is sensitive to hardware, software and connectivity. The value of R2 (0.563), shows that network infrastructure accounts for 56.3 % of the variation in organizational performance.

Table 4.8 gives the model parameters (Beta values) and significance of these values which tell us about the individual contribution of the variables in the Fit Model for network infrastructure use and Organizational Performance.

The Regression Fit Model analysis results used to determine the degree to which Network Infrastructure Organizational Performance in iWayAfrica are shown.

Table 4. 1: Model fit for the relationship between Network infrastructure and Organizational performance of IWayAfrica.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.095	.270		.352	.726
	Network Infrastructure	.871	.069	.751	12.699	.000

Dependent Variable: organizational Performance

The value of B = 0.095 means that when I-Way Africa does not use network infrastructure, the model predicts that organizational performance at I-Way Africa will increase by 0.095 units.

Model Fit for Network Infrastructure and Service Quality

Table 4. 2: Relationship between Network infrastructure and Service Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.481(a)	.231	.225	.705	.231	37.617	1	125	.000

Predictors: (Constant), Network Infrastructure

Dependent Variable: Service Quality

Table 4.9 provides the values of R and R2 for the model that has been derived for network infrastructure, Service Quality for these data R=.481 and R2=.231. This value represents a simple correlation between network infrastructure and service quality. This study therefore established that network infrastructure Service Quality Affect Service Quality in I-Way Africa. So this means that

Service Quality is based on network infrastructure and service quality which are sensitive to, empathy, reliability, tangibles and responsiveness. The value of R2 (0.231), shows that network infrastructure, for 23.1% of the variation in service quality.

Table 4.10 gives the model parameters (Beta values) and significance of these values which tell us about the individual contribution of the variables in the Fit Model for Network infrastructure and Service Quality.

Table 4. 1: Model fit for the relationship between Network infrastructure and Service Quality in iWayAfrica.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.829	.293		9.662	.000
	Network Infrastructure	.456	.074	.481	6.133	.000

Dependent Variable: Service Quality

The value of B =2.829 means that when iWayAfrica does not use network infrastructure the model predicts that Service Quality at iWayAfrica will increase by 2.829 units.

Model Fit for Service Quality and Organisational Performance

Table 4. 2: Relationship between Service Quality and Organisational performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.179(a)	.032	.024	.970	.032	4.161	1	125	.043

Predictors: (Constant), Service Quality

Dependent Variable: organisational Performance

Table 4.11 provides the values of R and R2 for the model that has been derived for Service Quality and Organizational Performance, for these data R= .179 and R2= .032 This R value represents a simple correlation between Service Quality and Organizational Performance. This study therefore established that Service Quality Affects Organizational Performance in iWayAfrica. So this means that Organizational Performance is based on Service Quality in iWayAfrica. The value of R2(0.032), shows that Service Quality account for 3.2 % of the variation in Organizational Performance

Table 4.12 gives the model parameters (Beta values) and significance of these values which tell us about the individual contribution of the variables in the Fit Model for Service Quality Organisational performance.

Table 4. 1: Model fit for the relationship between Service Quality and Organisational Performance in iWayAfrica.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.441	.501		4.868	.000
	Service Quality	.220	.108	.179	2.040	.043

Dependent Variable: organizational Performance
The value of B=2.441 means that when iWayAfrica does not use Service Quality the model predicts that Organisational Performance at iWayAfrica will increase by 2.441 units.

Model Fit for Network Infrastructure and Security

Table 4. 2: Relationship between Network Infrastructure and Security

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.483(a)	.233	.227	.840	.233	38.052	1	125	.000

Predictors: (Constant), Network Infrastructure
Dependent Variable: Network Security

Table 4.13 provides the values of R and R2 for the model that has been derived for Network Infrastructure and Security,, for these data R= .483 and R2= .233 This R value represents a simple correlation between Network Infrastructure and Security.. This study therefore established that Network Infrastructure Affects Security in iWayAfrica. So this means that Security is based on Network Infrastructure in iWayAfrica. The value of R2 (0.233), shows that Network Infrastructure account for 23.3% of the variation in Network Security.

Table 4.14 gives the model parameters (Beta values) and significance of these values which tell us about the individual contribution of the variables in the Fit Model for network Infrastructure and Security..

Table 4. 14: Model fit for the relationship between Service Quality and Organisational Performance in iWayAfrica.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.331	.349		3.814	.000
	Network Infirastructure	.546	.089	.483	6.169	.000

Dependent Variable: Network Security

The value of B = 1.331 means that when iWayAfrica does not use Network Infrastructure the model predicts that Network Security at iWayAfrica will increase by 1.331 units.

Model Fit for Network Security and Service Quality

Table 4. 15: Relationship between Network Security and Service Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.207(a)	.043	.035	.787	.043	5.580	1	125	.020

Predictors: (Constant), Network Security

Table 4. 1: Model fit for the relationship between Network Security and Service Quality in iWayAfrica

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.988	.261		15.264	.000
	Network Security	.173	.073	.207	2.362	.020

Dependent Variable: Service Quality

The value of B = 3.988 means that when iWayAfrica does not use Network Security the model predicts that Service Quality at iWayAfrica will increase by 3.988 units.

Model Fit for Network Security and Organisational Performance

Table 4. 2: Relationship between Network Security and Organisational Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.679(a)	.461	.457	.723	.461	107.016	1	125	.000

Predictors: (Constant), Network Security

Dependent Variable: organisational Performance

Table 4.17 above provides the values of R and R2 for the model that has been derived for Network Security and Organisational performance, for these data R= .679 and R2= .461 This R value represents a simple correlation between Network Security and Organisational Performance. This study therefore established that Network Security affects Organisational Performance in iWayAfrica. So this means that Organisational Performance is based on Network Security in iWayAfrica. The value of R2 (0.461), shows that Network Security account for 46.1% of the variation in Organisational Performance.

Table 4.18 gives the model parameters (Beta values) and significance of these values which tell us about the individual contribution of the variables in the Fit Model for Network Security and Organisational Performance.

Table 4. 1: Model fit for the relationship between Network Security and Organisational Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.055	.240		4.393	.000
	Network Security	.697	.067	.679	10.345	.000

Dependent Variable: organisational Performance

The value of B = 1.055 means that when iWayAfrica does not use Network Security the model predicts that Organisational Performance at iWayAfrica will increase by 1.055 units.

Overall Regression Model for all Variables

Table 4. 2: Overall Regression Model for the Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.856(a)	.732	.726	.514	.732	112.039	3	123	.000

Predictors: (Constant), Service Quality, Network Security, Network Infrastructure
Dependent Variable: organisational Performance

Table 4.19 provides the values of R and R2 for the model that has been derived for Network Infrastructure, Security,, Service Quality and Organizational Performance, for these data R= .856 and R2= .732. This R value represents a simple correlation between Network Infrastructure, Security,, Service Quality

and Organizational Performance. This study therefore established that Network Infrastructure, Security, and Service Quality Affect Organizational Performance in iWayAfrica. So this means that Organizational Performance is based on Network Infrastructure, Security, and Service Quality in iWayAfrica. The value of R2 (0.732), shows that Network Infrastructure, Security, and Service Quality account for 73.2% of the variation in Organizational Performance.

Table 4.20 gives the overall model parameters (Beta values) and the significance of these values which tell about the individual contribution of the variables in the Fit Model for Network Infrastructure, Security, Service Quality and Organizational Performance.

Table 4. 1: Overall Model Parameters

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.313	.293		1.067	.288
	Network Infrastructure	.768	.069	.662	11.118	.000
	Network Security	.416	.055	.405	7.603	.000
	Service Quality	-.273	.065	-.223	-4.179	.000

Dependent Variable: organisational Performance

The value of B = .313 means that if iWayAfrica do not use Network Infrastructure, Security and Service Quality, the model predicts that Organizational Performance will increase by 0.313 units.

Factor Structure of Network Infrastructure, Security, Service Quality and Organizational performance.

The forth objective of this research was to examine the factor structure of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica. To achieve this objective, customers, staff and administrators in iWayAfrica were asked to react to several statements (in the questionnaire) intended to describe the status and/or the level of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica. Data on this objective was analyzed under the research question: "What is the factor structure of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica?" To determine this factor structure, this research used factor loadings in order to ensure that variables load into their corresponding factors. The Principal Component Analysis (PCA) was used that is concerned with establishing which linear components exist within the data and how a particular variable might contribute to that component. Principal Component Analysis was preferred to Factor Analysis (FA) during

the extraction of the factors in this research because it is "a psychometrically sound procedure, it is conceptually less complex than factor analysis, and it bears numerous similarities to discriminate analysis" (Field, 2009).

Promax rotation was used for factor rotation and eigenvalues greater than 1.0 were considered during factor extraction. Straub et al. (2004) suggest that the value of each variable in the factor loading should be at least 0.40 into the relative principal component. In this research, factor loadings with values less than 0.5 were suppressed. The researcher also eliminated measures (questions in the questionnaire) that loaded on two or more factors and those without any loading. Although Graham et al. (2003) recommend reporting both the pattern matrix and structure matrix for interpretation of the factors and their loadings, in this research, only the pattern matrix is interpreted due to its simplicity (Field, 2009).

Factor Result Analysis: Network Infrastructure

The table below shows the factor result analysis of Network Infrastructure.

Table 4. 1: Factor Result Analysis: Network Infrastructure

	Hardware	softvvar e	connectivit y
Hardware is a necessary component in network infrastructure.	.915		
Hardware is not necessary for setting up a network infrastructure.	.956		
To set up a network infrastructure organizations need to invest in hardware.	.945		
My organization invests heavily in hardware.	.895		
Software is a necessary component in network infrastructure.		.980	
Software is not a necessary for setting up a network infrastructure.		.974	
To set up a network infrastructure organizations need to invest in software.		.927	
connectivity is not needed in network infrastructure			.999
To set up a network infrastructure organizations need to invest in connectivity.			.999
My organization invests heavily in connectivity.			.610
Eignvalues	5.555	3.496	1.682
Variance percentage	46.292	29.130	14.014
Cumulative percentage	46.292	75.42	89.436

An initial analysis was run to obtain eigenvalues for each component in the data. In Table 4.21 above, three components had eigenvalues over Kaiser's criterion of 1(5.555, 3.496 and 1.682) and in combination explained 89.4% of the variance. A scree plot confirmed the three components shown in Table 4.21 above. Therefore, given the adequate sample size, (KMO = 0.778), the convergence of

the scree plot and Kaiser's criterion on the three components, this is the number of components that were retained in the final analysis. Table 4.21, shows the factor loadings corresponding to the three components or factors. These factor loadings are clustered for each of the factors with respect to the measures, i.e., questions in the questioners. Each cluster of the factor loadings shows that there is an attribute (factor) that measures Network Infrastructure. Therefore, Table 4.21 shows and confirms that Network Infrastructure is measured by *Hardware, Software and Connectivity*

Factor Result Analysis: network security

Table 4. 22: Shows the factor result analysis of network security

	Integrity	Confidentiality	Non repudiation
Integrity is an important component of network security.	.970		
Integrity if not implemented in security can lead to unauthorized modification of data.	.956		
Network security comprises of other components other than integrity.	.987		
Lack of integrity in a network compromises security.	.941		
Confidentiality in network security ensures that data is only disclosed to intended recipient.		.956	
Lack of confidentiality compromises network security.		.952	
Confidentiality is another component of network security.		.952	
Confidentiality is not a necessary measure in network security.		.752	
Non-repudiation in network security verifies that the sender of the message is the only person who could have sent it			.700
Non-repudiation is another component of network security.			.868
Non -repudiation is an important aspect of network security.			.995
Eignvalues	7.238	4.537	2.122
Variance percentage	45.237	28.358	13.266
Cumulative percentage	45.237	73.595	86.860

An initial analysis was run to obtain eigenvalues for each component in the data. In Table 4.22 above, three components had eigenvalues over Kaiser's criterion of 1 (7.238, 4.537 and 2.122) and in combination explained 86.9% of the variance. A scree plot confirmed the three components shown in Table 4.22 above. Therefore, given the adequate sample size, (KMO = 0.778), the convergence of the scree plot and Kaiser's criterion on the three components, this is the number of components that were retained in the final analysis. Table 4.22, shows the factor loadings corresponding to the three components or factors. These factor

loadings are clustered for each of the factors with respect to the measures, i.e., questions in the questioners. Each cluster of the factor loadings shows that there is an attribute (factor) that measures Network Security. Therefore, Table 4.22 shows and confirms that Security is measured by *Integrity, Authenticity and Confidentiality and Non repudiation.*

Factor Result Analysis: Service Quality

Table 4.23 shows the factor result analysis of service quality. The analysis was primarily run to obtain eigenvalues for each component in the data. In Table 4.23, four components had eigenvalues over Kaiser's criterion of 1(9.505,4.679, 1.769, and 1.108) and in combination explained 85.3% of the variance. A scree plot confirmed the four components shown in Table 4.23. Therefore, given the adequate sample size, (KMO = 0.778), the convergence of the scree plot and Kaiser's criterion on the four components, this is the number of components that were retained in the final analysis. Table 4.23, shows the factor loadings corresponding to the four components or factors. These factor loadings are clustered for each of the factors with respect to the measures, i.e., questions in the questioners. Each cluster of the factor loadings shows that there is an attribute (factor) that measures Network Infrastructure. Therefore, Table 4.23 shows and confirms that Service Quality is measured by *Assurance, Empathy, Reliability, Responsiveness and Tangibles.*

Table 4. 23: Factor Result Analysis: Service Quality

	Reliability	Empathy	Tangibles	Assurance
Assurance ensures quality of service.				.948
Assurance ensures that organization/person(s) providing the service are knowledgeable and courtesy and have the ability to inspire confidence and trust in customers.				.761
Quality of service is not as a result of assurance.				.696
Empathy is a necessary component to achieve quality of service.		.923		
My organizational customers are cared for and receive individualized attention.		.922		
Organizations do not to need to provide empathy to customers to achieve quality of service		.898		
Quality of service is due to other factors other than empathy.		.841		
Reliability of an organization ensures quality of service.	.789			
My organizations perform its promised service dependably and accurately to its customers.	.916			
To achieve quality of service organizations need to be reliable to their customers.	.918			
Quality of service is achieved by a combination of factors.			.741	

The appearance of organizational products is satisfactory, the services are clear and understandable, the appearance of employees is professional, and the organizational environment is ever clean.			.917	
The appearance of organizational products is not satisfactory, the services are not clear and understandable, the appearance of employees is not professional, and the organizational environment is not ever clean.			.955	
Eigenvalues	9.505	4.679	1.769	1.108
Variance percentage	47.526	23.393	8.844	5.539
Cumulative percentage	47.526	70.919	79.762	85.301

Factor Result Analysis: Organizational Performance

Table 4. 24: Factor Result Analysis: Organizational Performance

	Growth	Profitability	liquidity	Accountin returns
Accounting returns ensure organizational performance.				.865
Historical financial performance of the organization does not determine future organizational performance.				.836
Organizational performance is due to other factors other than accounting returns.				.725
Organizational performance is caused by other firm's ability to meet its financial obligations based on cash flows generated from its current operations.			.642	
Meeting a firm financial obligation does not lead to organizational performance.			.961	
The organization's finances will increase if a firm maintains its level of liquidity.			.929	
Liquidity maintenance does not lead to organizational performance.			.958	
An Organizational efficiency in utilizing production factors to generate earnings ensures organizations performance.		.945		
To achieve organizational performance firms do not necessarily have to ensure profitability.		.952		
My organization efficiently utilizes production factors.		.940		
Profitable organizations always have organizational performance.		.940		
Achieving organizational performance is a combination of factors.	.895			
Change in organizational size over time is an indicator of organizational performance.	.961			
There are indicators of growth and expansion in my organizations.	.943			
Organizational growth is not an indicator of organizational performance.	.974			
Eign values	10.224	4.348	1.926	1.356
Variance percentage	51.121	21.738	9.630	6.782
Cumulative percentage	51.121	72.860	82.489	89.271

Table 4.24 shows the factor result analysis of Organizational Performance. The analysis was mainly run to obtain eigenvalues for each component in the data. In Table 4.21 above, four components had eigenvalues over Kaiser's criterion of 1 (10.224, 4.348, 1.926, and 1.356) and in combination explained 89.3% of the variance. A scree plot confirmed the four components shown in Table 4.24 above. Therefore, given the adequate sample size, (KMO = 0.778), the convergence of the scree plot and Kaiser's criterion on the four components, this is the number of components that were retained in the final analysis. Table 4.24, shows the factor loadings corresponding to the four components or factors. These factor loadings are clustered for each of the factors with respect to the measures, i.e., questions in the questioners. Each cluster of the factor loadings shows that there is an attribute (factor) that measures Organizational Performance. Therefore, Table 4.24 shows and confirms that Organizational Performance is measured by Accounting returns, Liquidity, Growth, Stock market performance and Profitability..

DISCUSSIONS

Relationship between Network Infrastructure and Organizational Performance in iWayAfrica.

The first objective for this research was to determine the relationship between Network Infrastructure and Organizational Performance in iWayAfrica. Data analysis and interpretation of both the questionnaire and interview responses from the Customers, Administrators and Staff revealed that Network Infrastructure influences Organizational Performance in iWayAfrica. When iWayAfrica use Network Infrastructure, their Organizational Performance improves as well. This finding indicates that Network Infrastructure is a significant factor of Organizational Performance. Therefore, Network Infrastructure should be taken into account when iWayAfrica are seeking ways of determining the Organizational Performance However, it should be noted that the influence of Network Infrastructure on Organizational Performance is a relatively weak one ($r = 0.751$). In other words, if we are trying to explain why Organizational Performance is more pronounced in iWayAfrica than in others. There might be many other factors that can explain the variation in Table 4.7, but the Fit Model above which includes only Network Infrastructure, can explain approximately 56.3 % of it. So this means that 43.7% of the variation in Organizational Performance cannot be explained by Network Infrastructure. Therefore, there must be other factors or variables that have an influence on Organizational Performance.

This finding (Network Infrastructure on Organizational Performance) is in

agreement with the views of Anderson et.al. (1994) who also express the same view about the influence Network Infrastructure on Organizational Performance. Network Infrastructure (Comer, 2009) is the hardware and software resources of an entire network that enable network connectivity, communication, operations and management of an enterprise network. Network Infrastructure provides the communication path and services between users, processes, applications, services and external networks/the Internet. On the other hand, Organizational performance is "is based upon the idea that an organization is the voluntary association of productive assets, including human, physical, and capital resources, for the purpose of achieving a shared purpose (Carton, 2004).

The place of Network Infrastructure especially if looked at from, Hardware, Software, and on Organizational performance (measured by Accounting returns, Liquidity, Growth, Stock market, Performance and Profitability) had long been recognized by Anderson et.al. (1994) that points out that for a firm with growth opportunities, network infrastructure sets the stage and creates the strategic context in which the firm can flourish. Although the nature of network infrastructure development investment depends on the type of business, its defining characteristic is that it generates other investment opportunities and leads improved organizational performance. By setting the path for investments to follow, network infrastructure development helps create the necessary platform for the firm's growth and thus shapes the strategic position of the enterprise through providing quality service deliver to customers.

Relationship between network infrastructure, service Quality and Organizational Performance in iWayAfrica

The second objective for this research was to determine the relationship between Network Infrastructure, Service Quality and Organization Performance in iWayAfrica. Data analysis and interpretation of both the questionnaire and interview responses from the, Administrators and Staff revealed that Network Infrastructure, Service Quality, influences Organization Performance in iWayAfrica. When iWayAfrica use Network Infrastructure, Service Quality, their Organization Performance improves as well. This finding indicates that Network Infrastructure, Service Quality are significant factors of Organization Performance. Therefore, Network Infrastructure, Service Quality should be taken into account when iWayAfrica are seeking ways of determining the quality of their Organization performance. However, it should be noted that the influence of Service Quality on Organization performance is a relatively weak one (r = 0179). Table 4.11 Service Quality and Organization Performance, but the Fit Model above which includes only Service Quality can explain approximately 3.2 % of it. So this means that 96.8% of the variation in Organizational Performance

cannot be explained by Service Quality. Therefore, there must be other factors or variables that have an influence on Organizational Performance.

The influence of Network Infrastructure on Service Quality is a relatively weak one (r = 0.481). Table 4.9 Network Infrastructure and Service Quality, but the Fit Model above which includes only Service Quality can explain approximately 23.1 % of it. So this means that 76.9% of the variation in Service Quality cannot be explained by Network Infrastructure. Therefore, there must be other factors or variables that have an influence on Service Quality. The influence on network infrastructure on organizational performance is explained in 5.2 above.

This finding (effect of the Network Infrastructure, Service Quality on Organization Performance) is in agreement with the views of Akinyelele and Orulneke (2010), Lewis and Mitchell (1994) Cronin, (2003) and Anderson et.al. (1994) who also express the same view about the influence to Network Infrastructure, Service Quality on Organization Performance. Network Infrastructure and Organization Performance as defined in section 5.1 above. Gronroos (1984) defines as: "... the perceived quality of a given service will be the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives he has received, i.e. he puts the perceived service against the expected service. The result of this process will be the perceived quality of the service". The attributes of Network Infrastructure. of as mentioned in section 5.1 above and on Organization Performance (measured by Assurance, Empathy, Reliability, Responsiveness and Tangibles) had long been recognized by Akinyelele and Orulneke (2010) who point out that if organizations are to attain the required levels of their services and/or products, they must have enabling environment for this to occur. Such an environment includes factors such as peoples' perception, attitude, belief and intention to use the Network Infrastructure and Service Quality (Davis, 1986, Davis et al., 1989), especially the perceived ease-of-use, and usefulness of the technology or information system (Network Infrastructure).

Relationship between network Infrastructure, security, Service Quality and Organizational Performance in iWayAfrica

The third objective for this research was to determine the relationship between Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica. Data analysis and interpretation of both the questionnaire and interview responses from the, customers, Administrators and Staff revealed that Network Infrastructure, Security, Service Quality Influences Organizational Performance in iWayAfrica. When iWayAfrica improve on the network Infrastructure, Security and Service quality, performance improves as well.

This finding indicates that Network Infrastructure, Security, Service Quality are a significant factor of Organizational Performance. Therefore, Network Infrastructure, Security, Service Quality should be taken into account when iWayAfrica are seeking ways of determining their performance. However, it should be noted that the influence of Network Security on Organizational Performance is a relatively weak one (r = 0.679). Table 4.17 between Network Security, and Organization Performance, but the Fit Model above which includes only Network Security can explain approximately 46.1% of it. So this means that 53.9% of the variation in Organizational Performance cannot be explained by Network Security. Therefore, there must be other factors or variables that have an influence on Organizational Performance.

The influence of Network Infrastructure on Security is a relatively weak one (r = 0.483). Table 4.13 Network Infrastructure and Security,, but the Fit Model above which includes only Security can explain approximately 23.3 % of it. So this means that 76.7% of the variation in Security cannot be explained by Network Infrastructure. Therefore, there must be other factors or variables that have an influence on Security other than Network Infrastructure. The influence of Network Security on Service Quality is a relatively weak one (r = 0.207). Table 4.15 Network Security and Service Quality,, but the Fit Model above which includes only Service Quality can explain approximately 4.3 % of it. So this means that 95.7% of the variation in Service Quality cannot be explained by Network Security. Therefore, there must be other factors or variables that have an influence on Service Quality other than Network Security.

This finding (effect of Network Infrastructure, Security, Service Quality on Organizational Performance) is in agreement with the views of Akinyelele and Orulneke (2010), Lewis and Mitchell (1994) and Cronin, (2003) Anderson et.al. (1994) Wassim, marine, and jean, (2008) who also express the same view about the influence of Network Infrastructure, Security, Service Quality on Organizational Performance. Network Security Service Quality is defined to any activities designed to protect your network. Specifically,, these activities protect the usability, reliability, integrity, and safety of your network and data (Wassim, marine, and jean, 2008).

Factor Structure of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica

The forth objective of this study was to examine the factor structure of Network Infrastructure, Security, service quality and organizational performance in financial institutions in iWayAfrica. Data Analysis and interpretation of the questionnaire responses from the administrators, staff and customers reveal

the existence of a well-defined structure between these variables.The findings in Table 4.21 reveal a factor structure of Network infrastructure. This structure indicates that Hardware, Software, and Connectivity are significant measures of Network infrastructure as hypothesized in the conceptual framework in Figure 1. These measures must therefore be taken into account while devising strategies or means of how Network infrastructure can be used in iwayAfrica. This finding is in agreement with Broadbent and Weill (1999), Hammer and Champy (1993), Weill and Broadbent (1998).

The findings in Table 4.22 reveal a factor structure of Network Security. This structure indicates that Integrity,, Confidentiality,, and Non repudiation are significant measures of Service Quality as hypothesized in the conceptual framework in Figure 1. These measures must therefore be taken into account while devising strategies or means of how Network Security can be used in iWayAfrica. This finding is in agreement with Aderson (2011) Barkan et.al (2013) and Yi et.al (2010) Integrity, confidentiality,, authenticity and non-repudiation as measures of network security. It should be noted that Network Security in the conceptual model in figure 1 was hypothesized to be measured by four attributes (Integrity,, Authenticity,, Confidentiality,, and Non repudiation). However, the factor structure in Table 4.22 does not include; Authenticity. Absence of this attribute in the factor structure could be due to a number of reasons. The first explanation for this absence is that all the factor loadings were below 0.5 (see section 4.5). However, one plausible explanation for this is improper formulation of the questions in the research instrument to measure this attribute. Another explanation could be existence of reverse (negative) questions that may not have been properly understood by the respondents.

The findings in Table 4.23 reveal a factor structure of Service Quality. This structure indicates that Reliability,, Empathy,, Tangibles and Assurance, are significant measures of Service Quality as hypothesized in the conceptual framework in Figure 1. These measures must therefore be taken into account while devising strategies or means of how Service Quality can be used in iWayAfrica. This finding is in agreement with Mizenur et al., 2011, Iwaarden et al., 2003 and Parasuraman et al., 1988, 1991 who also identified Assurance, Empathy, Reliability,, Responsiveness and Tangibles as measures of Use of Technologies or information systems. It should be noted that Service Quality in the conceptual model in figure 1 was hypothesized to be measured by five attributes (Assurance, Empathy, Reliability Responsiveness and Tangibles). However, the factor structure in Table 4.23 does not include; Responsiveness. Absence of this attribute in the factor structure could be due to a number of reasons. The first explanation for this absence is that all the factor loadings

were below 0.5 (see section 4.5). However, one plausible explanation for this is improper formulation of the questioos in the research instrument to measure this attribute. Another explanation could be existence of reverse (negative) questions that may not have been properly understood by the respondents.

The findings in Table 4.24 reveal a factor structure of Organization Performance. This structure indicates that Growth, Profitability, Liquidity and Accounting returns, as hypothesized in the conceptual framework in Figure 1. These measures must therefore be taken into account while devising strategies or means of how Organisation Performance can be used in iWayAfrica. This finding is in agreement with Hamann et al., (2013), Weygandt, Kimmel and Kieso (2010) Dechow (1994) and Weinzimmer et al (1998). It should be noted that Organisation Performance in the conceptual model in Figure 1 was hypothesized to be measured by five attributes (Accounting returns, Liquidity, Growth, Stock market performance and Profitability). However, the factor structure in Table 4.24 does not include; Stock performance. Absence of this attribute in the factor structure could be due to a number of reasons. The first explanation for this absence is that all the factor loadings were below 0.5 (see section 4.5). However, one plausible explanation for this is improper formulation of the questions in the research instrument to measure this attribute. Another explanation could be existence of reverse (negative) questions that may not have been properly understood by the respondents.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This study investigated the effect of Network Infrastructure and Security on Service Quality and Organizational Performance in iWayAfrica. It was intended to assess the level of Network Infrastructure and Security by iWayAfrica and the impact of Network Infrastructure and Security on service quality and organizational performance. This was in relation to the low level of Network Infrastructure and Security by iWayAfrica and customers and its impact on its performance in terms of accounting returns, liquidity, growth, stock market performance and profitability. The study, specifically, sought to examine the effect of Network Infrastructure on Organizational Performance, how Network Infrastructure and Service Quality Influences Organizational Performance, and how Network Infrastructure, Security and Service Quality Influences Organizational Performance in iWayAfrica. The study further investigated the factor structure of Network Infrastructure, Security, Service Quality and

Organizational Performance in iWayAfrica.

Relationship between Network Infrastructure and Organizational Performance in iWayAfrica.

This study, established how Network Infrastructure affects Organizational Performance in iWayAfrica. As argued therein, these findings indicate that Network Infrastructure is a significant factor when determining the Organizational Performance of iWayAfrica. This means that Network Infrastructure must be taken into account when iWayAfrica administrators as well as staff are assessing the Organizational Performance.

Relationship between Network Infrastructure, Service Quality and Organizational performance in iWayAfrica.

The relationship between Network Infrastructure, Service Quality and Organization Performance was established by this study. This finding indicates that Organization Performance is influenced by Network Infrastructure, Service Quality in iWayAfrica. When iWayAfrica use Network Infrastructure, Service Quality, this finding indicates that their Organization Performance improves as well. Therefore, Network Infrastructure and Service Quality are a significant factor of Organization Performance and should be taken into account when iWayAfrica are seeking ways of determining the quality of their Organization performance.

Relationship between Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica.

This study established that Network Infrastructure, Security and Service Quality Affect Organizational Performance. What these findings indicate, is that Network Infrastructure, Security and Service Quality are significant in determining Organizational Performance. Therefore, Network Infrastructure, Security and Service Quality should be taken into account when iWayAfrica is seeking ways of determining their performance.

Factor Structure of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica.

Factor Structure of Network Infrastructure,

This study has also established and confirmed that Network Infrastructure is measured by the three attributes: Hardware, Software and Connectivity as hypothesized in the conceptual framework in Figure 1. The clusters of factor loadings do confirm strong correlations between these measures and the construct they measure (Network Infrastructure) which were hypothesized to

hold in the conceptual framework.

Factor Structure of Network Security

This study has established and confirmed, that Service Quality is measured by three attributes: Integrity, Confidentiality and Non repudiation which are significant measures of Network Security as hypothesized in the conceptual framework in Figure 1. The clusters of factor loadings do confirm strong correlations between these measures and the construct they measure (Network Security), which were hypothesized to hold in the conceptual framework.

Factor Structure of Service Quality

This study has established and confirmed, that Service Quality is measured by four attributes: Reliability, Empathy, Tangibles and Assurance, which are significant measures of Service Quality as hypothesized in the conceptual framework in Figure 1. The clusters of factor loadings do confirm strong correlations between these measures and the construct they measure (Service Quality), which were hypothesized to hold in the conceptual framework.

Factor Structure of Organizational Performance

This study has established and confirmed that Organizational Performance is measured by: Growth, Profitability, Liquidity, and Accounting returns, as hypothesized in the conceptual framework in Figure 1. The clusters of factor loadings in this table do confirm strong correlations between these measures and the construct they measure (Organizational Performance), which were hypothesized to hold in the conceptual framework.

In view of these findings, the study concludes that if iWayAfrica are to assess and measure their performance, they must examine how Network Infrastructure, Security affects the quality of their services and how stakeholders perceive the quality of the services offered. This means that in light of the findings got, Network Infrastructure and Security positively influences Service Quality and users' perceptions, attitude, and beliefs about the quality of the services and the organizational performance.

Levels of Network Infrastructure and Security in iWayAfrica

Different levels of Network Infrastructure and Security were given. Data analysis, interpretation, and interview and questionnaire responses from the administrators and staff revealed that there is a general awareness about the benefits that accrue from the Network Infrastructure and Security. Additionally, respondents said that they have Network Infrastructure and Security for a number of purposes. However, there is still a low level of Network Infrastructure and Security in iWayAfrica.

RECOMMENDATION

The researcher has argued in this report that Network Infrastruc ture affects Organizational Performance in iWayAfrica, Network Infrastructure, Service Quality affects Organizational Performance, and Network Infrastructure, Security and Service Quality affects Organization Performance.The study has also shown that that if iWayAfrica are to improve on their performance, they must examine how Network Infrastructure and Security affects Service Quality, how it affect organizational performance and how customers perceive the organization's quality of their services and their performance. It is against this background that recommendations below are made. Despite its limitations, this study should be used to guide organizations, especially Internet Service Providers, on how Network Infrastructure and Security affects service quality, how it is perceived by users and how the Internet Service Providers can improve on their performance by continuously upgrading the Network Infrastructure and Security Basing on generalizations on the findings of this study, the researcher recommends the following.

The Relationship between Network Infrastructure and Organizational Performance

This study established a positive relationship between Network Infrastructure and Organizational Performance. In view of this relationship, organizations, in general, and iWay Africa, in particular, should:

- Strive to identify Network Infrastructure technologies which they can use, accept and later adopt if they are to improve on the quality of the services offered and their performance.
- From time to time, analyze the influence of Network Infrastructure so that they can work on the best ways to offer better quality services.
- Strive to look at how Hardware, Software and Connectivity, can measure their Network Infrastructure.
- Ensure that they acquire Network Infrastructures which can help them improve the Organizational Performance and how Accounting returns, Liquidity, Growth, Stock marketing, Performance and Profitability can be used to the assess the Organizational Performance.

The Relationship between Network Infrastructure, Service Quality and Organizational performance

A positive relationship between Network Infrastructure, Service Quality and Organizational Performance was established in this study. Organizations, especially, iWay Africa should, in view of this finding:

- Analyze, from time to time, the influence of their Network infrastructure on the perceptions, attitude, beliefs and intentions of users about the quality of services offered through Network Infrastructure. They should also analyze the

influence and their performance.

- Strive to look at how Assurance, Empathy, Reliability, responsiveness and tangibles can measure their Service Quality.
- Determine how Accounting returns, Liquidity, Growth, Stock market performance and Profitability can be used to measure their organizational performance.

The Relationship between Network Infrastructure, Security, Service Quality and Organizational Performance

This study established a positive relationship between Network Infrastructure, Security, Service Quality and Organizational Performance. This means that when iWayAfrica improves on their Network Infrastructure, Security, service quality, their Organizational Performance improves as well. In view of this relationship, organizations, in general, and iWayAfrica, in particular, should:

- Always assess the quality of their services offered via Network Infrastructure, Security and determine its influence on their performance.
- Strive to look at how Integrity, Authenticity, Confidentiality and Non repudiation, can measure their Network Security.
- Determine how their performance can be improved through acquisition, use and acceptance of Network Infrastructure, Security and how this performance can be assessed via the quality of services offered.
- Acquire Network Infrastructure, Security technologies that can help them offer better services so as to improve their performance.

The Factor Structure of Network Infrastructure, Security, Service Quality and Organizational Performance in iWayAfrica.

This research established factor structures for each of the constructs studied in this study. In view of this, iWayAfrica should:

- Assess how network Infrastructure is influenced by Hardware, Software and Connectivity and their influence on organization performance.
- Assess how Network Security is influenced by Integrity, Authenticity, Confidentiality and Non repudiation and the influence this may have on organizational performance.
- Periodically assess how their service quality is influenced by Assurance, Empathy, Reliability, Responsiveness, Tangibles and the influence this may have on organizational performance.
- From time to time assess their performance using indicators such as: Accounting returns, Liquidity, Growth, Stock market performance and Profitability.

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