**CONDUENT PENSION ADMINISTRATION SYSTEM USER SATISFACTION: A CASE STUDY OF SIGMA PENSIONS LIMITED, ABUJA**

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**(A00016378)**

**UNDER**

**THE GUIDANCE OF: DR. RAJESH PRASAD**



**SCHOOL OF INFORMATION**

**TECHNOLOGY AND COMPUTING**

**AMERICAN UNIVERSITY OF NIGERIA, YOLA, ADAMAWA STATE**

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# CERTIFICATION

This research work entitled “*CPAS User Satisfaction: A Case Study of Sigma Pensions Abuja, Nigeria*” meets the regulations governing the award of Master of Technology from American University of Nigeria, Yola and is approved for its contribution to knowledge and literary presentation. The thesis is a report of my personal research work. It has not been previously submitted anywhere in the world for the award of any degree. All sources, references and literature used or excerpted during elaboration of this work are properly cited and listed in complete reference to the due source.



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# ABSTRACT

User satisfaction is one of the key research area of Information Technology (IT) particularly, Information System (IS). It is recognized by many researchers as a significant factor in determining IS success. In view of it competitive advantage, most business organizations nowadays focus on IS as a means of minimizing cost and maximizing profit. Unfortunately, many are not getting the expected outcomes as agreed in the IS requirements, not because of wrong choice of products and vendors but due to lack of user satisfaction. Therefore, it is imperative to study factors refining user satisfaction of CPAS in Sigma Pensions. This research work titled “CPAS User satisfaction: A Case Study of Sigma Pensions Limited Abuja” investigate relationships between user acceptance test, system, information, and service quality, on user satisfaction of CPAS. The researcher employed a survey approach through questionnaires to unveil factors influencing user satisfaction of CPAS. One hundred questionnaires were administered, and the study discovered that there are statistically significant associations between all constructs. The thesis revealed that CPAS users were fully involved in CPAS user acceptance test in addition to systems, information and service qualities as contained in the theoretical framework. Thus, the researcher concluded that CPAS has satisfied it users and succeed. The Researcher encouraged Management and stakeholders on the need to improve system policy that will guarantee maximum user satisfaction. Training and retraining of users and technical support staff, timely maintenance and upgrade is also advocated for efficient CPAS utilization. Researchers in the field are equally encouraged to further study.

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**CHAPTER ONE** **INTRODUCTION**

This chapter is sectioned as follows. Section 1.1, provided the background of this research work, Section 1.2, gives problem statement, Section 1.3 described research questions while, objectives of the study is explained in Section 1.4. Section 1.5 is hypotheses, Section 1.6 highlighted significance of the study, Section 1.7 deliberated on the scope and limitations of the study.

## Background of the Study

The revolutions of Information Technologies (IT) have changed the way business organizations operate in various industries including financial institutions such as Pension Fund Administrations. Unlike the traditional systems, information can now be managed by a single integrated Oracle database (Miss & Bosede, 2014).

Information Systems (IS) are integrated modules operating together as one, it collects, process, store, and broadcast information to support decision making, coordination, control, analysis, and visualization in an organization (Bourgeois, 2014). The growing use of IT in organizations is not unconnected to income growth, profitability, and corporate performance (Mithas *et al.,* 2012). IT resulted in competitive advantage, decreased cost, better customer services and higher output. Most business entities invest greater than 4.2% of their annual revenue in development of IS applications in order to improve business operations, strategies and tactics (Ibrahim, 2016).

The major aim of any IS is to satisfy its user and improve business processes. IS can only be considered successful if its users' needs are achieved, together with the objectives and goals of the organization (Bokhari, 2005).

User satisfaction as a significant element in IS utilization (Gudigantala, Song & Jones, 2011). It primarily focuses on factors that can identify best result specifically in system requirements. These factors include UAT, System Quality (SQ), Information Quality (IQ), and Service Quality (ServQ).

In the Nigerian pensions industry, one of the important IS software systems is the Conduent Pension Administration System (CPAS). CPAS has been deployed in Sigma Pensions Limited, Abuja, in order to ease business processes through automation. This deployment might have not thrived without user’s involvements. Absence of users’ participations during IS implementation may cause system failure. For example, failure to conduct User Acceptance Test (UAT) can lead users’ dissatisfaction which may paralyze business activities.

CPAS v5, a recent version is a complete enterprise end-to-end solution designed to manage and delivers everything required by administrators and members.

* + 1. It administers defined benefit, defined contribution and hybrid pension plans.
    2. It manages receipt and reconciliation of employer and employee contributions.
    3. It maintains member accounts, historical data and calculates benefits for all life events.
    4. It processes pension payroll and lump-sum benefit payments.
    5. It produces member communications.
    6. It performs interim and annual update and reporting processes.
    7. It can also process payroll and non-recurring disbursement.

The major modules and functions of CPAS are illustrated in Figure 1.1. The figure shows four (4) components of CPAS ERP solution namely: Contribution Processing (CP), Funds accounting (FA), Benefits Administration (BA), and Customer Services. These modules work together as a system. The output from one module forms part of the input for another module thus, helps ease routine tasks of the Sigma Pensions. CP module captures the contributions of members and matches them into their individual Retirement Savings Account (RSA) using unique identity number issued to every member during enrolment by the PenCom referred as RSAPINs. FA module helps keep tracks of investments instruments such as government bonds, securities and money market etc. BA record several types of payments made to members and next of kin who retired, resigned, fired or died. CS registers all inquiries and request made by members and how they were resolved in order to track quality of service rendered to members. It allowed members to log into their accounts and view activities online. Users can also generate all forms of reports needed for management decision makings.

BA

CS

FA

**CPAS**

CP

*Figure 1.1:* Main Functions and Modules of CPAS

*Source:* CPAS Inc., 2017.

Contribution Processing

Customers Service

Funds Accounting

Benefits Administration

## Problem Statement

The frequent failure of an IS to satisfy its users is generating anxiety, and loss of revenues among corporate organizations. Most business organizations in the 21st century focus on IS as a means of minimizing cost and maximizing profit. Unfortunately, many are not getting the expected outcomes as agreed in the IS requirements, not because of wrong choice of products and vendors but due to lack of user satisfaction (Ibrahim, 2016).

Many organizations nowadays discovered that the best way to guarantee full system utilization is budgeting huge amount of money in the implementation phase, so that the investment made is worth the effort (Dastgir & Mortezaie, 2012).

Bates *et al.* (2016) reported that Users’ attitude remained a significant barrier in system utilization. Users are the major players of a successful system implementation. So, it is critical that user opinion is considered while refining systems in order to remains pertinent to business management. For instance, business activities require precise, steady, and timely data. As in most cases, users update customers data into the system; thus, it is vital that the users use system that is user-friendly to simplify perfect data entry and processing. When users input wrong data, the incorrect data can meaningfully influence business success. Consequently, operational incompetence as a result of poor data quality in business applications can also lead to brand damage, customer frustration, and poorest earnings. The Management should also note that the reliability and accuracy of data are the key problems in performing business activities. Therefore, it is imperative to study users’ satisfaction of CPAS (Bates *et al.*, 2016).

## Research Questions

* + 1. What are the factors effecting CPAS user satisfaction?
    2. What are the influence of user acceptance test, system, information and service quality to CPAS user satisfaction?

## Aim and Objectives of the Study

The major aim of this research is to investigate the factors affecting the user satisfaction of CPAS in Sigma Pensions with the following objectives:

* + 1. To explore factors influencing CPAS user satisfaction in Sigma Pensions Limited, Abuja.
    2. To determine how systems User Acceptance Test, system, information and service quality affect CPAS user satisfaction.

## Significance of the Study

Providing excellent products and services to customers remained a serious priority of all business organizations worldwide. User satisfaction of CPAS is also a primary concern of the Sigma Pensions Management. When users input wrong data into the CPAS, the incorrect data can significantly influence the business strategies. Consequently, operational incompetence as a result of poor data quality can lead to brand damage, customer frustration, and low return on investment (Bates *et al.*, 2016).

Therefore, the ability of this study to address all factors influencing CPAS user satisfaction can resolve CPAS downtime and enhance business turnover. This idea, if implemented, will create a smarter way of delivering quality products and services. Hence, it is imperative to keep businesses and stakeholders well-informed on best way to satisfy users of its system.

The outcomes of this research work might assist businesses, researchers and other establishments in maintaining steady business operations.

## Scope and Limitations of the Study

The project is limited by the amount of information reviewed in the related literatures. It also relied on the honesty of the peer scholars and subjects’ responses of administered questionnaires. Hence, the validity of this study is limited to the reliability of the research instruments used.

## Thesis Structure

This thesis is structured into five chapters and preliminary pages. The preliminary pages comprise of: cover page, title page, certification, abstract, acknowledgement; table of contents, list of tables and list of figures.

Chapter one- Introduction includes: Background of the study, Problem statement, Research questions, Objectives of the study, Significance of the study, Scope and limitations of the study, and thesis structure.

Chapter two - Literature review contains: Basic terminologies, Historical development of pension fund in Nigeria, Review of related literature and Conceptual frameworks.

Chapter three - Methodology involve: Introduction; Data collection instruments, Populations of the study, Validity and reliability, data analysis & interpretation, and Summary.

Chapter four - Results and Discussion is made up of: Introduction, Demographics characteristics, Reliability test, regression analysis and Research Contribution to Body of knowledge.

Chapter five – Summary and Conclusion consist of: Summary and Conclusion. Lastly, the thesis roundup with references and appendices.

**CHAPTER TWO** **LITERATURE REVIEW**

This chapter is segmented as follows. Section 2.1, explained the basic terminologies of this research work, Section 2.2, accounts for Historical Development of Pension Fund in Nigeria, Section 2.3 reviewed related literature; while, conceptual framework of the study is explained in Section 2.4.

## Basic Terminologies

The basic terms used in contexts of this study are defined below:

### Information Technology (IT)

The term “Information Technology," also pronounced as IT, according to techterms.com “refers to anything related to computing technology, such as networking, hardware, software, the Internet, or the people that work with these technologies”. It made up of three basic components: computational data processing, decision support, and business software (Mitchell, 2017). It is “set of tools, processes, and methodologies (such as coding/programming, data communications, data conversion, storage and retrieval, systems analysis and design, systems control) and associated equipment employed to collect, process, and present information. In broad terms, IT also includes office automation, multimedia, and telecommunications” ([http://www.businessdictionary.com](http://www.businessdictionary.com/),

2017).

### Information System (IS)

This refers to “interrelated components working together to collect, process, store, and disseminate information to support decision making, coordination, control, analysis, and visualization in an organization” (Bourgeois, 2014). It is a group of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination, and decision making in an organization ([http://www.businessdictionary.com](http://www.businessdictionary.com/)). The primary aim of Information System is to

collects data, processes it into information then converts information into knowledge for a specific purpose.

### Conduent Pension Administration System (CPAS)

This is pension administration software designed to collect and store information necessary for the administration of pension benefits for the members of Sigma Pensions customers. The system provides functionality for tracking member contribution balances, calculating member benefits, and disbursing contribution refunds, death benefits, and pension payments. The system stores demographic information, beneficiary designations, contribution and interest amounts, benefit calculations, active employee payroll information limited to pension related data, and records of disbursements of funds. Its current version is CPAS v5 (cpas.com, 2017).

### User

A user is a person who software program or hardware device is intended for. The term is based on the idea that the *end goal* of a software or hardware product is to be useful to the consumer. The end user is different from the developers or programmers of the product. End users are also in a distinct group from the installers or administrators of the product. User is simply the person who uses the software or hardware after it has been fully developed, marketed, and installed. It is also the person who keeps calling the *IT guy* with questions about why the product isn't working correctly. Generally, the terms *user* and *end user* mean the same thing (Christensson, 2006). In this contest, user refers to the Sigma Pensions staffs that use CPAS and for his/her daily responsibilities.

### User Satisfaction

User satisfaction is the extent to which the system in question improves performance (Bergersen, 2004). It is referring to the user's comfort and acceptability of a computer application during the consumption of the content and the interaction with the system (Konradt & Nerdinger, 2016).

### User Acceptance Testing

User Acceptance Testing (UAT) is a stage of system development where application software is tested in the *real-world environment* by the target users. UAT may be carried out in-house by testing the functions of the software or, by realizing trial version of the software for downloading over the internet. The experiences of the first users are sent back to the developers to make final modifications before releasing the commercial version of the software (Rouse, 2016).

### System Quality (SQ)

System Quality is a desired feature of an IS which centers on its usefulness and productivity (Briz-Ponce, Juanes-Mendez & García-Peñalvo, 2016). SQ includes user- friendliness, flexibility of the system, reliability of the system, and easy to learn, together with system sophistication, system intuitiveness, and system response times (Peter, DeLone & McLean, 2008).

### Information Quality (IQ)

This refers to the ability of the IS to be accurate, reliable and up-to-date information that is fundamental for decision making. It is referred as ‘*fitness for use*’ and depend on various elements like correctness, relevance, comprehensiveness, timeliness, consistency, or interpretability. IQ is the desired characteristics of the system efficiencies; such as

management reports and web pages. For example: relevance, understandability, accuracy, conciseness, completeness, understandability, currency, timeliness, and usability (DeLone & McLean 2003).

### Service Quality (ServQ)

Service quality refers to the technical support rendered to users by IT support staffs. The quality of service is measured in relations to reliability, responsiveness, technical competence, accuracy, and empathy of the IT staff (DeLone & McLean 2003).

### Use/ Intentions to Use

Use/intentions to use are determined by system, information and service quality. System use is assumed to influence a user satisfaction with the IS, which, in turn, is speculated to affect usage intentions. User satisfaction and system use directly affects the net benefits that the system is able to deliver (DeLone & McLean 2003).

### Net Benefits

The net benefits are impacts an IS deliver to it users, work group, organization, industry or nation. Net benefits are influenced by use and user satisfaction. It is theorized to effect both user satisfaction and a user’s intentions to use the system (DeLone & McLean 2003).

## Historical Development of Pension Fund in Nigeria

The history of pension in the world was traced to the credit of a socialist and former German Chancellor Otto Von Bismarck who enacted a mandatory savings scheme for workers in big firms in 1889 (Njuguna, 2010). A pension fund is an investment product into which scheme members pay contributions in order to build up a lump sum to provide an income in retirement (Wall, 2014). It is also viewed as a pooled-contributions set up by employers, unions, or other organizations to provide for the employees' or members' retirement benefits. The pension funds are the major investment blocks in most countries.

In Nigeria, the historical development of pension scheme is drawn to the colonial era in the 20th century when workers in private and public sectors were organized (Barrow, 2008). The initial pension law in Nigeria refers to the Pension Ordinance of 1951, was re retroactive to January 1, 1946. The Ordinance gave complete pension rights to the

colonial rulers and limited right to the will of the colonial Governor-General of Nigerian workforces in the public service (Odia and Okoye, 2012). This ordinance transmuted into the Pension Act of 1958 (Barrow, 2008).

The first pension’s scheme to addressed pension matters of private organizations was the National Provident Fund (NPF). The scheme was established in 1961 (Sule, Umogbai & Emerole, 2011). Eighteen (18) years after the Pension Act Number 102 of 1979 was established together with the Armed Forces Pension Act Number 103 of 1961 (Barrow, 2008).

Likewise, the pension plan for the police and other Government MDAs were ordained under Pension Act Number 75 of 1987, it was accompanied by the Local Government Pension Decree which crowned into the creation of the Local Government Staff Pension Board of 1987. The defunct NPF scheme was replaced with the National Social Insurance Trust Fund (NSITF) scheme in 1st July 1994. The aim is to provide pension for workers in the private sector income in the event of dismissal, old age, medical condition or death (Sule *et al*., 2011).

Nevertheless, some government guidelines were given to amend some provisions and enforcement. For example, the 60 years of birth or 35 years of service compulsory retirement anyone comes first was issued in 1988, in 1992, the time to qualify for pensions and gratuities were shorten from 15 years to 10 years and from 10 years to 5 years respectively (Barrow, 2008). In 1997, MDAs were given the opportunity to arrange separate pension for their staff. Boards of Trustees (BOT) were also appointed to oversee affairs of pension plans as stated in a Standard Trust Deed and Rules prepared by the

Office of the Head of Service of the Federation. Each BOT has the freedom to decide on whether to maintain an insured scheme or self-administered arrangement (Barrow, 2008).

Interestingly, there were three regulators in the pension industry. They include; the Securities and Exchange Commission (SEC), the National Insurance Commission (NAICOM) and the Joint Tax Board (JTB). The SEC remains the commission that licenses pension fund managers while the NAICOM is still the agency responsible for licensing and regulating insurance companies in the country. The JTB is saddled with the responsibilities of approving and monitoring all private pension arrangements with vested powers from Schedule 3 of the Personal Income Tax Decree 104 of 1993 (Ekpulu & Bingilar, 2016).

Just like the private pension scheme, a Defined Benefit (pay-as-you-go) Scheme was also operated by most public organizations prior the passing of PRA 2004. Last titles were conditioned upon the duration of service and terminal benefits. Federal Government funded the Defined Benefit (DB) plan through budgetary allocation. The DB plan was also overseen by the Office of Head of Service of the Federation, Pensions Department (Isah, 2015).

After multiple legislative changes, the PRA of 2004 brought into limelight the new pension scheme in Nigeria called Contributory Pension Scheme (CPS). Unlike the old scheme (defined benefits scheme), that has statutory provision for public sector employees only. The CPS made it mandatory for employers and employees in both the public and private sectors to contribute towards the retirement benefits of employees (Modibbo & Mahdi, 2016).

The current pension regime has been designed to maximize the potential of the Contributory Pension Scheme, making provision for the establishment of the National Pension Commission and establishing guidelines for the activities of key players (Pension Fund Administration (PFA) who manage the pension fund, Pension Fund Custodian (PFC) who keeps the pension on behalf of PFA and National Pension Commission (PenCom) who administer, supervise and regulate all pension matters in Nigeria) within the Pension Industry.

Notably, CPS was aimed at providing the solution to the problems related to the traditional Pension System. It’s meant to redefine the mandate of the Fund to accommodate not only pension but also the provision of Social Security Insurances services. It also created a Pension Scheme that is universal for government and private sectors respectively. The social security insurances services received statutory backing from the mandate given by section 71(2) of the PRA to NSITF when the Employee Compensation Act of 2010 was signed into law in December 2010 by the assent of the then President Good Luck E. Jonathan, GCFR (Andabai & Egoro, 2017).

Essentially, ten years (10) later the PRA 2004 was further reviewed and passed into law in July 2014 to secure pension fund assets and industry growth. In August 2013, another agency of the Federal Government known as Pension Transitional Arrangement Directorate (PTAD) was also established in compliance with the provisions of Section 30 sub-section (2) (a) of the Pension Reform Act (PRA) of 2004 (amended in 2014) which stipulated the establishment of an independent pension department for the Public Service of the Federation. However, the PenCom continue to govern and regulate the

administration of the uniform Contributory Pension Scheme for both the Public and Private Sectors in Nigeria (PTAD, 2017).

* 1. ***Pension Fund Administration (PFA) Manager***

According to Liberte Software (2009), PFA Manager is one of the most advanced and integrated PFA solutions designed for PFA administration market since June 2005. The software was deployed in Sigma Pensions Limited early 2006 and replaced in 2012 with CPAS due to many shortcomings. The application has the following functions:

1. Scan member application form
2. Proofread, register and edit member personal details
3. Track benefits payments and reports
4. Maintain support services and call logs
5. Keep accounting system
6. Register investment and members contributions
   * 1. **Limitations of PFA Manager**

The software is not browser-based, and was retracted due to the followings limitations:

* + - 1. Ability to be accessible anytime, anywhere, via a PC with an Internet connection, putting the user in charge of where and when they access the application.
      2. Ability to incorporate modern design schemes such as colors
      3. Capability to integrate pension data into a single oracle database.
      4. Easier sharing of data between different computer systems
      5. Securing connections and very easy to backup, and upgrade
      6. Calculate benefits for all types of pension plans; for all optional forms of payment; and for past, present, or future dates.
      7. Track communications activities
      8. Run on-demand calculations for individual employees, or schedule large batch runs for later processing.

## Review of Related Literature

Information System helps organizations enhance all processes and achieve strategic goals. Its utilization is not only about deployment of robust software; but success by the efforts of all the stakeholders of an organization particularly the users. Successful utilization is far from selection of right products and vendors; it is towards the utilization factors of the system. How much users are satisfied with the system is one of the key factors used to evaluate the performance of the system. User involvement in system development leads to increased user information satisfaction and increased system usage (Baroudi, Olson & Ives, 1986).

Mahmood *et al*., (2000), concluded that greater levels of user satisfaction come from greater user participation in system development. User involvement leads to the design of systems with perceived usefulness. It will also influence expectations and skills, and leads to the development of systems which are easier to use. They consider user training as an important factor to user satisfaction. The standard for measurement of user satisfaction is content, accuracy, format, ease of use and timeliness (Doll & Torkzadeh, 1988).

User satisfaction has been generally accepted as a measure for IS success. It is considered as an alternative scale of system efficiency. Bergersen, (2004), believed that a satisfied user is more productive. It was further proved that user satisfaction is a complex variable

in IS and has affected factors like user participation, users’ expectations, hardware and procedural components of a work environment, and provision of the needed support and human factors.

Calisir & Calisir (2004) discovered that perceived usefulness has an effective factor of user satisfaction. They were convinced that users can be satisfied with IS if they are confident that using it will increase their performance and productivity.

Doll *et al*. (2004) illustrated that the meaning of user satisfaction within a population is not the same in each subgroup. They concluded that content, accuracy, format, ease of use, and timeliness are factors related to user satisfaction, and emphasis on scaling of factors across various group.

Good system, information, and service quality, and use of the system give higher user satisfaction (Dwivedi *et al*. 2013). User satisfaction at basic level measures information quality, system quality and service quality. At a more abstract level it measures user satisfaction with key aspects (information, system, and service) of IS as proposed by DeLone and McLean (2003). At the most abstract level the model measures users’ overall satisfaction with IS (Vaezi, 2013).

Critical factors for assessment of IS success include; system quality, information quality, service quality and technological and infrastructural issue (Miss & Bosede, 2014)

Scales recognized for measurement of user satisfaction include information content, ease of use, convenience of access, timeliness, efficiency, security, confidentiality, communication, and layout (Sugianto & Tojib, 2015). Previous studies considered system quality, information quality and usefulness as major determinants of system user

satisfaction. However, the current trend increasingly depends on more than one dimension and focused on user involvement, communication and training (Jalil, Zaouia & El Bouanani, 2015). Perceived processing, content, and usability have significant positive and direct effects on user's satisfaction which also has direct positive impact on individual performance (Sharabati, Sulaiman & Salleh, (2015).

The most effective factors that directly influence users' satisfaction are service quality and technical support; while system quality and information quality were indirectly through trust (Abdulla *et al*., 2016). System quality, information quality, and service quality are significantly positive influence, both directly and indirectly on the organization (Hadji & Degoulet, 2016).

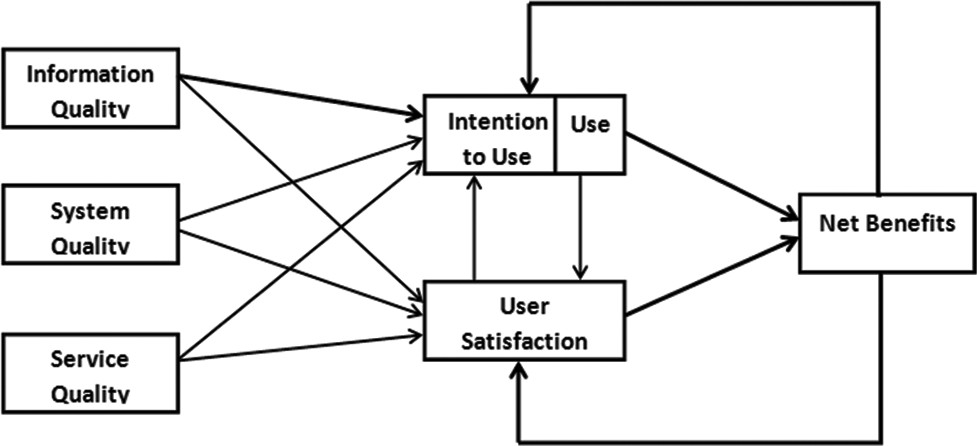
The user satisfaction trending data report for the second quarter of 2016 released by MD Buyline to its member organizations, measured system performance using: system reliability, installation and implementation, application training, service response time, and service repair quality as a direct users’ feedback. The report served as a guide to company for critical decision-making in budgeting, planning, selecting and acquiring medical equipment and technology (Mdbuyline.com, 2017).

## Theoretical Framework

The DeLone and McLean IS success model is an IS concept which try to deliver an all- inclusive understanding of IS success by detecting, unfolding, and clarifying the associations amongst six of the most important measurements of IS success in accordance with the way ISs are universally evaluated. Originally the development of the theory was carry out by DeLone and McLean (1992), and was further polished by the original

authors ten years after in reaction to criticism established by other scholars operating in the field. The IS success model has been cited in thousands of scientific papers, and is considered to be one of the most powerful theories in modern IS research.

The updated model consists of six interrelated dimensions of IS success: system, information and service quality, intention to use/use, user satisfaction, and net benefits. The arrows establish anticipated associations between the success dimensions. The model is interpreted as follows: A system can be assessed in terms of information, system, and service quality; these features affect the subsequent use or intention to use and user satisfaction. As a result of using the system, certain benefits will be attained. The net benefits will (positively or negatively) influence user satisfaction and the further use of the information system in Figure 2.1



*Figure 2.1:* Theoretical Framework of the study. (*Source*: DeLone & McLean, 2003).

* 1. *Conceptual Framework*

This study adapted DeLone & McLean updated Information system success model of 2003 and come up with four hypotheses. The model was the most generally accepted model for measuring the IS success. Unlike TAM that focus on the willingness of the user towards accepting Information technology or UTUAT which focus on acceptance and usage (Manchanda & Mukherjee, 2015). The conceptual framework is shown in Figure 2.2.

Service Quality

Information Quality

User Satisfaction

User Acceptance

System Quality

H1

H2

H3

H4

*Figure 2.2* The adapted conceptual model study *Source:* DeLone & McLean, 2003

**CHAPTER THREE** **METHODOLOGY**

The chapter is split as follows. Sections 3.1 introduce the chapter, Data Collection Instruments are described in section 3.2, Population of the Study is explained in section 3.3, the section have four subsections; 3.3.1 Sampling Technique and Sample Frame,

3.3.2 Informed Consent, 3.3.3 Confidentiality, and 3.3.4 Geographic Location, section

3.4 give details of Validity and Reliability, Data Analysis and Interpretation is in 3.5 with Hypotheses in 3.5.1, while 3.6 Summarize the chapter.

## Introduction

This thesis employed a survey method for data gathering. Survey is considered to be a best method for measuring relationships, among IS scholars in 1990s and 2000s (King & He, 2005). Similarly, survey are preferred techniques for IS scholars studying user satisfaction (Wixom & Todd, 2005). Questionnaires offer a stress-free technique of data gathering. Moreover, generally, unlike other methods, questionnaire’s outcomes hold a stronger external validity (Straub, 1989).

The study used deductive approach. Deductive approach permits Researchers to formulate hypotheses using existing theories, collect data and experiment the hypotheses, and evaluate if the collected data affirm the hypotheses or not (Blackstone, 2012).

## Data Collection Instruments

The survey instrument used was developed using the patterned of DeLone and McLean updated IS success model of 2003. Set of questions were then put together from validated questionnaire (shown in Appendix I) to represent each construct, and paraphrase to fit the context of the study. All questions were weighed on a 5-point, Likert scale ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). A 5-point Likert-type scale was generally recognized by scholars as it reduced the frustration level of respondents and increase response rate and response quality (Sachdev, & Verma, 2004). Questionnaires were then self- administered by hand to One Hundred (100) respondents (population of the study) at the Corporate Headquarters of Sigma Pensions Limited, Abuja.

## Population of the Study

The population of this study is precisely defined as the employees of Sigma Pensions Limited corporate headquarters Abuja who utilizes CPAS. It comprises of a total of One Hundred (100) made up of both male and female staff.

### Sampling Technique and Sample Frame

The questionnaires were self-administered to 100 employees representing 100% of the populations. This is possible since the researcher know the total number of the population. It will also help in getting deeper understandings of the phenomenon and minimize the danger of omitting possible insights from participants that are not incorporated. It will provide opportunity likely to make systematic generalizations on the studied population.

### Informed Consent

A letter of introduction was obtained from the school of Postgraduate Studies American University of Nigeria, Yola Adamawa State; introducing the researcher and seeking the management’s consent on the use of the Company and the information needed. This letter was taken to the Executives and was accepted by the Management before questionnaires were administered.

### Confidentiality

The questionnaire carries a statement that convinced the respondents of the confidentiality of the information provided by them which served as an oath of secrecy to the researcher. All information given by them would only be used for the academic purpose only.

### Geographic Location

The corporate headquarters of Sigma Pensions Limited (RC 606338) is located at 29 Durban Street, Wuse 2, Abuja, Nigeria (Longitude:70N and Latitude: 90 N) with branches all over the 36 state capitals of the federation and FCT. The PFA was incorporated in August 2004, with the single objective of carrying out the business of Pension Fund Administration in Nigeria. It is regulated by the National Pension Commission (PenCom) (PRA 2014 as amended).

## Validity and Reliability

The researcher used questionnaires as an instrument for quantitative data collection in line with DeLone & McLean updated IS success model of 2003. The tool processes, and data are appropriate for the study. The research questions are valid for the anticipated result, the selection of the methodology is suitable for solving the research questions and hypotheses, the design is reliable for the methodology, the sample and data analysis is apt, and the outcomes and conclusions are pertinent to the context of the study. These were conducted on the Sigma Pensions staff. While trying not to influence respondents and avoid biasness, hence the instruments used were valid and reliable.

### Validity

The researcher used a questionnaire based on the pattern of the theoretical framework and modified it to suit the study context. The method allows respondents to confidently provide answers to the questions without any shy. The answers given by the respondents were analysed by the researcher to ensure the validity and the accuracy of the data.

### Reliability

The methods employed in conducting this research were reliable. For example, the questionnaire was structured in manners that provide respondents with clear understanding. The results of the instruments of the study that measure statistics reliability test for each variables of the construct were further tested using the Cronbach alpha scale. The Cronbach Alpha coefficient values were 0.53, 0.83, 0.80 and 0.84, for UAT, SQ, IQ and ServQ respectively. Hence, the instruments were reliable and accurate for which other researchers can rely on for further studies.

## Data Analysis and Interpretation

The researcher analysed the primary data collected using descriptive and inferential statistics. The descriptive design was used for analysis because the data fit the methods and are very easy to understand than other methods. The inferential statistics (multiple regressions) was used to examine the connection between all variables and user satisfaction of CPAS. Microsoft excel 2016 application software was used in the statistical analysis.

### Hypotheses

The hypotheses are derived from the theoretical framework of the study in Chapter two adapted from DeLone and McLean IS success model. The model comprises of six interconnected dimensions of IS success. This include; system, information and service quality, use/intention to use, and user satisfaction and net benefits. The arrows establish anticipated relationship between the success dimensions. The theory is explained as follows: A system can be evaluated in relations to user acceptance test, system, information and service quality; these qualities influence the later use or user satisfaction. As a result of utilizing the system, certain comfort will be achieved. The benefits will (positively or negatively) impact user satisfaction and the further use of the system.

In order to test the proposed conceptual model on user satisfaction base on the features stated, the null hypothesis and alternative hypotheses have been articulated as follows:

* + - 1. The use of User Acceptance Test (UAT) helps to determine user satisfaction of CPAS.

*H10:* User Acceptance Test (UAT) has positive impact on satisfaction of CPAS.

*H11:* User Acceptance Test (UAT) has negative impact on satisfaction of CPAS.

* + - 1. The System Quality (SQ) helps to determine user satisfaction of CPAS.

*H20:* The System Quality (SQ) has positive impact on satisfaction of CPAS.

*H21:* The System Quality (SQ) has negative impact on satisfaction of CPAS.

* + - 1. The Information Quality (IQ) helps to determine user satisfaction of CPAS.

*H30:* The Information Quality (IQ) has positive impact on satisfaction of CPAS.

*H31:* The Information Quality (IQ) has negative impact on satisfaction of CPAS.

* + - 1. The Service Quality (ServQ) helps to determine user satisfaction of CPAS. *H40:* Service Quality (ServQ) has positive impact on satisfaction of CPAS. *H41:* Service Quality (ServQ) has negative impact on satisfaction of CPAS.

## Summary

This chapter described the materials and methods used for the data collections. The researcher quantitatively collected and analysed the data retrieved from the questionnaires. One Hundred (100) questionnaires which represent 100% of the total population were administered to One Hundred (100) respondents. These data were summarised and analysed using descriptive design of data analysis. The study population consisted of both male and female gender of age 20-50. Microsoft excel was used to carry out the analysis. The reliability of the instruments was measured using Cronbach’s Alpha scale and the hypotheses tested in order to have an unbiased inference.

**CHAPTER FOUR** **RESULTS AND DISCUSSION**

## Introduction

The purpose of this chapter is to report, in sufficient details the outcomes of the statistical data analysis and depict them on table. This study investigates factors affecting user satisfaction of CPAS in Sigma Pensions Limited Abuja Nigeria. The study also aimed to survey how UAT, SQ, IQ, and ServQ influence the CPAS user satisfaction. The research work intends to enlighten business managers the importance of these constructs on the user satisfaction. The research work also plans to unveil the best way to achieve user satisfaction of CPAS.

The data used for the research work were gathered using questionnaire. The questionnaire was structured in a user-friendly manner to make it more convenient for respondents to respond to the closed-ended questions that was designed to capture research questions of the study. Questionnaires were then distributed to staff of the Sigma Pensions Limited HQs Abuja.

All data collected and analysed were extracted from the questionnaires retrieved from the company’s employees. The statistical tools used for data analysis include: Microsoft Excel, ANOVA multiple regression, descriptive and inferential statistic. These statistical tools were carefully chosen because the data fit of the methods of analyses and are very easy to understand than other methods.

The researcher examined the data gathered from questionnaires and portrayed them in tables for easy understanding. The summary of the results was discussed in brief beneath the table, follows with an interpretation of the results. Analysis of the data in this chapter is being organized according to fundamental research questions raised and hypotheses.

## Demographics Characteristics

The demographic characteristics of respondents namely; gender, age, designation, as well as frequency of login are presented in Tables 4.1 to 4.4.

Table 4.1 *Demographics Characteristics of CPAS User by Gender*

|  |  |
| --- | --- |
| Gender | % |
| Male | 46 |
| Female | 54 |
| Total | 100 |

Table 4.1 above revealed that male genders that participated in the surveys are 46% while 54% are female.

Table 4.2 *Demographics Characteristics of CPAS Users by Age*

|  |  |
| --- | --- |
| Age | % |
| 20 – 30 years | 31 |
| 31 – 40 years | 59 |
| 41 – 50 years | 10 |
| Total | 100 |

The Tables 4.2 above shown that majority of the respondents is between the ages of 31 – 40 years. Other respondents are 20 – 30years (31%) 41 – 50 years (10%).

Table 4.3 *Demographics Characteristics of CPAS Users by Designation*

|  |  |
| --- | --- |
| Designation | **%** |
| Assistant Vice President | 5 |
| Senior Associate | 5 |
| Associate | 6 |
| Senior Analyst | 10 |
| Analyst 2 | 19 |
| Analyst 1 | 51 |
| Corps member | 4 |
| Total | 100 |

Table 4.3 above indicated that the percentages of respondents’ designations ranging from 51%, 19%, 10%, 6%, 5%, 5% and 4% for Analyst 1, Analyst 2, Senior Analyst, Associate, Senior Associate, Assistant Vice president and Corps Members respectively.

Table 4.4 *CPAS Users Demographics Characteristics by frequency of login*

|  |  |
| --- | --- |
| Frequency of login CPAS | % |
| Daily | 84 |
| Weekly | 10 |
| Monthly | 6 |
| Total | 100 |

The above Table 4.4 shows that most of respondents’ representing 84% logged into CPAS on daily basis while, only 10% and 6% of respondents logged in on weekly and monthly respectively.

## Reliability Test

The influence (Hypothesis) of UAT, SQ, IQ, and ServQ, on CPAS user satisfaction was evaluated (Test) using multiple regression analysis for functional forms (linear, exponential, semi-log and double- log, Table 4.5).

Table 4.5 *Reliability Test*

|  |  |  |
| --- | --- | --- |
| Variables | Cronbach's Alpha | No. of Items |
| User Acceptance Test (UAT) | .529 | 3 |
| System Quality (SQ) | .830 | 5 |
| Information Quality (IQ) | .797 | 4 |
| Service Quality (ServQ) | .843 | 3 |

From Table 4.5 the Cronbach’s Alpha shows that there is a strong relationship between the variables; System, Information and Service Quality are having more than 0.7 values; thus, they are reliable compare to User Acceptance Test with 0.52 values. It shows that all variables are reliable and can be reused apart from User Acceptance Test for User Satisfaction.

## Regression Analysis

The outcomes of the multiple regressions analysis run in the Microsoft Excel for hypothesis testing were presented and explained beneath Table 4.6 – 4.15 as follows:

Table 4.6 *User Satisfaction and User Acceptance Test: First Attempt*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | | |
| Multiple R |  | 0.586568918 | |  |  |  |
| R Square |  | 0.344063096 | |  |  |  |
| Adjusted R Square | | 0.323565067 | |  |  |  |
| Standard Error |  | 0.363163503 | |  |  |  |
| Observations |  |  | 100 |  |  |  |
| ANOVA |  |  |  |  |  |  |
|  | *DF* |  | *SS* | *MS* | *F* | *Sig. F* |
| Regression | 3 |  | 6.641277906 | 2.213759 | 2.213759 | 7.62713E-09 |
| Residual | 96 |  | 12.66122209 | 0.131888 |  |  |
| Total | 99 |  | 19.3025 |  |  |  |
|  |  |  |  |  |  |  |
|  | *Coefficients* |  | *Standard Error* | *t Stat* | *P-value* |  |
| Intercept | 2.118772143 | | 0.298153857 | 7.106305 | 2.1E-10 |  |
| UAT1 | 0.17702924 |  | 0.05288037 | 3.347731 | 0.001165 |  |
| UAT2 | 0.154273841 | | 0.047794063 | 3.227887 | 0.001707 |  |
| UAT3 | 0.146093788 | | 0.057660355 | 2.533696 | 0.012906 |  |

From the above Table 4.6, one can conclude that:

The value of Significance F = 7.63 × 10−9 is lower than 𝛼 = 0.05. It indicates existence of a significance connection between independent variables UAT1, UAT2, UAT3, and the dependent variable user satisfaction.

* + 1. The value of R-Square is 0.344063096; indicating that about 34% of the model is complete.
    2. From the P-value, all variables are useful. Thus, no variable is removed.
    3. The number of positive t stat-value overcome the number of negative value, hence null hypothesis is accepted.

Table 4.7 *Influence of System Quality on CPAS User Satisfaction: First Attempt*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | |
| Multiple R | 0.693688 |  |  |  |  |
| R Square | 0.481203 |  |  |  |  |
| Adjusted R  Square | 0.453607 |  |  |  |  |
| Standard Error | 0.326394 |  |  |  |  |
| Observations | 100 |  |  |  |  |
| ANOVA | |  |  |  |  |
|  | *DF* | *SS* | *MS* | *F* | *Sig. F* |
| Regression |  |  |  |  |  |
|  | 5 | 9.288420003 | 1.857684 | 17.43767736 | 3.5E-12 |
| Residual | 94 | 10.01408 | 0.106533 |  |  |
| Total | 99 | 19.3025 |  |  |  |
|  |  |  |  |  |  |
|  | *Coefficients* | *Standard Err.* | *t –Stat.* | *P-value* |  |
| Intercept | 1.934155 | 0.249043205 | 7.766342 | 9.84249E-12 |  |
| SQ1 | 0.169602 | 0.059435618 | 2.853545 | 0.0053179 |  |
| SQ2 | 0.034294 | 0.073680732 | 0.465441 | 0.642692486 |  |
| SQ3 | 0.243729 | 0.057276296 | 4.255329 | 4.93457E-05 |  |
| SQ4 | -0.00487 | 0.0489333 | -0.09943 | 0.921008424 |  |
| SQ5 | 0.089642 | 0.070732337 | 1.267346 | 0.208162129 |  |

From Table 4.7, one can conclude that:

1. The value of Significance F = 3.5 × 10−12 is lower than 𝛼 = 0.05. It indicates presence of a significance association between independent variables SQ1, SQ2, SQ3, SQ4, SQ5 and the dependent variable user satisfaction.
2. The R-Square value is 0.481203; indicating that about 48% of the model is complete
3. The P-values of SQ4 is 0.921008424; showing that there are 92% chances that the variable is useless, hence, SQ4 is removed from the first attempt.

Table 4.8 *Influence of System Quality on CPAS User Satisfaction: Second Attempt*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | |
| Multiple R | 0.693649 |  |  |  |  |
| R Square | 0.481148 |  |  |  |  |
| Adjusted R Square | 0.459302 |  |  |  |  |
| Standard Error | 0.324688 |  |  |  |  |
| Observations | 100 |  |  |  |  |
| ANOVA |  |  |  |  |  |
|  | *DF* | *SS* | *MS* | *F* | *Sig. F* |
| Regression | 4 | 9.287367 | 2.321842 | 22.02417 | 6.95E-13 |
| Residual | 95 | 10.01513 | 0.105422 |  |  |
| Total | 99 | 19.3025 |  |  |  |
|  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t –Stat.* | *P-value* |  |
| Intercept | 1.936175 | 0.246916 | 7.841424 | 6.49E-12 |  |
| SQ1 | 0.16891 | 0.058718 | 2.876638 | 0.004963 |  |
| SQ2 | 0.034374 | 0.073291 | 0.469007 | 0.640139 |  |
| SQ3 | 0.242696 | 0.056032 | 4.331417 | 3.67E-05 |  |
| SQ5 | 0.086253 | 0.061653 | 1.399012 | 0.165066 |  |

From Table 4.8, one can conclude that:

1. The value of Significance F = 6.9 × 10−13 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between independent variables SQ1, SQ2, SQ3, SQ5 and dependent variable User Satisfaction.
2. The R-Square value is 0.481148; indicating that about 48% of the model is complete.
3. The P-values of SQ2 is 0.640139; showing that there are 64% chances that the variable is useless hence, SQ2 is removed from the second attempt.

Table 4.9 *Influence of System Quality on CPAS User Satisfaction: Third Attempt*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | | | | |
| Multiple R |  | 0.692782 | |  |  |  |  |  |
| R Square |  | 0.479947 | |  |  |  |  |  |
| Adjusted R  Square |  | 0.463695 | |  |  |  |  |  |
| Standard Error | | 0.323366 | |  |  |  |  |  |
| Observations |  |  | 100 |  |  |  |  |  |
| ANOVA |  |  |  |  |  |  |  |  |
|  |  |  | *Df* | *SS* |  | *MS* | *F* | *Sig. F* |
| Regression |  |  |  |  |  |  |  |  |
|  |  |  | 3 | 9.264177 | | 3.088059 | 29.53219 | 1.29E-13 |
| Residual |  |  | 96 | 10.03832 | | 0.104566 |  |  |
| Total |  |  | 99 | 19.3025 | |  |  |  |
| *Coefficients* | | | *Standard Error* | | *t Stat* | *P-value* |  |  |
| Intercept | 1.952887 | | 0.243337 | | 8.025451 | 2.51E-12 |  |  |
| SQ1 | 0.176549 | | 0.056184 | | 3.142348 | 0.002229 |  |  |
| SQ3 | 0.256849 | | 0.047019 | | 5.462623 | 3.69E-07 |  |  |
| SQ5 | 0.095018 | | 0.058513 | | 1.623863 | 0.107684 |  |  |

From Table 4.9, one can conclude that:

The value of Significance F = 1.29 × 10−13 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between independent variables SQ1, SQ3, SQ5 and dependent variable user Satisfaction.

1. The R-Square value is 0.479947, indicating that about 48% of the model is complete
2. The P-values of SQ5 is 0.107684; showing that there are 11% chances that the variable is useless, hence, SQ5 is removed from the third attempt.

Table 4.10 *Influence of System Quality on CPAS User Satisfaction: Forth Attempt*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | |
| Multiple R | 0.682394 |  |  |  |  |
| R Square | 0.465662 |  |  |  |  |
| Adjusted R  Square | 0.454645 |  |  |  |  |
| Standard Error | 0.326084 |  |  |  |  |
| Observations | 100 |  |  |  |  |
| ANOVA | |  |  |  |  |
|  | *Df* | *SS* | *MS* | *F* | *Sig. F* |
| Regression | 2 | 8.988444 | 4.494222 | 42.26655 | 6.35E-14 |
| Residual | 97 | 10.31406 | 0.10633 |  |  |
| Total | 99 | 19.3025 |  |  |  |
|  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t -Stat* | *P-value* |  |
| Intercept | 1.988033 | 0.244409 | 8.134046 | 1.39E-12 |  |
| SQ1 | 0.224761 | 0.048099 | 4.672846 | 9.58E-06 |  |
| SQ3 | 0.288381 | 0.043182 | 6.678218 | 1.52E-09 |  |

From Table 4.10, one can conclude that:

The value of Significance F = 6.35 × 10−14 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between independent variables SQ1, SQ3, and dependent variable user satisfaction.

1. The R-Square value is 0.465662, indicate that about 47% of the model is complete
2. The numbers of positive t-stat value overcome the number of negative value hence, null hypothesis is accepted.

Table 4.11 *Influence of Information Quality on CPAS User Satisfaction: First Attempt*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | |
| Multiple R | 0.769557 |  |  |  |  |
| R Square | 0.592219 |  |  |  |  |
| Adjusted R  Square | 0.575049 |  |  |  |  |
| Standard  Error | 0.287845 |  |  |  |  |
| Observations | 100 |  |  |  |  |
| ANOVA |  |  |  |  |  |
|  | *DF* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 4 | 11.4313 | 2.857825 | 34.492 | 9.11E-18 |
| Residual | 95 | 7.8712 | 0.082855 |  |  |
| Total | 99 | 19.3025 |  |  |  |
|  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |  |
| Intercept | 1.576557 | 0.304768 | 5.17297 | 1.28E-06 |  |
| IQ1 | 0.292656 | 0.056736 | 5.158211 | 1.36E-06 |  |
| IQ2 | 0.159961 | 0.061607 | 2.596463 | 0.010915 |  |
| IQ3 | 0.173153 | 0.075514 | 2.292997 | 0.024054 |  |
| IQ4 | -0.0216 | 0.066929 | -0.32272 | 0.747615 |  |

From Table 4.11, one can conclude that:

The value of Significance F = 9.11 × 10−18 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between independent variables IQ1, IQ2, IQ3, IQ4 and dependent variable user satisfaction.

1. The R-Square value is 0.592219, indicating that about 59% of the model is complete
2. The P-values of IQ4 is 0.747615; showing that there are 75% chances that the variable is useless, hence, IQ4 is removed from the first attempt.

Table 4.12 *Influence of Information Quality on CPAS User Satisfaction: Second Attempt*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | |
| Multiple R | 0.769267 |  |  |  |  |
| R Square | 0.591772 |  |  |  |  |
| Adjusted R  Square | 0.579014 |  |  |  |  |
| Standard  Error | 0.286499 |  |  |  |  |
| Observations | 100 |  |  |  |  |
| ANOVA | |  |  |  |  |
|  | *DF* | *SS* | *MS* | *F* | *Sig. F* |
| Regression | 3 | 11.42267 | 3.807557 | 46.38749 | 1.28E-18 |
| Residual | 96 | 7.879829 | 0.082082 |  |  |
| Total | 99 | 19.3025 |  |  |  |
|  |  |  |  |  |  |
|  | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |  |
| Intercept | 1.516608 | 0.240482 | 6.306523 | 8.71E-09 |  |
| IQ1 | 0.287367 | 0.054063 | 5.315386 | 6.91E-07 |  |
| IQ2 | 0.159471 | 0.0613 | 2.601463 | 0.010751 |  |
| IQ3 | 0.169662 | 0.074386 | 2.280847 | 0.024768 |  |

From Table 4.12, one can conclude that:

1. The value of Significance F = 1.28 × 10−18 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between independent variables IQ1, IQ2, IQ3 and dependent variable user satisfaction.
2. The R-Square value is 0.591772, indicating that about 59% of the model is complete
3. All variables are ok now.
4. And interpreted that the numbers of positive t stat-value overcome the number of negative value hence, null hypothesis is accepted.

Table 4.13 *Influence of Service Quality on CPAS User Satisfaction: First Attempt*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | |
| Multiple R | 0.706861406 |  |  |  |  |
| R Square | 0.499653047 |  |  |  |  |
| Adjusted R  Square | 0.484017205 |  |  |  |  |
| Standard  Error | 0.31718073 |  |  |  |  |
| Observations | 100 |  |  |  |  |
| ANOVA |  |  |  |  |  |
|  | *Df* | *SS* | *MS* | *F* | *Sig. F* |
| Regression | 3 | 9.644553 | 3.214851 | 31.95562 | 2.07E-14 |
| Residual | 96 | 9.657947 | 0.100604 |  |  |
| Total | 99 | 19.3025 |  |  |  |
|  | *Coefficients* | *Standard Error* | *t –Stat* | *P-value* |  |
| Intercept | 2.710407376 | 0.154457 | 17.548 | 1.03E-31 |  |
| ServQ1 | 0.29512963 | 0.047775 | 6.17749 | 1.57E-08 |  |
| ServQ2 | 0.12126707 | 0.06041 | 2.007408 | 0.047517 |  |
| ServQ3 | 0.041476419 | 0.047306 | -0.87678 | 0.382797 |  |

From Table 4.13, one can conclude that:

* 1. The value of Significance F = 2.07 × 10−14 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between independent variables ServQ1, ServQ2, ServQ3 and dependent variable user satisfaction.
  2. The R-Square value is 0.499653047, indicating that about 50% of the model is complete
  3. The P-values of ServQ3 is 0.382797 showing that there are 38% chances that the variable is useless; hence, ServQ3 is removed from the first attempt.

Table 4.14 *Influence of Service Quality on CPAS User Satisfaction: Second Attempt*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Regression Statistics* | | | | | | | |
| Multiple R |  | 0.704022 | |  |  |  |  |
| R Square |  | 0.495646 | |  |  |  |  |
| Adjusted R  Square |  | 0.485247 | |  |  |  |  |
| Standard Error | | 0.316802 | |  |  |  |  |
| Observations |  |  | 100 |  |  |  |  |
| ANOVA |  |  |  |  |  |  |  |
|  |  |  | *DF* | *SS* | *MS* | *F* | *Sig. F* |
| Regression |  |  | 2 | 9.567215 | 4.783608 | 47.6627 | 3.83E-15 |
| Residual |  |  | 97 | 9.735285 | 0.100364 |  |  |
| Total |  |  | 99 | 19.3025 |  |  |  |
| *Coefficients* | | | *Standard*  *Error* | *t Stat* | *P-value* |  |  |
| Intercept | 2.704442 | | 0.154123 | 17.54732 | 7.36E-32 |  |  |
| ServQ1 | 0.283871 | | 0.045962 | 6.176192 | 1.54E-08 |  |  |
| ServQ2 | 0.093485 | | 0.051371 | 1.819794 | 0.071875 |  |  |

From Table 4.14, one can conclude that:

* + 1. The value of Significance F = 3.83 × 10−15 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between Independent Variables ServQ1, ServQ2, and Dependent Variable User Satisfaction.
    2. The R-Square value is 0.495646, indicating that about 50% of the model is complete
    3. The P-values of ServQ2 is 0.071875; showing that there are 7% chances that the variable is useless, hence, ServQ2 is removed from the second attempt.

Table 4.15 *Influence of Service Quality on CPAS User Satisfaction: Third Attempt*

*Regression Statistics*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Multiple R 0.691684 |  | | | |
| R Square 0.478427  Adjusted R  Square 0.473105 |
| Standard Error 0.320517 |
| Observations 100 |
| ANOVA |
| *DF* | *SS* | *MS* | *F* | *Sig. F* |
| Regression 1 | 9.234846 | 9.234846 | 89.89332 | 1.62E-15 |
| Residual 98 | 10.06765 | 0.102731 |  |  |
| Total 99 | 19.3025 |  |  |  |
| *Standard*  *Coefficients Error* | *t Stat* | *P-value* |  |  |
| Intercept 2.818148 0.142541 | 19.77079 | 5.65E-36 | |  |
| ServQ1 0.337654 0.035613 | 9.481209 | 1.62E-15 | |  |

From Table 4.15, one can conclude that:

1. The value of Significance F. = 1.62 × 10−15 is lower than 𝛼 = 0.05; It indicates presence of a significance relationship between Independent Variable ServQ1, and Dependent Variable User Satisfaction.
2. The R-Square value is 0.478427, indicating that about 48% of the model is complete
3. All variables are ok now.
4. The number of positive t stat value overcome the number of negative value hence, null hypothesis is accepted.

## Research Contribution to Body of Knowledge

On the basis of the result obtained from this study, the researcher wishes to proffer the following Contributions:

1. Management should be proactive through training and retraining of users and service staff, timely maintenance and upgrade of the CPAS
2. There is a need to continuously improve the performance of CPAS to enhance users’ satisfaction and guarantee the success of CPAS.
3. The Researchers in the field should further study in order to find more ways of improving systems user satisfaction.

# CHAPTER FIVE

# SUMMARY AND CONCLUSION

## 5.1 Summary

The test of how user acceptance test effects the user satisfaction of CPAS was conducted and depicted Table 4.6. The results demonstrate the value of Significance F =

7.63 × 10−9 is lower than 𝛼 = 0.05. These illustrate that user acceptance test significantly affect user satisfaction of CPAS. The construct is evaluated by user participation, user training and user acceptance. The result is in line with the one obtained by Jalil, Zaouia & El Bouanani, (2015) which found that the current trend of user satisfaction increasingly depends on more than one dimension and focused on user involvement, communication and training. The study also aligned to the conclusion reached by Baroudi, Olson & Ives, (1986) that user participation in IS development leads to better user information satisfaction and better system use.

Table 4.10 which is the 4th attempt; show the result of how system quality affects user satisfaction of CPAS. In the table 4.10, the researcher noticed that the value of Significance F = 6.35 × 10−14 is lower than 𝛼 = 0.05; after first, second and third attempt as presented in Table 4.7, 4.8 and 4.9 respectively. The result found that the relationships between this variable and user satisfaction are statistically significant. This further pointed out that an improved system quality would improve user satisfaction as advocated by (DeLone & McLean, 2003). The principle that leads commons belief of any standard IS stresses that systems should be flexible and easy to

utilize even to a trainee. Also, an average system is expected to be reliable, response faster in information processing, and do all functionalities it is designed to offer.

Table 4.12 revealed that there is statistically significant link between information quality and user satisfaction as the value of Significance F = 1.2 × 10−18 is lower than 𝛼 = 0.05**;** after first attempt in table 4.11**.** It is observed that a major effect of information quality on user satisfaction of CPAS gauged in relation to timeliness, accuracy, relevance and security of the information. These features trigger the view of users and form measures for judging system’s comprehensiveness and effectiveness. This result confirms the significance of this variable on user satisfaction of CPAS. The associations between information quality and user satisfaction was maintained in literature (Sugianto & Tojib, 2015).

Table 4.15 showed that the influence of service quality on user satisfaction is very significant as per as the value of Significance F = 1.62 × 10−15 is lower than 𝛼 = 0.05**;** after first and second attempt tabulated in table 4.3 and 4.14 respectively. These indicate that service quality contributes immensely to the user satisfaction of CPAS. This further explained that service quality resulting effect on user satisfaction is average. It is assessed based on quick response to complaints, technical competency and reliability of IT support staff. The performance of IT support staffs in responding to users’ complaint and problems originating from system malfunctions. The prompt feedback of service personnel helps resolve issues users are facing. IT support employees are also required to be technical competence and reliable in order to solve complex system attributes. The result is in rapport with (Abdulla *et al*., 2016) who observed that the most effective factors that directly influence user satisfaction are service quality and technical support.

## Conclusion

* + 1. The researcher concluded that the benefits of the investment in the CPAS were evaluated against users’ valuation of the CPAS qualities viz; user acceptance test, system, information and service quality.
    2. All study hypotheses were accepted, showing significance positive associations among the variables dimensions and user satisfaction of the CPAS.
    3. There is a need to continuously improve the performance of CPAS to enhance users’ satisfaction and guarantee further success of CPAS.
    4. All the CPAS qualities are statistically significance for forecasting user satisfaction. Hence, CPAS has satisfied it users and succeed. The system, information and service qualities are consistent, and users were involved in user acceptance test. These outcomes indicate the need for the Management of the Sigma Pensions Limited to be proactive through training and retraining of service staff, timely maintenance and upgrade of the CPAS.

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# APPENDICES

#### QUESTIONNAIRE

School of Graduate Studies American University of Nigeria 98, Lamido Zubairu Way

Yola Township bypass PMB 2250, Yola

Adamawa State, Nigeria

Dear Respondent,

**CPAS User Satisfaction**

I am Maijandawa, Rabiu Isa a Masters Student of the above-named institution. I am carrying out a research on the **CPAS User Satisfaction** and Sigma Pensions Ltd Abuja is chosen for the study. Kindly assist me in answering the questions that follow; your respond will be held in confidential and will be used for academic purpose only.

Please tick as applicable.



**SECTION ONE**

**Demographics**

* + - 1. **Gender**

Male Female

* + - 1. Age

20 – 30 years 31 – 40 years

41 – 50 years 51– 60yrs

* + - 1. **Designation**

Senior Vice President Vice president

Assistant Vice President Senior Associate

Associate Senior Analyst

Analyst 2 Analyst 1

Ancillary staff Corps member

* + - 1. **How often do you visit CPAS?**

Daily Weekly Monthly

**SECTION TWO**

Indicate the degree to which you agree or disagree with the following statement

1. Strongly Disagree (SD)
2. Disagree (SD)
3. Neither Agree nor Disagree (NAD)
4. Agree (A)
5. Strongly Agree (SA)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **LIKERT ITEMS** | **SA** | **A** | **NAD** | **D** | **SD** |
| **User Acceptance Test (UAT)** |  |  |  |  |  |
| Users are involved in CPAS UAT |  |  |  |  |  |
| I am well trained on how to use CPAS |  |  |  |  |  |
| User acceptance is a key to user satisfaction |  |  |  |  |  |
| **System Quality** |  |  |  |  |  |
| CPAS is easy to use |  |  |  |  |  |
| I am satisfied with the speed of the CPAS |  |  |  |  |  |
| I am satisfied with how quickly CPAS loads pages and images |  |  |  |  |  |
| The CPAS user interface is up to global standard |  |  |  |  |  |
| CPAS is always available |  |  |  |  |  |
| **Information Quality** |  |  |  |  |  |
| I am satisfied with the speed of the CPAS |  |  |  |  |  |
| I am satisfied with how quickly CPAS loads pages |  |  |  |  |  |
| CPAS is always reliable |  |  |  |  |  |
| I am satisfied with the security CPAS |  |  |  |  |  |
| **Service Quality** |  |  |  |  |  |
| The IT support staff are technically competent |  |  |  |  |  |
| The IT support staff are fast in attending to complaint |  |  |  |  |  |
| The IT support staff are very reliable |  |  |  |  |  |
| **User satisfaction** |  |  |  |  |  |
| I am satisfied with overall UAT |  |  |  |  |  |
| I am satisfied with overall System Quality |  |  |  |  |  |
| I am satisfied with overall Information Quality |  |  |  |  |  |
| I am satisfied with overall Service Quality |  |  |  |  |  |
| Overall: Are you satisfied with CPAS |  |  |  |  |  |