UNIVERSITY OF CAPE COAST

STAKEHOLDERS' SATISFACTION OF THE COMPUTERIZED SCHOOL SELECTION AND PLACEMENT SYSTEM IN GHANA: THE CASE OF MFANTSEMAN MUNICIPALITY

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BY

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Dissertation submitted to the Department of Mathematics, Science and ICT, of the College of Distance Education, University of Cape Coast in partial fulfilment of the requirements for the award of Master of Education degree in Information Technology

JUNE 2020

DECLARATION

Candidate's Declaration

I have declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature …… Date ……

Name: ……

Supervisor's Declaration

I have declared that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature …….. Date ……..

Name: ……

ABSTRACT

The study sought to investigate stakeholders' satisfaction of the Computerized School Selection and Placement system (CSSPS), with regard to information quality, system quality, service quality, technological issues and IT self-efficacy, prior, during and after the opening of the system as against the manual way of selection and placement in the Mfantseman Municipal in the Central region of Ghana. A sample size of 526 respondents made up of 496 students, 23 basic school headteachers, four SHS assistant headmasters, one exams officer and two ICT coordinators was used for the study. Both the purposive and the simple random sampling were used. Questionnaire was employed as the research instrument to collect data for the study. A reliability test using the internal consistency method was carried out. The Cronbach alpha reliability statistics value of 0.93 and 0.86 were obtained for both students' questionnaire and head teachers questionnaire respectively. The data were analyzed using descriptive statistics (frequencies, mean, standard deviations, variance) and the Pearson's product-moment correlations. It was found that stakeholders perceived the selection and placement processes were easier and faster for both candidates and their parents as compared to the manual way. Also, stakeholders were satisfied that the less privileged candidates get placement without paying any amount of money to any of the SHS heads for admission. ICT self-efficacy and technological issues were good before the opening of the system but information quality was bad. During the opening of the system, information quality was good while service quality was not encouraging. The CSSPS Secretariat should upgrade their system so that when more people are accessing the site, the system would not slow down or freeze.

KEY WORDS

Computer and Selection

Computerized

Computerized School Selection and Placement (CSSPS)

Database

Digital Transformation

Digitization

Placement

Selection

Self-placement

Technology

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DEDICATION

To my lovely son Malvin Miracle Blantari.

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LIST OF ACRONYMS

BECE	Basic Education Certificate Examination
CoHBS	Conference of Heads of Basic Schools
CSSPS	Computerized School Selection and Placement System
CV	Criterion Value
GES	Ghana Education Service
GNAT	Ghana National Association of Teachers
GTV	Ghana Television
MoE	Ministry of Education
NAGRAT	National Association of Graduate Teachers
PTA	Parents Teachers Association
PRO	Public Relation Officer
SHS	Senior High School
SPSS	Statistical Package for the Social Sciences
TI	Technical Institute
TSE	Technological Self-Efficacy
TVI	Technical and Vocational Institute
UEW	University of Education, Winneba

CHAPTER ONE

INTRODUCTION

Background to the Study

Technology has become so important in today's world because its numerous functions in many important aspects of modern society, like education, communication, business and scientific progress. Technology is considered to be extremely important in education and business because it provides faster and more efficient methods of getting a job done (David, 2013). In recent times, every nation strives to get the latest technology for the benefits of its citizens. According to Hopper (2018), technological progress is vital in the fields of business, education, as well as health care. We achieve a lot with the help of technology, for example we have the possibility to travel, keep in touch with friends on the other side of the earth and cure many illnesses (Gluck, 2012). The technology we create now creates the future and it should be for the people and make things easier and not more complicated (Gluck, 2012).

Digitalization is described as the conversion of analogue information into binary number of either 0 or 1: digital digits (Collin et al., 2015). Digital transformation concerns the global accelerated process of technical adaptation by individuals, businesses, societies and nations, which come as a result of digitization (Collins et al., 2015; Tapscott, 1996a; Westerman et al., 2014). Digital transformation is not just about technology – it is about people. It reframes how organizations apply current and future technologies effectively to make processes more efficient, and make individuals more productive both personally and professionally. Swanson and Howard (2018), also explains digital transformation as the integration of digital technology into all areas of a

business, fundamentally changing how you operate and deliver value to customers. It is also a cultural change that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure.

Since the introduction of technology, the way things are done has changed for good. Technology has the ability to do a whole lot of things, for example, the use of artificial intelligence, cloud computing, machine learning, predictive analytics and business intelligence tools, mobile applications, robots serving at restaurants, and so on. There are online schools where information can be saved and knowledge are quick and flexible (Vijay, 2017). Kudos to Charles Babbage for inventing computers; Ada, Jacquard, Konrad, Alan, Vincent and others for their contributions which have helped to ease the process of selections and placements (Copeland, 2000; Craik, 2005).

Selection is the process of choosing the most suitable candidate for the vacant position in the organization. It is also a means of weeding out unsuitable applications and selecting those individuals with prerequisite qualification and capabilities to fill the jobs in the organization (Megha, 2016). Amrit (2015) also sees selection as an exercise which involves a series of steps by which candidates are screened and the most suitable one is chosen to fill the vacancy in an organization. Selection of applicants/students are evaluated on the basis of the sent documents, previous studies and grades, and possible interviews with the applicants.

Placement on the other hand, is the assignment of a person to a suitable place such as job or a class in a school according to specific criteria. Placing or deploying qualified candidates to institutions follow certain laid down criteria as much as data management is concerned. Amrit (2015) declares that

placement simply means is matching of what the supervisor has reason to think he can do with the job demands He continues by stating that, the usefulness of a person in the future to his/herself, family, community and nation at large depends on how the person was identified, selected and placed at the appropriate group or category at the appropriate time. Proper selection and placement of students are critical to their academic performance and career development.

In Ghana, placing qualified candidates from the basic schools into secondary, vocational and technical schools was done manually from the schools through the Metropolitan, Municipal and District offices and regional education offices to the national office where bulky materials have to be carried. This selection and placement of students into Senior High Schools started as far back in the 1980s and was conducted manually by human efforts from various basic schools through district offices to the regional offices. The Ministry of Education (MoE) through the Ghana Education Service (GES) and other stakeholders in education including parents identified some shortcomings in the manual selection and placement system. This include human error arising from long and two-stage admission processes and loss of selection cards. Others are apparent lack of transparency in the selection and placement processes, high administrative cost, anxiety and frustration among parents during the selection and post selection periods and alleged abuse by some Heads of SHS/TI of their discretionary powers to select candidates. As a result of these, in 2003, the GES Council took a decision to introduce innovation into the process by using technology called the Computerized School Selection and Placement System (CSSPS) but first on pilot-based before a nationwide coverage. CSSPS became a game changer from the GES Council as a result of challenges emanating from

the manual system of selection and placement until 2005 when the ideas came for the use of computers (technology) for the execution of the aforementioned tasks.

The CSSPS became operational in September 2005, two years after the GES Council has taken the decision in 2003 to implement it. About two years was used to do the preparatory work to ensure a smooth take off. Currently, the CSSPS is a system used by the GES to place qualified Basic Education Certificate Examination (BECE) candidates into Senior High School (SHS)/ Technical Institute (TI)/ Vocational Institute. The operation of the CSSPS is carried out by a Secretariat which is a unit of the Secondary Education Division of GES. It seeks to improve the manual system of selection and placement of qualified BECE candidates into Public and Private SHS, TI and Vocational Institutes. The CSSPS technology has helped to reduce the herculean tasks on the various management units but comes with some level of strict adherence to processes and guidelines. According to Anamuah-Mensah (2016), former Vice Chancellor, University of Education, Winneba, UEW), the CSSPS is the best option in that it offers equal opportunities to children from both poor and rich homes to be admitted into any SHS in the country based on merit. He also added that, irrespective of where the student is coming from, he/she can be selected into any school at all. He observed that the CSSPS had its short own comings because it is being handled by human beings, and that despite this, its advantages outweighed its disadvantages. He urged government not to heed to the call by some headmasters for the abolition of the CSSPS because, just going back to the old ways of doing things will solve the problems. He further appealed to the government to maintain the CSSPS and to improve upon its

short comings. With all these, it appears that a majority of the parents are not pleased with the way the CSSPS works or how students are placed.

Completion of the CSSPS form for placement

To complete the CSSPS form adequately for your placement, there are some guidelines that you users or candidates and parents are to follow. To be able to use the system candidates, parents, and teachers (Stakeholders) need to acquire the scratch cards sold at various vendor points. Figure 2 shows the interface of the CSSPS system.

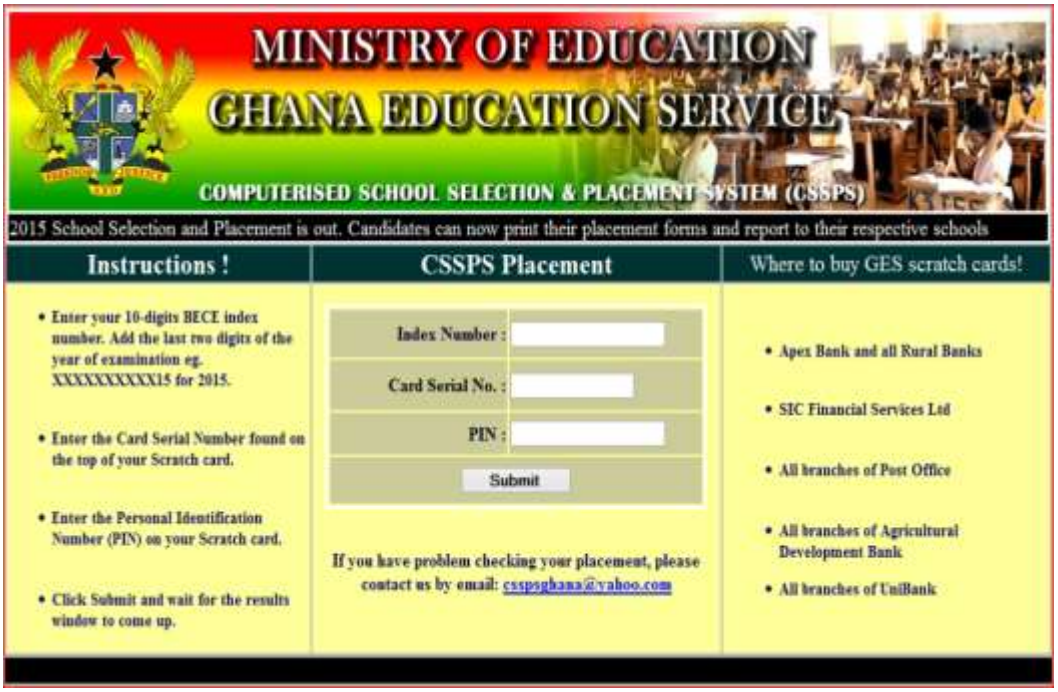

Figure 1. The CSSPS interface site.(available at www.myjhsresult.net)

The instructions for the placement process are displayed on the interface at the left hand side to be used after candidate has logged into the CSSPS. These instructions must be strictly followed to successfully enter the selection and placement process. The process has not been without a problem at each stage and therefore requires investigation, hence, the need for this study.

Statement of the Problem

As indicated in the background, the CSSPS is one of the innovations that have been introduced to the educational sector to ease the burden of parents to get their wards placed in their desired Senior High Schools in the country. This innovation appeared to be producing better results compared to the old manual placement system (Wesley-Otoo & Anokye, 2016).

The prevalence of technology affects society in so many positive ways, and that includes the education sector. Today's students not only have computers to help them with their schoolwork, they have easy access to research tools while teachers use technology to enhance the impact of their lessons (McCoy, 2014). According to McCoy (2014), technology has effected education in five major ways as research, globalization, educational games, distance education and web seminars.

Technology makes teaching and learning very practical and interesting, provides more opportunities for research on various topics and issues across the globe and provides skills for the use of technological devices for teaching and learning. This implies that, when technology is taken seriously and used effectively, it would bring drastic change and improvement in the educational sector of this country hence lessoning the burdens in teaching and learning and application of knowledge. In recent times, there have been some issues about the system which some of the stakeholders complained about. For instance, the system is made inactive or blocked until candidates finish writing their examination and markings are done. Besides, some parents and teachers complained of not knowing specific time students and parents are allowed to access the system, where to get the scratch cards to purchase, and system

failures due to the number of people accessing it at a given time. Many parents were also dissatisfied with the new system because of nepotism, favoritism and preferential treatment offered to some sections of the public – ingredients of school indiscipline, restriction to one region in choice of schools and disadvantages of using grades instead of raw scores. On several occasions, parents and candidates call for assistance on how best they could be helped out in terms of where to get the scratch cards, the scratch card usage, website access and if possible editing of the already provided information on the site but no appropriate responses are provided. All these have been a matter of great concern to stakeholders (Field Survey, 2018/2019).

In an interview with Anokye, (National Coordinator of the CSSPS) in 2016, he admitted, that although there is enormous improvement in student placement, there are still some issues that need to be addressed.

In an effort to resolve some of these issues, (Sasu-Mensah, 2017), the new National Coordinator of CSSPS, stated that, the CSSPS Secretariat is to set up a call center to receive complaints of parents and students during the placement of BECE candidates into Senior High Schools (SHSs) and Technical Institutes (TIs) this year. This is to address the anxiety of parents and candidates as well as prevent the overcrowding at the GES and the CSSPS Secretariats during the release of the placement lists. Also, he noted that as a customer service organization, there is the need to satisfy customers. The aforementioned indicated that while parents appear not satisfied with the CSSPS, the producers of the service are, however, satisfied. This creates a discrepancy. However, it is not clear the extent to which stakeholders such as students and teachers, are

satisfied with the CSSPS, hence, the current study is meant to assess the extent to which stakeholders are satisfied with the system.

Purpose of the Study

The purpose of this study was to investigate the satisfaction of stakeholders of the CSSPS in terms of information quality, system quality, service quality (prior to, during and after to the opening of the system) in the Mfantseman Municipality in the Central region of Ghana.

Research Questions

The questions that contributed to this successful research work are as follows.

1. What is stakeholders' satisfaction prior to the opening of the CSSPS?
2. What are the perceptions of the stakeholders during the opening of the CSSPS?
3. What is stakeholders' satisfaction after the opening of the CSSPS?
4. What in stakeholders' view can be done to improve the CSSPS system?

Significance of the Study

The results of the research study would be beneficial to candidates, parents and the state as a whole in the following areas or ways.

The findings from the present study would help candidates and parents to easily access the website of CSSPS for placements of their wards. The results from the study would also help to improve the CSSPS system to merit stakeholders' acceptance and improve satisfaction.

Delimitation

The study was delimited to the stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in the Mfantseman Municipality. Stakeholders' satisfaction was explored in terms of

information quality (prior to, during and after to the opening of the system), system quality (prior to, during and after to the opening of the system), service quality (prior to, during and after to the opening of the system) and information technology issues (prior to, during and after to the opening of the system).

Limitation

The present study could be limited by its design, being descriptive survey design in nature. Descriptive studies tend to give inferential from a sample to the whole population. In some of the schools, the researcher was made to wait for long hours for instructions from the guidance and counseling officer in the school before administering the questionnaires to the students.

Definition of Terms

Computerized

Computerized is to control, perform, process or store (a system, operation, or information) by means of or in an electronic computer or computers.

Selection

Selection is the process of choosing the most suitable candidate for the vacant position in the organization.

Placement

Placement is the assignment of a person to a suitable place such as job or a class in a school according to specific criteria.

Computer and selection

Computer and selection is the process of using computers in the selection process to make it easy, convenient and accessible to all.

System quality

System quality refers to aspects of the information system itself, such as processing speed, ease of use, necessary requirements, and navigability. These are important factors that are the responsibility of the technical team, from the inception of the system to its planning and implementation.

Information quality

Information quality refers to the quality of the content stored in the system. It includes factors such as the quality of graphs and data, and the clarity with which the information is presented to users.

Service quality

Service quality is essential to implement the information system, as some essential services are fundamental, such as user training, a help desk, and support. The quality of the services depends on the performance of those who provide them at the moment they are delivered.

Technological Issues

Technology is the creation, modification, usage, and knowledge of tools, machines, techniques, and systems to solve a problem, improve a pre-existing solution or achieve a goal.

IT Self-efficacy

Self-efficacy can be described as a person's subjective judgment of his or her skill level to execute certain behaviors or obtain certain results in the future. Computer self-efficacy has a significant effect on behavioral intention to use e-learning (Ong, Lai & Wang, 2004). Self-efficacy is significantly positively related to students' overall satisfaction with a self-paced, online course (Artino, 2012). This IT self-efficacy deals with a person's ability use computers

(navigating through the various windows and sites for information) without any help or assistance from anyone.

Self-placement

Self-placement is where the individual candidates that were not placed by the system due to some reasons, find any available school on the site and places him/herself there.

Technology

Technology refers to methods, systems and devices which are the result of scientific knowledge being used for practical purposes (Collins English Dictionary, 2019). It deals with the art or science of applying scientific knowledge to solving practical problems in the society in terms of education, health, economics, agriculture, etc.

Digitization

Digitization is the conversion of text, pictures, or sound into a digital form that can be processed by a computer.

Digital transformation

Digital transformation concerns the global accelerated process of technical adaptation by individuals, businesses, societies and nations, which come as a result of digitization (Collins et al., 2015; Tapscott, 1996a; Westerman et al., 2014). It is the use of technology to change or transform education, health, business, and the society at large.

Database

Database is a structured set of data held in a computer, especially one that is accessible in various ways. It is an organized collection of data, generally stored and accessed electronically from a computer system. Database is also an

organized body of related information that are accessed on a computer electronically. The data used for the database are collected from various facts from which conclusions may be drawn.

CSSPS

Computerized School Selection and Placement System is a system used by the GES to place qualified Basic Education Certificate Examination (BECE) candidates into Senior High School (SHS) / Technical Institute (TI) / Vocational Institute. This system uses the data of students' raw scores in the GES database and place them accordingly in the various Senior High Schools (SHS) / Technical Institutes (TI) / Vocational Institutes across the country.

Organization of the Study

This study is organized in five chapters. Chapter One introduces the study (background to the study), statement of the problem, purpose of the study, research questions, and significance of the study, delimitations and limitations, definition of terms and organization of the study. Chapter Two provides a review of literature related to stakeholders satisfaction of CSSPS before, during and after the system has been opened, setting forth context and research models. Chapter Three detailed the methodology employed in the study; the research design, study area, population, sampling procedure, data collection instrument, data collection procedure, data processing and analysis and chapter summary. Chapter Four presents the analysis of the data, including descriptive analysis, construct analysis and hypothesis testing (results and discussions). Finally, Chapter Five presents the summary, conclusion, recommendation and suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

Overview

This chapter of the research presents views of specialists and experts in the related field (stakeholders' satisfaction on the CSSPS) as well as other research studies that may help or contribute to the success of the research work. The review of the literature related to the stakeholders' satisfaction on the CSSPS fall under five main information system attributes which are system quality, information quality, service quality, technological issues and user IT self-efficacy.

Babah (2011) researched on the topic "Stakeholders' perception of the Computerized School Selection and Placement System: A case study of the Greater Accra Region, Ghana". The main purpose of her work was to find out whether the CSSPS provides a better alternative to the manual system of selecting and placing of qualified BECE candidates into SHSs in Ghana. According to her findings, it was indicated that, the introduction of the CSSPS did not significantly increase enrolment in the least endowed schools; neither did it minimize the preference for endowed schools. The CSSPS significantly minimized the human errors that characterized the manual system and accelerated the rate of selection and placement process. The major challenge to the CSSPS was the human factor in terms of refusal of parents and students to accept placement into other schools apart from their chosen endowed schools. Achonu (2015), did a related research on the topic "Impact of Computerized School Selection and Placement System in Ghana". His aim was to discuss the various concepts, opinions, journals, and so on, on the subject and reflect on the

relevance and transformation of the system and how it is helping shape the technological facets of the Ghanaian educational system and the economy as a whole. He found out that, the CSSPS has impacted positively in education in terms of error minimization, cost effectiveness in transporting hard copies of selection and placement documents from the various basic schools to the headquarters in Accra and aiding a lot of candidates to get placement without hustle.

Ajoye and Nwagwu (2014) also did related work on "Information system user satisfaction: A survey of the Postgraduate school portal, University of Ibadan, Nigeria". The purpose of their work was to investigate how information system (IS) measures (such as system quality, information quality, service quality, technological issues, user IT self-efficacy) influence user satisfaction of the university of Ibadan Postgraduate School portal using a conceptual model adapted from DeLone and McLean (2003). They came out with the finding that the influence of system quality on user satisfaction was very strong, influence of information quality on user satisfaction was also strong and service quality had a mixed effect on user satisfaction.

In 2016, Nelima, Mbugua and Kilwake did similar research on "Factors affecting information systems user satisfaction in Kenyan Universities". Their purpose was to understand the relationship between the value users attribute to information systems and the satisfaction users experience with these system. They came out with the finding that, information management was greatly affected by poor network access and poor management systems. Nelima, Mbugua and Kilwake (2016) concluded in their study that information system satisfaction in Kenyan universities is affected by low network access, system

usability, lack of training and user support, poor user interface design, poor management support, poor ICT infrastructure at the university, availability of the system and lack of skills to use the system. Again, it was found that satisfaction is significantly affected by user demographic factors like gender, age, level of study and system factors like information quality, perceived ease of use, system functionality, system availability and system efficiency.

Information system is an integrated software package that maintains, supports, and provides inquiry, analysis, and communication tools that organize student accountability data into information to support the educational process (Barrett, 1999). End user satisfaction is the extent to which users believe the information system available to them meets their information requirements (Azleen, 2009).

'User satisfaction' and 'User Information Satisfaction' are used interchangeably. According to Doll and Torkzadeh (1988) 'user satisfaction' is defined as the opinion of the user about a specific computer application, which they use. Ives et al. (1983) defined 'User Information Satisfaction' as "the extent to which users believe the information system available to them meets their information requirements.

This part uncovers a critical hole in the examination writing, in that the linkage between data quality and methodology has just been insignificantly inspected to date, with moderately minimal hypothetical establishing. This section in this way puts forward a logical system inside which data quality methodology research can be seen, and it builds up a inquire about structure and model for analyzing a lot of vital connections between data quality perspectives and authoritative results. By exploring this relationship, the ebb and flow look

into has added to the group of learning by inspecting the nature, bearing, and quality of explicit associations between data quality improvement activities and authoritative results.

The information is presented in terms of its theoretical roots in information and quality, and in terms of contemporary research as conceptual framework (model). It also deals with what other researchers in the related fields were not able to do and the new things that would come on board. All these are discussed under the following sub-sections: Selection, Placement, and Computer and selection.

Theoretical Framework

The theoretical framework is the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists (Abend, 2008). It was propounded by Heider, in 1958 as an "Attribution theory" which is concerned with how individuals interpret events and how this relates to their thinking and behavior but Weiner and colleagues (Jones et al, 1972; Weiner, 1974, 1986) developed it as a "Theoretical framework" that has become a major research paradigm of social psychology. Theoretical framework is the 'blueprint' or guide for a research (Grant & Osanloo, 2014).

Brondizio, Leemans, and Solecki (2014) contend that it is the specific theory or theories about aspects of human endeavour that can be useful to the study of events. It provides the structure to define how a researcher defines his/her study philosophically, epistemologically, methodology and analytically (Grant & Osanloo, 2014). It normally serves as the focus for the research study and it is linked to the research problem under study. The theoretical framework

guides the kind of data to be collected (Lester, 2005). Simon and Goes (2011) as well as Maxwell (2004) aver that theoretical frameworks deepen the essence of the study. It convinces readers that the study is not based on the personal instincts of the researcher but rather on established theory gathered via credible studies.

The theoretical framework strengthens the study in the following ways: It is an explicit statement of theoretical assumptions permits the reader to evaluate them critically. Also, the theoretical framework connects the researcher to existing knowledge. Guided by a relevant theory, you are given a basis for your hypotheses and choice of research methods. Articulating the theoretical assumptions of a research study forces the researcher to address questions of why and how. It permits the researcher to intellectually transition from simply describing a phenomenon that have been observed to generalizing about various aspects of that phenomenon. Having a theory helps the researcher to identify the limits to those generalizations. A theoretical framework specifies which key variables influence a phenomenon of interest and highlights the need to examine how those key variables might differ and under what circumstances.

By ideals of its handy nature, great hypothesis in the sociologies is of esteem decisively on the grounds that it satisfies one basic role: to clarify the importance, nature, and difficulties related with a wonder, regularly experienced however unexplained on the planet in which we live, so we may utilize that learning and comprehension to act in progressively educated and viable ways. With regards to this study, the researcher employed the conceptual framework as the theory that underpinned the study.

Conceptual Framework

Conceptual framework is a structure which the researcher believes could best explain the natural progression of the phenomenon to be studied (Camp, 2001). It offers a logical structure of connected concepts that help provide a picture or visual display of how ideas in a study relate to one another (Grant & Osanloo, 2014).

The conceptual framework lies within a much broader framework called theoretical framework. The latter draws support from time-tested theories that embody the findings of many researchers on why and how a particular phenomenon occurs. It aids the researcher to identify and construct his/her worldview and approach to the topic of study (Grant & Osanloo, 2014). It brings together related concepts to explain or predict a given event or give a detailed understanding of the research problem and its asserted solution (Liehr & Smith, 1999). Figure 2 represents the conceptual framework of this study.

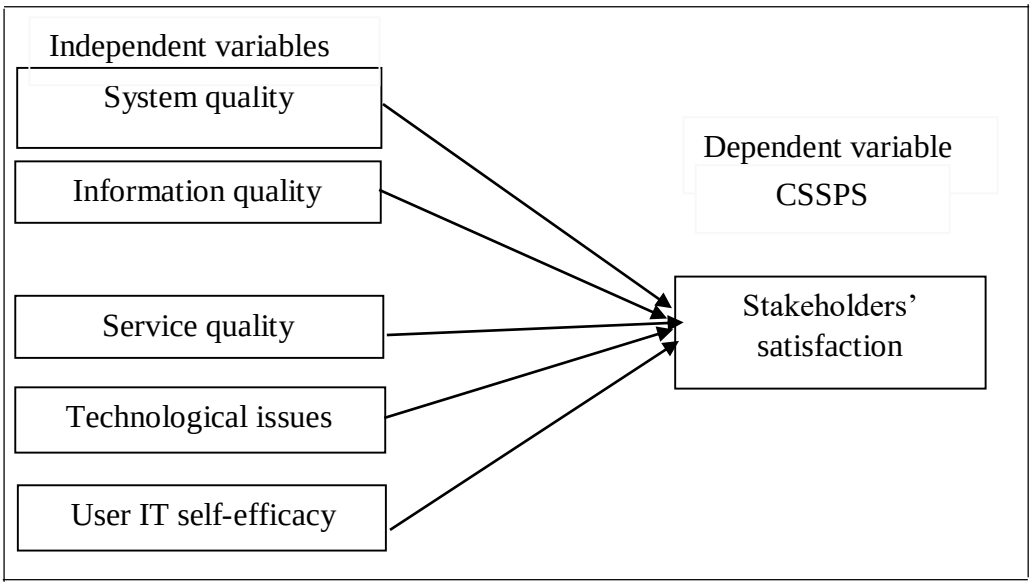

Figure 2. The Conceptual Framework of the Study.

The conceptual framework is made up of two variables: dependent variables and independent variables. "Variables are the conditions or

characteristics that the experimenter manipulates, control, or observes. The independent variables are the experimenter manipulates or controls in his or her attempt to ascertain their relationship to observed phenomena. The dependent variables are the conditions or characteristics that experimenter introduces, removes, or changes Independent variables" Best (2007). The independent variables in the present study are system quality, information quality, service quality, technological issues and user IT self-efficacy while the dependent variable is the user satisfaction (stakeholders' satisfaction).

System Quality

System quality refers to aspects of the information system itself, such as processing speed, ease of use, necessary requirements, and navigability. These are important factors that are the responsibility of the technical team, from the inception of the system to its planning and implementation. DeLone and McLean (1992) employed the following measures on a frequent basis: response time, system reliability, and especially, ease of use. System quality is a desirable characteristic of an information system which focus on usability and performance of a particular system. Therefore, when all the determinants of system quality are in place, users (stakeholders) of the CSSPS would be satisfied and pleased since user satisfactions depend on the quality of a system.

Information Quality

Information quality refers to the quality of the content stored in the system. It includes factors such as the quality of graphs and data, and the clarity with which the information is presented to users. DeLone and McLean (1992) created thirty factors related to this dimension, including importance, reliability, relevance, currency, clearness, legibility, and interpretability. A significant

majority of these are measured from the user's viewpoint. The information that stakeholders would find on the CSSPS system would determine their satisfaction level. When all the dimensions of information quality are in order, the users would be satisfied.

Service Quality

Service quality is essential to implement the information system, as some essential services are fundamental, such as user training, a help desk, and support. The quality of the services depends on the performance of those who provide them at the moment they are delivered. Services can be offered either through the information system itself or offline.

Technological Issues

Technology is the creation, modification, usage, and knowledge of tools, machines, techniques, and systems to solve a problem, improve a pre-existing solution or achieve a goal. The key to being successful in the world of small business is being able to adapt to the changes in your industry. One of the best ways to keep your business running like a well-oiled machine is by utilizing the power of technology. Incorporating things like state-of-the-art software programs and a fast and reliable computer network into the educational sector (CSSPS) is essential. Some of these technological issues are most common technology problems every technology user or business owner will face and how working with IT professionals can help solve them includes problems integrating new technology, backup and disaster recovery, constant network crash and computer problems and lack of network maintenance. Keeping the CSSPS network site safe and functional is only possible with the right professional help.

User Satisfaction

User satisfaction refers to the extent to which the user is satisfied with the system, information, and service. The user's perception of and attitude toward the environment as a whole reflects the concept of user satisfaction. Zeithaml (2002), defined user satisfaction as the assessment of a product or service in terms of whether that product or service has met their needs and expectations in online platform.

Use refers to a measure of how much and which resources are used. This construct is visible only when the use of resources is not imposed, that is, to measure use accurately, access must be voluntary. DeLone and McLean (1992) indicated distinct ways of measuring use, including the number of times the system is accessed, length of access time, access to distinct resources, and access to optional resources. According to Nielsen (1993), the usability of information systems is equivalent to a set of design principles which involves five key elements as consistency of the interface, response time, mapping and metaphors, interaction styles, and multimedia and audiovisual.

According to DeLone and McLean (1992), user satisfaction is, probably one of the most important dependent variables used to measure information system success, for at least three reasons: first, because it has a high degree of face validity as it is hard to deny the success of a system which the users like; second; for the various instruments, such as the one developed by Bailey and Pearson and others derivate from it, that reliably measure satisfaction and make it easy to compare, and third, because of the other variables are so much harder to measure empirically or are conceptually poorer. (DeLone & Mclean, 1992).

The vision of the satisfaction of the users as an indication of system success probably originated with Cyert and March in 1963 (Ives, Olson & Baroudi, 1983; Bailey & Pearson, 1983). The concept of satisfaction proposed by Cyert and March (1963) suggests that if an information system attends to the needs of the user, the satisfaction of this user will be reinforced while if it does not, the user will be unsatisfied and will look for another source or system. For Ives, Olson & Baroudi (1983), user satisfaction is a means for the evaluation of an information system. It is defined as the degree in which, according to the user perception, the system satisfies their information needs. Mullany, Tan and Gallupe (2006) do essay a definition of user satisfaction, claiming that it is based on memories of the past use of a system. They further explained user satisfaction as the absence of user dissatisfaction and complaint, as assessed by users who have had at least some experience of using the system. Conversely motivation, they suggest, is based on beliefs about the future use of the system. (Mullany et al., 2006).

Self-efficacy

Self-efficacy can be described as a person's subjective judgment of his or her skill level to execute certain behaviors or obtain certain results in the future. Computer self-efficacy has a significant effect on behavioral intention to use e-learning (Ong, Lai & Wang, 2004). Self-efficacy is significantly positively related to students' overall satisfaction with a self-paced, online course (Artino, 2012). When this happens, the stakeholders of the CSSPS especially students and parents would be satisfied with system since using it is very friendly to them. Computer self-efficacy affects students' behavioral intentions to use online learning course websites (Chang & Tung, 2008).

Self-efficacy is an individual's belief in their innate ability to achieve goals. Bandura (1982) defines it as a personal judgment of how well one can execute courses of action required to deal with prospective situations. According to McDonald and Siegall (1992), technological self-efficacy (TSE) is the belief in one's ability to successfully perform a technologically sophisticated new task. Self-efficacy refer to the belief (accurate or not) that one has the power to produce that effect by completing a given task or activity related to that competency. Self-efficacy is the belief in one's efficacy.

When the independent variables (system quality, information quality, service quality, technological issues and user IT self-efficacy) are in order, the dependent variable (user system satisfaction) would be achieved in terms of the selection and placement process.

Student Selection

Selection is the process of choosing the most suitable candidate for the vacant position in the organization. It is also a means of weeding out unsuitable applications and selecting those individuals with prerequisite qualification and capabilities to fill the jobs in the organization (Megha, 2016). Amrit (2015) also sees selection as an exercise which involves a series of steps by which candidates are screened and the most suitable one is chosen to fill the vacancy in an organization. Again, Amrit (2015) explains selection procedure as the system of functions and devices adopted in a given company to ascertain whether the candidates' specifications are matched with the job specifications and requirements or not. Employee selection is the process of matching organization's requirements with the skills and the qualification of individuals. Selection of applicants / students are evaluated on the basis of the sent

documents, previous studies and grades, and possible interviews with the applicants.

Student Placement

Placement is the process of assigning a specific job to each one of the selected candidates (Academia, 2019). Placement is the assignment of a person to a suitable place such as job or a class in a school according to specific criteria. It is also the act of finding an appropriate place for someone to live, work, or learn. Placing or deploying qualified candidates to institutions follow certain laid down criteria as much as data management is concerned. Placement is the determination of the job to which an accepted candidate is to be assigned, and his/her assignment to that job. It is matching of what the supervisor has reason to think he can do with the job demands (Academia, 2019). He continue to state that, the usefulness of a person in the future to his/herself, family, community and nation at large depends on how the person was identified, selected and placed at the appropriate group or category at the appropriate time. Proper selection and placement of students are critical to their academic performance and career development.

Computerized selection

According to Evans (2018, p.23), a computer is a device that can be instructed to carry out sequences of arithmetic operations or logical operations automatically via computer programming. A computer is an electronic device for processing information and performing calculations; follows a program to perform sequences of mathematical and logical operations. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range of tasks. A

"complete" computer including the hardware, the operating system (main software), and peripheral equipment required and used for "full" operation can be referred to as a computer system.

A computer is also a machine or device that performs processes, calculations and operations based on instructions provided by a software or hardware program. It is designed to execute applications and provides a variety of solutions by combining integrated hardware and software components. Computerization is equipping something with or the usage of and associated automation by computers and software. Computerize is the use of computers to do something that was done by people before. This is where computers that have specific software programed to do the selection of students into the various Senior High Schools created as ghanaschools.net and www.myjhsresult.net which require students to get PIN to allow them have access to the things on the site.

GES (2011) sees CSSPS as a system used by the GES to place qualified BECE candidates into Senior High School/Technical Institute/Vocation Institute all over the country. CSSPS was a policy change from the GES Council as a result of challenges emanating from the manual system of selection and placement as stated at the background to the study. This CSSPS was a good thing that needs to be checked and corrected for the betterment of the educational system in Ghana since it would go a long way to strengthen and consolidate the selection process. Ghanaians will also have confident in the system. In this policy, there are roles to be performed by various stakeholders including citizens, parents/guardians, candidates and teachers for its effectiveness.

Parents'/guardians role in the Selection and Placement

As a Ghanaian, the success of CSSPS depends on you. Your contribution includes helping to educate our illiterate parents/guardians on the need to take interest in the education of their children to a higher level.

As a parent/guardian you are to pay the school and examination fees of your ward promptly, assist your wards to select Senior High Schools or Technical or Vocational Institutes and programmes, co-operate with the teachers/school counselors to determine the best programme option for your ward, and accept the selection and placement done by the computer and the final placement list issued by the GES. This is because, the choice your ward makes today will determine his/her future.

Teachers and candidates role in the Selection and Placement

As a teacher, your responsibility is to create a congenial and competitive learning environment and assist all children, keep accurate and true records of pupils/students' performance and correctly complete the application form for the candidate during the batch registration process. As a candidate, learn hard to qualify for selection, since selection and placement is purely on merit and no other consideration.

Before 2005, successful candidates from Basic Schools all over the country have to select Secondary, Technical and Vocational Schools of their choice manually. The lists are therefore sent to the national headquarters through the districts and regional offices respectively. These were becoming tedious and bulky to the various management units in the Ministry as well as the parents and guardians of the candidates as they travel to and fro to find their wards placements. The computerized system was introduced in 2005 to replace

the manual way of selection and placement of students in senior high schools which had for many years created a number of challenges. At the Ministry, they believe that the CSSPS has served its purpose over the ten year period. It has served even better than the manual system that they had in the past. It has corrected quite a number of anomalies in the previous manual system. Some benefits of the CSSPS are that, candidates can now choose schools from any of the ten regions and/or any district of their choice thus removal of regional restriction, and promoting national integration, delays in the selection and placement of candidates into schools are removed, human errors such as loss of cards and photographs of candidates are removed, and the yearly regional selection meetings and the risks associated with the travelling has become a cost saving activity of the GES. Also, the risks that parents face in search of school for their wards are things of the past, the selection and placement is more transparent and verifiable to win back public confidence and support, the computer is used to place candidates on merit, it addresses all other public criticisms and removes all negative perceptions the public may hold and it ensures a more efficient and effective use of human and scarce financial resources of GES. Opoku-Agyemang (2016) also noted that the CSSPS which became operational in 2005, has played a major role in this transition, as its operations were intended to reduce human errors by dependence on information and communication technology. She continued that apart from placing candidates, has taken advantage of the huge potential of technology provided to introduce innovations such as candidates checking their BECE result online, and using mobile phones to easily access placement results. Access to Senior High Schools, Technical and Vocational Institutions, she said, has greatly

improved with the inception of the CSSPS as nearly 90 to 95 per cent of BECE candidates are selected and placed in their second cycle schools. Gbadago (2016), a former Public Relations Officer of the ministry also stated that as stakeholders, we can make it better. In addition to this study, Ajoye and Nwagwu, (2014) also conducted a research in Nigeria on "Information system user satisfaction: A survey of the Postgraduate school portal, University of Ibadan using descriptive survey. It was found in the study that, the influence of system quality on user satisfaction was very strong. The study found all the information system attributes (system quality, information quality, service quality, technological issues and user's IT self-efficacy) to significantly predict user satisfaction.

According to the Today News Paper (2015), the computerized system has come too far and it appears to be working. However, it is important the GES/Ministry of Education reviews the scheme for improvement. The system has been operational for over a decade now, it is critical we fine-tune it to make it better. It must be made robust to ensure compliance and avoid circumvention. It also states that, oftentimes people would want to bypass systems. The GES should strengthen the security features to prevent outside interference so that only students placed by the computer will gain admission. The GES says it will not scrap the CSSPS that places BECE candidates into senior high schools because of the overwhelming support the system has received from the public. However, the GES believes that today, children who otherwise would not have gained admissions into some popular and well-endowed Senior High Schools (Mfantsipim, Presec, Legon, Achimota, Prempeh College, St. Augustine's, etc) are in those schools because of the CSSPS. Hitherto, those schools were the

preserve of children of parents who had been to those schools, and they (Old Students) and heads of those schools greatly influenced admissions. It said the system was being reviewed and fine-tuned and, therefore, invited suggestions from key stakeholders such as the Catholic Bishops Conference and the National Association of Graduate Teachers (NAGRAT).

According to Parker-Allotey (2012), the Head of Public Relations Unit of the GES, in an interview with the Daily Graphic, this system is far better than the manual system. They would not scrap it because of the popular acclamation it has received from the public. According to Oppong (2012), the former National Coordinator of the CSSPS, in an interview with the Daily Graphic, the CSSPS was a better alternative hence could not be scrapped. He said it was only people who would not take advantage of the system who are calling for it to be scraped, adding that the 30 per cent placement had resulted in the delay of the exercise. Also, he added that, the manual system was even more chaotic than the computer system and what needed to be done was to expand infrastructure in senior high schools, especially the single sex schools with emphasis on the girls' schools where a large number of candidates chose. He added that, every year's placement was reviewed, and that this year's one too would be reviewed.

Again, Armah (2017), an Education Consultant, added his voice that, imperfections in the Computerized School Selection and Placement System (CSSPS), can be resolved with IT enhancements. He believes for instance that to make the CSSPS platform more user-friendly, a mobile version can be rolled out to complement the current desktop platform. Speaking on PM Express, he said it is a challenge, they could do better. They could go for mobile apps, and they could also enhance the system. They must apply the right technology...very

advanced system and because of mobile phone integration, it is probably easy for people to connect more.

Completion of the CSSPS form for placement

To complete the CSSPS form adequately for your placement, there are some guidelines that you users or candidates and parents are to follow. The various points from where candidates, parents, and teachers (Stakeholders) get the scratch cards to purchase. Figure 3 shows the interface of the CSSPS site.

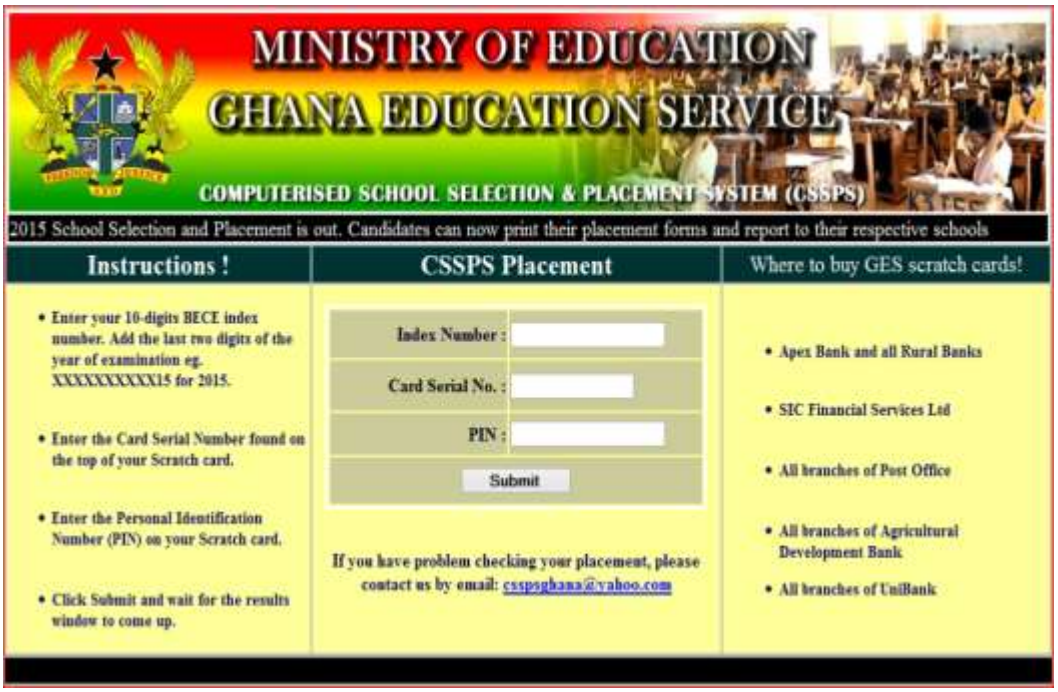

Figure 3. The CSSPS interface site.

The instructions for the placement process are displayed on the interface in Figure 2 above at the left hand side after candidates and parents have logged into the CSSPS site as www.myjhsresult.net.

Chapter Summary

This chapter reviewed literature on the stakeholders' satisfaction on the CSSPS in relation to system quality, information quality, service quality, technological issues and user IT self-efficacy.

CHAPTER THREE

RESEARCH METHODS

Overview

This chapter presents the methods used in conducting the study. It explains the research design employed in this study, the population, and the study area (location) sample and sampling procedures, data collection instruments, data collection procedures, data processing and analysis and the summary of the chapter.

Research Design

According to Kothari (2004), research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. Research design links the data to be collected and conclusions to be drawn to the initial questions of the study – it provides a conceptual framework and an action plan for getting from questions to set of conclusions (Yin, 2003). The research design adopted for this study was the descriptive survey design. Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check & Schutt, 2012, p. 160). Singleton and Straits (2009) think surveys are frequently used in social and psychological research.

Descriptive survey research describes behaviors by gathering people's perceptions, opinions, attitudes, and beliefs about a current issue (e.g. educational issues). The descriptions are then summarized by reporting the number or percentage of persons reporting each response. Although more and more technology and Web-based surveys are being used in research, the long-standing paper-pen survey questionnaires continue to be the main mode of data

collection. It has the following characteristics. Descriptive survey is the most popular design in educational and social science research since it is associated with relatively fewer ethical challenges (compared to experimental). It is faster and less expensive and therefore popular with students. It may employ quantitative and qualitative methods, so it is amenable to mixed-methods approach. It is typically administered to a random sample of the population to which the findings will be generalized.

Descriptive research design has the following advantages which made it possible for the researcher to adopt it. It is possible to answer a wide range of research questions using survey methods, for example, describing a situation and studying relationships between variables and so on. Since it does not set up artificial conditions as is the case with experimental designs, it is easier to generalize the findings of a survey research to real world settings. It is efficient in terms of ability to gather large amounts of data at the same time and at low cost. It is also easy to guarantee respondents' anonymity, especially with pen-and-paper or Internet and telephone questionnaires. This may lead to more candid or honest answers.

Though the design used in this study is suitable for the study, it has some weaknesses as well. One of the weaknesses is the fact that it allows no room to control of variables and therefore cannot answer questions on causality. It is also difficult to achieve deeper understanding of processes and contextual differences through questionnaires, which are themselves limited in length and depth of responses. As compared to the exploratory research, descriptive research is preplanned and structured in design so the information collected can be statistically inferred on a population.

Study Area

The study was carried out in the Mfantseman Municipal of the Central Region of Ghana. It is located along the Atlantic coastline of the Central Region of Ghana and extends from latitudes 5^0 to 5^0 20' north of the equator and longitude 0^0 44' to 1^0 11' west of the Greenwich Meridian, stretching for about 21 kilometers along the coastline and for about 13 kilometers inland and constituting an area of 612 square kilometers. It stretches from Mankessim to Yamoransa. Figure 4 shows the Map of Mfantseman municipality.

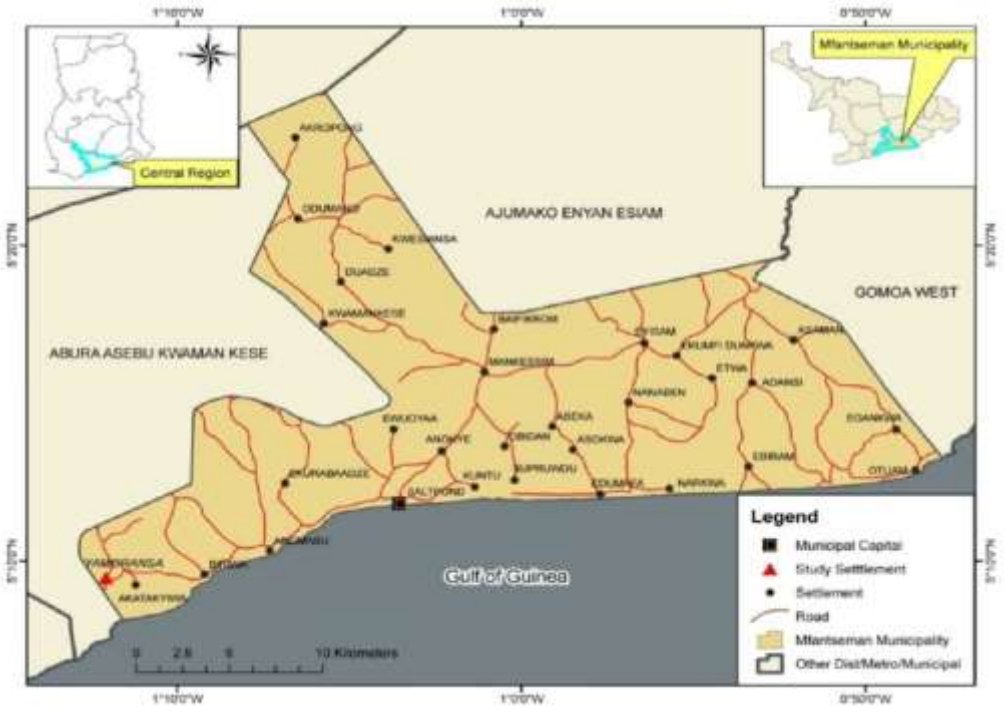

Figure 4. The Map of Mfantseman Municipality

There are four public second cycle schools and one hundred and twenty-eight (128) junior high schools in the municipality. The four second cycle schools have student enrolment of 9,767 made up of 3,114 (31.88%) boys and 6, 653 (68.12%) girls. The 128 junior high schools were made up of 73 public schools and 55 private schools with student enrolment of 3,250 made up of 1,619 (49.8%) boys and 1,631 (50.2%) girls in the municipality.

Mfantseman municipal is one of the 17 districts in the Central Region of Ghana with Saltpond as its capital. It has a population of 144,332 which is 6.6% of the total population in the Central Region. This population comprises 64,923 males (which is 45%) and 79,409 females (which is 55%) according to 2010 Population and Housing Census (PHC) report with majority being the youths, Ghana Statistical Service (GSS, 2010). The inhabitants are mainly employed through fishing (major employment), farming or trading.

Population

Population is an aggregate or totality of all the objects, subjects or members that conform to a set of specifications (Polit & Hungler, 1999:p.37). The population comprised 9,900 students made up of SHS students, JHS headmasters, SHS assistant headmasters, ICT Coordinator and exams officer in the Mfantseman municipality. Table 1 shows the size of the population used in this study.

Table 1: The size of the population used in the study.

Categories	Number (size)
SHS students	9767
JHS headmasters	128
SHS assistant headmasters	4
ICT Coordinators	2
Exams officer	1
Total	**9,902**

Target population is the entire group of people or objects to which the researcher wishes to generalize the study findings. The study targeted all the twenty-three (23) JHS Headmasters in Saltpond Circuit 'A' & 'B' made up of

nineteen (19) Public Schools and four (4) Private Schools; four (4) Public Second Cycle School Assistant Headmasters and Students, and the ICT and Examination Coordinators in the Mfantseman Municipality in the Central Region of Ghana. The students include first years (both green and gold tracks) and second years in all the four second cycle schools. The third years were excluded because they were busy studying for their final West African Senior Secondary Certificate Examination (WASSCE).

Accessible population is the portion of the population to which the researcher has reasonable access; thus a subset of the target population. The reasons for the choice of this group was that they have used the system before, they were nearer to the researcher and that made the collection of data quite easier as compared to going to other districts or municipality within the region or outside. The research could have covered all teachers, headmasters of second cycle schools and students but the researcher wanted to get to those who have used the CSSPS and could give information on their satisfaction levels.

Though the municipality has a lot of educational facilities both private and public including Nursery/Kindergarten, Primary, Junior and Senior High Schools, the children of school going age especially at the Basic level do not have good attitude towards schooling. They prefer fishing to education among the coastal towns and villages.

Sampling Procedure

Sampling is a process or technique of choosing a sub-group from a population to participate in the study; it is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected (Ogula, 2005). Sindhu (2005), states

that sampling is the process of drawing a sample from the population. For this purpose, the population is divided into a number of parts called sampling units.

In obtaining the sample size, Nwana (1992) expressed that, there are sure non-conclusive practices among social scientists that one can receive. “One of such practices was that on the off chance that the populace is a couple of hundreds, at that point a 40% or more sample will be proper; on the off chance that a large number, a 20% will get the job done; if a couple of thousands, a 10% example will do; and on the off chance that few thousands are included, at that point as on account of the present investigation then a 5% or less sample size will do.” It was on this account that ninety-two (92) from Saltpond Methodist High, one hundred and fifty-four (154) from Mfantsiman Girls Senior High, one hundred and forty-five (145) from Mankessim Senior High Technical, and one hundred and five (105) from Kwagyir Aggrey Senior High Technical depending on their total students populations. Table 2 shows the representation of the various SHS students in this study.

Table 2: Representation of the Categories in Sample.

Categories	Number
Saltpond Methodist High	92
Mfantsiman Girls Senior High	154
Mankessim Senior High Technical	145
Kwagyir Aggrey Senior High Technical	105
Basic Headteachers	23
SHS Assistant Headmasters	4
ICT Coordinators	2
Exams officer	1
Total	**526**

Source: Field Survey (2019)

The research was conducted in Mfantseman Municipality of the Central Region of Ghana in: four (4) Second Cycle schools (Saltpond Methodist High School – Saltpond, Mfantsiman Girls Senior High School – Saltpond, Mankessim Senior High Technical School – Mankessim, and Kwagyir Aggrey Senior High Technical School – Anomabo), twenty-three (23) Basic Schools in Saltpond Circuit 'A' & 'B', the Officer – in – Charge of Examination at the Mfantseman Municipal Directorate of Education and the Municipal ICT Coordinators would also contacted for data.

Data Collection Instruments

Two questionnaires were used as research instrument for the study to collect data from the respondents. A questionnaire is a research instrument consisting of a series of questions (or other types of prompts) for the purpose of gathering information from respondents. The questionnaire were used because the data needed for study was primarily coming from the students, head teachers, exams coordinator and the ICT Coordinators since they are teachers and students and could read and understand it well before making their convenient choices or responses. The questionnaires were self-developed (by the researcher) for the senior high school students, the headmasters of basic schools, the assistant headmasters of the second cycle schools, the municipal ICT and Examination Coordinators in the Municipality.

Questionnaire for the Senior High School Students

This questionnaire was in five parts: the first part elicited data on students' demographic information (Bio data) ranging from gender, age group, school, form (level), and IT background. The items in this section were closed-ended for respondents to select the appropriate responses. It also contains

information on how often students hear issues on the CSSPS, and on which media. The other parts (Parts 2 - 4) required perception responses regarding users (students) satisfaction level prior to the opening of the CSSPS, during the opening of the CSSPS and after the opening of the CSSPS.

In parts 2 to 4, there were 10 items each on system quality, information quality, service quality, technological issues, IT self-efficacy and overall satisfaction of the CSSPS using a 5-point Likert's scale type of response from minimum of 1(**SD** = **S**trongly **D**isagree) to maximum of 5 (**SA** = **S**trongly **A**gree). The students are to tick (√) each statement under the appropriate column according to their satisfaction perception levels until they finish all the questionnaires.

The fifth part consisted of two items: the first demanded just Yes or No responses. For instance, 'Do you like the idea about this CSSPS? The second item was an open ended question. Open ended questions do not restrict the respondents in any way as compared to the closed and multiple choice questions. They allow for the recording of any response to a question provided by the respondent. The answers to open ended questions are in no way predetermined which can make analysis very difficult to the researcher.eg. 'What is your total impression about this CSSPS (and or suggestions for the future)?'

Questionnaire for Basic and Second Cycle Headmasters and ICT Coordinators

This questionnaire was in five parts: the first part gathered data on headteachers, exams officer and ICT coordinators' demographic information (bio data) straddling from gender, age group, position, number of years in

position, experience in headship, training in website usage and IT background. The source of training in website usage and level of experience in computer usage were also part of the information in part 1. The items in this part were closed-ended for respondents to select the appropriate responses. The other parts (Parts 2 - 4) required responses regarding users (basic head teachers, SHS assistant headmasters, ICT coordinators and exams officer) satisfaction level prior to the opening of the CSSPS, during the opening of the CSSPS and after the opening of the CSSPS.

The parts 2, 3 and 4 had 16 items, 34 items and 10 items respectively on system quality, information quality, service quality, technological issues, IT self-efficacy and overall satisfaction of the CSSPS using a 5-point Likert's scale from minimum of 1(**SD** = **S**trongly **D**isagree) to maximum of 5 (**SA** = **S**trongly **A**gree). The students are to tick (√) each statement under the appropriate column according to their satisfaction perception levels until they finish all the questionnaires.

The fifth part had an open ended question. For instance, 'What is your total impression about this CSSPS (and or suggestions for the future)? Open ended questions do not restrict the respondents in any way as compared to the closed and multiple choice questions. They allow for the recording of any response to a question provided by the respondent. The answers to open ended questions are in no way predetermined. 'What is your total impression about this CSSPS (and or suggestions for the future)?'

Data Collection Procedure

Permission letter was sent to the headmasters of the various SHS and went back after a week for the feedback on whether the permission would be

given or not. On the feedback day, the date and time for the collection of the data was fixed upon agreement with the headmasters. The data collection began two weeks after the agreement. The enrolment figures of the students were taken on the same day from the assistant headmasters academic and administration. A week later, the questionnaires were distributed to the students of the four Senior High Schools and their Assistant Headmasters on different occasions and collected on the days of administering them. Two weeks later, the questionnaires were distributed to the Headmasters of the twenty-three (23) JHS, the Officer-in-Charge of Examination and the Municipal ICT Coordinator and his deputy at the Mfantseman Education Directorate in order to collate reliable data about the problem from them.

In the case of the students, the questionnaires were distributed to them in their various schools and the various form masters in the schools one after the other during the second break at twelve noon to avoid disrupting contact hours and breakfast and lunch time of the students due to the feeding program. The form masters helped in showing directions to the various classes and calming students down not to be upset or disturbed in responding to the questionnaire. The students were briefed about the aim of the study before they responded to the questionnaire. Students completed the questionnaires and they were collected the same day to ensure higher return rate.

For the assistant headmasters of the SHS, the questionnaires were given to them to take their time to complete. Due to their busy schedules and supervision of the WASSCE, the researcher was asked to come for the filled questionnaires in three days' time.

On the parts of the headmasters of the JHS, the researcher contacted them in their various schools to agree on dates. Per the information from one of the headteachers, permission was sorted from the Chairman of the Conference of Heads of Basic Schools (CoHBS), Mfantseman to wait and meet all the heads and distribute the questionnaires to the headmasters of Saltpond Circuit 'A' & 'B' schools during their meeting. The questionnaires were filled and collected on the same day by the researcher. The questionnaire for the ICT Coordinators and the exams officer were sent to them at their various offices to be filled for the researcher to go for them in five days' time due to their busy schedules.

One problem encountered was on the part of the assistant headmasters of the SHS where instead of Assistant headmaster Administration to fill the questionnaires, some were of the view that it should be filled by the Assistant headmaster Academic. In some of the schools, the researcher was made to wait for long hours for instructions from the guidance and counseling officer in the school before administering the questionnaires to the students.

Data Processing and Analysis

Data processing is the process of editing, coding, classifying, tabulating and charting and diagramming research data. The importance of data processing in this research is data reduction. Data reduction includes winnowing out the irrelevant data from the relevant data and ensuring order from chaos and giving shape to a mass of data. The data from this research were processed following these five important steps. These were data editing (to detect errors and omissions and to see that they are corrected and the schedules are ready for tabulation), data coding (data/responses are organized into classes/categories and numerals or other symbols are given to each item according to the class in

which it falls), data classification (grouping the statistical data under various understandable homogeneous groups for the purpose of convenient interpretation), data tabulation (summarizing raw data and displaying it in compact form for further analysis) and data diagrams (charts and graphs used to present data). In order to minimize errors in the data that were entered, the investigator assigned roles to two colleague ICT teachers to check the data entered one after the other to make sure the data were accurate. The data collected were analyzed quantitatively using descriptive statistics (mean, standard deviations, minimum values, maximum values, and percentages) and Pearson's product-moment correction. Through the Statistical Product for Social Sciences (SPSS) and content analysis (item 40 for students' questionnaire and item 69 for heads questionnaire), the data was analysed descriptively.

Chapter Summary

This chapter discussed the research design used which was the descriptive research design, study area, population, sample procedure, data collection instruments, data collection procedures and data processing and analysis with respect to the stakeholders satisfaction of the CSSPS.

CHAPTER FOUR

RESULTS AND DISCUSSION

Overview

This chapter presents the analysis and discussion of results on stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. The purpose of this study is to investigate the satisfaction of stakeholders of the CSSPS in terms of information quality, system quality, service quality prior to, during and after to the opening of the system, in the Mfantseman Municipal in the Central region of Ghana.

The actual sample used for this research was 526 including students, basic school headmasters, SHS assistant headmasters, exams officer and ICT coordinators in the Mfantseman municipality of the Central Region of Ghana. The return rate for the questionnaire was 100%. The initial segment of this part portrays the statistic attributes of the respondents. In the subsequent part, the examination discoveries are displayed by the exploration addresses figured for the investigation.

Description of Respondents

This segment on the questionnaire (bio data) talks about the foundation data of the respondents. The first part extracts data on headteachers, exams officer and ICT coordinators' demographic information (Bio data) straddling from gender, age group, position, number of years in position, experience in headship, training in website usage and IT background. It also elicits data on students' demographic information (Bio data) ranging from gender, age group,

school, form (level), and IT background. Table 3 shows the bio data on the sample Heads, Exams officer and ICT coordinators.

Table 3: The Bio data of respondents of Basic School Heads, SHS Assistant Heads, Exams officer and ICT Coordinators

Variables	Categories	N	Percentage	Total (%)
Gender	Male	22	73.3	
	Female	8	26.7	30 (100)
Age	30 – 39	10	33.3	
	40 – 49	13	43.3	
	50 – 59	7	23.3	30 (100)
Position	Basic Head	23	76.7	
	SHS Assist Head	4	13.3	
	Exams officer	1	3.3	
	ICT Coordinator	2	6.7	30 (100)
Years in position	1 – 5 yrs	11	36.7	
	6 – 10 yrs	19	63.3	30 (100)
Experience in website	Yes	14	46.7	
	No	16	53.3	30 (100)
Source of experience	Private	5	16.7	
	School	9	30.0	
	Others	1	3.3	
	N/A	15	50.0	30 (100)
Level of Experience	Non-user	2	6.7	
	Novice	6	20.0	
	Average user	10	33.3	
	Above average	8	26.7	
	Expert user	4	13.3	30 (100)
Years in using CSSPS	0 – 2 yrs	11	36.7	
	3 – 5 yrs	15	50.0	
	6 – 7 yrs	1	3.3	
	8 – 10 yrs	1	3.3	
	N/A	2	6.7	30 (100)

Source: Field survey (2019)

From the table above, out of 30 respondents to the questionnaire, 22 (73.3%) were males and 8 (26.7%) were females. The gender representation of the actual sample used skewed in favor of males. This phenomenon came about since gender equity is yet to be achieved in terms of positions. For the age

groups, out of 30, 10 (33.3%) were between 30 – 39 years, 13 (43.3%) were between 40 – 49 years and 7 (23.3%) were between 50 – 59 year group. In terms of their positions, out of the 30 respondents, 23 (76.7%) were basic school head teachers, 4 (13.3%) were SHS assistant headmasters, 1 (3.3%) as exams officer and 2 (6.7%) as ICT coordinators. For the number of years in position, 11 (36.7%) spent between 1 – 5 years and 19 (63.3%) also spent between 6 – 10 years. With experience in using websites, 14 (46.7%) responded in affirmative while 16 (53.3%) had no experience in website usage. Five (16.7%) had their source of experience from Private Computer Training Centers, 9 (30.0%) at school, 1 (3.3%) from other source with 15 (50%) responded N/A. On the level of experience, 2 (6.7%) were non-users, 6 (20.0%) were novice, 10 (33.3%) were average users, 8 (26.7%) were above average users while 4 (13.3%) were expert users. In terms of years in using CSSPS, 11 (36.7%) spent between 0 – 2 years, 15 (50.0%) spent between 3 – 5 years, 1 (3.3%) spent 6 – 7 years, 1 (3.3%) spent 8 – 10 years and 2 (6.7%) responded N/A. Table 5 displays bio data of students.

Table 4 shows the bio data on the sample students.

Table 4: The Bio data of Students

Variables	Categories	Number	Percentage	Total (%)
Gender	Male	186	37.5	
	Female	310	62.5	496 (100)
Age	14 – 18	474	95.6	
	19 – 23	21	4.2	
	24 – 28	1	0.2	496 (100)
School name	Methodist High	92	18.5	
	Mfantsiman Girls	154	31.0	
	Mankessim Sen. High	145	29.2	
	Kwegyir Aggrey High	105	21.2	496 (100)
Form	Form 1	371	74.8	
	Form 2	123	24.8	
	Form 3	2	0.4	496 (100)
Experience in website	Yes	252	50.8	
	No	244	49.2	496 (100)
Source of experience	Self-taught	51	10.3	
	Private School	21	4.2	
	Friends	41	8.3	
	School	148	29.8	
	Others	27	5.4	
	N/A	208	41.9	496 (100)
Level of experience	Non-user	71	14.3	
	Novice	38	7.7	
	Average user	301	60.7	
	Above average	65	13.1	
	Expert user	21	4.2	496 (100)
Issues of CSSPS	Scarcely	48	9.7	
	Selection only	62	12.5	
	Placement only	96	19.4	
	Both	290	58.5	496 (100)
Media Type	Print only	97	19.6	
	Electronic only	151	30.4	
	Both	248	50.0	496 (100)

Source: Field survey (2019)

From Table 4 above, out of the 496 respondents to the questionnaire, 186 (37.5%) were males and 310 (62.5%) were females. The gender representation of the actual sample used skewed in favor of females. This result came about due to one of the single sex (female) school used in the study. For

the age group, out of the 496 students who responded to the questionnaire, 474 (95.6%) were between 14 – 18 years, 21 (4.2%) were between 19 – 23 years and one (0.2%) was between 24 – 28 years. In terms of the actual sample size per schools, 92 (18.5%) were from Methodist High School, 154 (31.0%) were from Mfantsiman Girls Senior High, 145 (29.2%) were from Mankessim Senior High Technical and 105 (21.2%) were also from Kwegyir Aggrey Senior High Technical. Out of the 496 students, 371 (74.8%) were in Form One, 123 (24.8%) were in Form Two while two (0.4%) were in Form Three.

With experience in using website, 252 (50.8%) responded in approbative while 244 (49.2%) had other thoughts. Fifty-one (10.3%) had their source of experience by themselves, 21 (4.2%) had theirs from Private Computer Training Centers, 41 (8.3%) from friends, 148 (29.8%) had theirs experience at school, 27 (5.4%) from other sources while 208 (41.9%) had no source of experience (N/A). On the level of experience, 71 (14.3%) were non-users, 38 (7.9%) were novice, 301 (60.7%) were average users, 65 (13.1%) were above average users and 21 (4.2%) were also expert users. In terms of how often they hear issues of CSSPS, 48 (9.7%) said scarcely, 62 (12.5%) said during selection only, 96 (19.4%) said during placement only and 290 (58.5%) said they heard issues on CSSPS during both selection and placement. With the type of media by which they hear issues about CSSPS, 97 (19.6%) said by print only, 151 (30.4%) said by electronic only while 248 (50.0%) said by both print and electronic means.

To accumulate proof on stakeholders' satisfaction level on the framework (CSSPS), the basic headteachers, SHS assistant headmasters, exams officer, ICT coordinators and students were made to grade their reactions using

a 5 point Likert's scale ranging from Strongly Disagree, Disagree, Undecided, Agree to Strongly Agree. With the use of the mean and standard deviation for the analysis, the scales were graded as SD = Strongly Disagree (1), D = Disagree (2), U = Undecided (3), A = Agree (4) and SA = Strongly Agree (5). The criterion value (CV) of 3.00 was laid down for the scale by adding the scores together and divided by the number scale (1+2+3+4+5 = 15/5 = 3.00). To interpret the mean scores, variables that scored a mean of 0.00 to 2.99 were considered as not satisfied with the system (CSSPS) and those with mean scores between 3.00 and 5.00 were also considered as satisfied with the system.

Research Question 1: What are stakeholders' satisfaction prior to the opening of the CSSPS?

To answer this research question, questionnaire items from numbers 9 to 24 on the satisfaction level of heads of basic schools, SHS assistant heads, exams officer and ICT coordinators were used in addition to questionnaire items number 9 to 18 on the satisfaction level of students. The data is presented in Tables 5 and 6 respectively.

Table 5: The Heads, Exams officer and ICT Coordinators' Satisfaction level Prior to the Opening of the system (CSSPS).

Statements	D N (%)	U N (%)	A N (%)	M	SD
1. Candidates have adequate knowledge about the system.	13(43.3)	2(6.7)	15(50.0)	3.00	1.26
2. Candidates have access to resources (scratch cards) on time.	8(26.7)	10(33.3)	12(40.0)	3.23	0.97
3. The system (CSSPS) is fit for the purpose.	3(10.0)	5(16.7)	22(73.3)	3.67	0.71
4. There are enough education on the information to see on the CSSPS site.	8(26.7)	11(36.7)	11(36.7)	3.03	0.93
5. There are comprehensive information to users about the CSSPS.	10(33.3)	8(26.7)	12(40.0)	3.10	0.92
6. There were briefing on how to access the CSSPS site.	7(23.3)	7(23.3)	16(53.4)	3.37	0.93
7. The knowledge needed about the policies of the CSSPS come on time to all the stakeholders.	15(50.0)	3(10.0)	12(40.0)	2.83	1.15

Table 5 Cont'd

8. The CSSPS provide an up-to-date information to the candidates and parents.	12(40.0)	4(13.3)	14(46.7)	2.97	1.10
9. There were enough briefing on the services.	6(20.0)	8(26.7)	16(53.4)	3.40	0.89
10. Candidates and parents are educated well on the kinds of services to expect.	13(43.3)	7(23.3)	10(33.3)	2.97	1.00
11. Willingness to help customers and provide prompt services.	8(26.7)	10(33.3)	12(40.0)	3.20	0.93
12. There were management support for Candidates.	12(40.0)	5(16.7)	13(43.3)	3.00	1.08
13. There are ICT infrastructure in the community.	12(40.0)	3(10.0)	15(50.0)	3.07	1.44
14. Ipads, notebooks, laptops and desktop computers could be used to access the CSSPS site.	5(16.7)	6(20.0)	19(63.3)	3.57	1.19
15. I am able to use computers without help.	5(16.7)	5(16.7)	20(66.7)	3.90	1.13
16.There were training on how to use information system.	9(30.0)	7(23.3)	14(46.7)	3.17	0.87

Source: Field survey (2019)

Table 5 show that half of the respondents disagreed that the knowledge needed about the policies of CSSPS come on time to all stakeholders. However, 50% agreed that the candidates have adequate knowledge about the system. Also, 53.4% agreed that there were briefing on how to access the CSSPS site and there were enough briefing on the services. Fifty percent agreed that there are ICT infrastructure in the community. Again, 63.3% agreed that iPad, notebooks, laptops and desktop computers could be used to access the CSSPS site. Most of the headteachers (66.7%) agreed that they were able to use computers without help. Majority of the respondents (heads and ICT coordinators) were satisfied with the system. This could be seen from the mean that most were above 3.00. The overall mean was 3.28 (51.48 divided by 16 items) and the overall standard deviation was 1.03 (16.5 divided by 16 items) which indicated that most of the respondents were satisfied with the system prior to its opening.

To answer this same research question 1, questionnaire item from 9 to 18 on the satisfaction level of students were used. The data are presented in Table 6.

Table 6: The Students' Satisfaction level Prior to the Opening of the System (CSSPS).

Statements	D N (%)	U N (%)	A N (%)	M	SD
1.Candidates have adequate knowledge (policies) about the system.	272(54.9)	44(8.9)	180(36.3)	2.68	1.34
2. Candidates have access to resources (scratch cards) on time.	262(52.8)	46(9.3)	188(37.9)	2.77	1.32
3. There are enough education on the information to see on the CSSPS site.	196(39.6)	80(16.1)	220(44.4)	2.99	1.34
4. There are comprehensive information to users about the CSSPS.	183(36.9)	92(18.5)	221(44.6)	3.03	1.26
5. The knowledge needed about the policies of the CSSPS come on time to all the stakeholders.	250(50.4)	94(19.0)	152(30.7)	2.64	1.28
6.Candidates and parents are educated well on the kinds of services to expect.	283(57.0)	49(9.9)	164(33.1)	2.57	1.37
7. There were management support for Candidates.	205(41.4)	59(11.9)	232(46.8)	3.02	1.38
8. There are ICT infrastructure in the community.	201(40.5)	59(11.9)	236(47.6)	3.02	1.50
9. Ipads, notebooks, laptops and desktop computers could be used to access the CSSPS site.	60(12.1)	34(6.9)	402(81.1)	4.09	1.14
10. The CSSPS provide an up-to-date information to the candidates and parents.	170(34.3)	73(14.7)	253(51.0)	3.18	1.41

Source: Field survey (2019)

Table 6 indicated that, more than half of the respondents (54.9%) disagreed that candidates have adequate knowledge about the system. A total of 52.8% of the respondents disagreed that they have access to scratch cards on

time. Also, 50.4% disagreed that the knowledge needed about the policies of the CSSPS come on time to all the stakeholders and 57.0% disagreed that candidates and parents are educated well on the kinds of services to expect. This was confirmed by the results of the overall mean and standard deviation as 2.99 and 1.33 respectively.

The literature reviewed in this current study showed that the results gathered by Ajoye and Nwagwu (2014) indicated that the influence of system quality on user satisfaction was very strong. It was noticed that the influence of information quality on user satisfaction was also strong with most respondents positively affirming that most of their information were not adequately taken care of. Notwithstanding, majority of the respondents (81.1%) with a mean of 4.09 agreed that iPads, notebooks, laptops and desktop computers could be used to access the CSSPS site and 51.0% agreed that the CSSPS provide an up-to-date information to the candidates and parents. Out of the 10 items, eight of them were below average with only two having agreed to above 50%. This shows that, before the opening of the system, the students were not satisfied with most of the variables.

Table 7 presents the summary of respondents' satisfaction level prior to the opening of the system.

Table 7: Summary of Heads, Exams officer and ICT coordinators Satisfaction Before the Opening of the CSSPS.

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
ICT Self-Efficacy	30	3.53	.13	.72	.52
System Quality	30	3.30	.15	.82	.68
Technology Issues	30	3.21	.16	.88	.78
Service Quality	30	3.19	.13	.72	.52
Information Quality	30	3.06	.12	.66	.44

A cursory look at Table 7 shows that, majority of the respondents were satisfied with the CSSPS prior to the opening of the system. This could be deduced from the mean scores which were all above 3.00. The standard error values were also less than 1.00 which indicated that, the respondents were satisfied with the system prior to the opening. This result is in line with Tella and Abdulmumin work in 2015 which was on predictors of users' satisfaction with E-payment system at the University of Ilorin, Nigeria where 93.5% of the respondents were satisfied with the system.

Table 8 shows the summary of students' satisfaction level before the opening of the system.

Table 8: Summary of Students Satisfaction level Before the Opening of the CSSPS.

	N	Mean	Std. D	Variance
Technology Issues	496	3.37	.93	.86
ICT Self-Efficacy	496	3.18	1.41	2.00
Information Quality	496	2.89	.94	.89
System Quality	496	2.73	1.05	1.11
Service Quality	496	2.57	1.37	1.88

From the results in Table 8 above, it was clear that the students were not satisfied with the system prior to its opening. The overall mean was 2.95 and the overall standard deviation was 1.14. This indicated that, the students were not satisfied with the system at the initial sage. The results shown in Table 8 suggest that students were not satisfied with Information quality, system quality and service quality depicted by means scores less than 3.00.

The statistics on how closely two variables (system quality, information quality, service quality, technological issues and ICT self-efficacy) covary in relation to the satisfaction level prior to the opening of the system (CSSPS) is presented in Tables 9 for headteachers, assistant headteachers of SHS, ICT Coordinators and Exams Coordinator.

Table 9: Heads, Exams officer and ICT Coordinators Correlation

Table 9: Statistics satisfaction level Before the Opening of the CSSPS.

Variables	1	2	3	4	5
System Quality					
Info. Quality	.84**				
Service Quality	.74**	.80**			
Technology issues	.41*	.46*	.36*		
ICT Self-efficacy	.21	.01	.29	-.11	

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

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

N =30

As shown in Table 9, there are perfect positive correlation between the variables (system quality and information quality, system quality and service quality, information quality and service quality) with two stars (**) and (system quality and technological issues, information quality and technological issues, service quality and technological issues) one star (*) respectively. Only one variable has inverse correlation (negative value). As one value variable goes up, the other variable value goes down.

Table 10: Students Correlation statistics satisfaction level before the Opening of the system.

Variables	1	2	3	4	5
System Quality	1.0				
Info Quality	.38**	1.0			
Service Quality	.33**	.36**	1.0		
Technology Issues	.32**	.40**	.31**	1.0	
ICT Self-efficacy	.20**	.37**	.23**	.29**	1.0

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

N = 496

In Table 10, there is perfect positive correlation between the variables and a significant level of 0.01 was attained throughout. Based on the results from the analysis on Research Question 1, it is clear that prior to the opening of the system, only the headteachers, assistant headmasters and ICT coordinators have adequate knowledge about the policies of the CSSPS, access to computers and scratch cards while the students were left behind. Students are also part of the stakeholders of the system and therefore need to be considered in providing information on the system.

This finding agrees with the study conducted by Sinha and Kurian (2014) on assessment of end user satisfaction of hospital information system. The study concluded that, the acceptability and sustainability of hospital information system largely depends on the inclusion of end users during the design and implementation of the system and their satisfaction with the same.

Research Question 2: What are the perceptions of stakeholders during the opening of the CSSPS?

To answer this research question, questionnaire item from numbers 25 to 58 on the satisfaction level of basic school heads, SHS assistant heads, exams officers and ICT coordinators during the opening of the system were used. The data is showed in Table 11.

Table 11: The Heads, Exams officer and ICT Coordinators' Satisfaction Level during the Opening of the system (CSSPS).

Statements	D N (%)	U N (%)	A N (%)	M	SD
1. Candidates are able to log into the system easily.	16(53.3)	2(6.7)	12(40.0)	2.80	1.24
2. Instructions or procedures are clear to follow.	9(30.0)	3(10.0)	18(60.0)	3.33	0.96
3. The interface design is user friendly.	7(23.3)	5(16.7)	18(60.0)	3.43	0.94
4. There are help buttons to help the users.	3(10.0)	8(26.7)	19(63.3)	3.67	0.84
5. The system (CSSPS) is relevant to decision making.	3(10.0)	6(20.0)	21(70.0)	3.70	0.79
6. Information on the CSSPS site is timely.	4(13.3)	9(30.0)	17(56.6)	3.57	0.90
7. The language was suitable (understandable) to Candidates.	4(13.3)	3(10.0)	23(76.7)	3.90	0.96
8. The content of the information are good.	0(0.00)	5(16.7)	25(83.4)	3.90	0.48
9. The information are timely.	3(10.0)	5(16.7)	22(73.3)	3.63	0.67
11. The information on the CSSPS are complete.	6(20.0)	5(16.7)	19(63.3)	3.50	1.11
12. The language used on the CSSPS are easy to understand by candidates and parents.	4(13.3)	9(30.0)	17(56.7)	3.43	0.73
13. The instructions on how to use the scratch cards are clear and understandable.	3(10.0)	5(16.7)	22(73.3)	3.73	0.79
14. The format of the information on the CSSPS is presented in a useful manner.	3(10.0)	3(10.0)	24(80.0)	3.83	0.79
15. The access speed is good.	8(26.6)	11(36.7)	11(36.7)	3.07	0.87
16. The CSSPS site is easy to access.	6(20.0)	12(40.0)	12(40.0)	3.20	0.76
17. The services are responsive to users.	4(13.3)	15(50.0)	11(36.6)	3.37	0.89
18. The access speed during the use of the CSSPS is very good.	17(56.7)	7(23.3)	6(20.0)	2.63	0.81

Table 11 Cont'd

19. The user interfaces are good.	9(30.0)	9(30.0)	12(40.0)	3.20	1.00
20. There are experiences on the CSSPS site.	7(23.3)	3(10.0)	20(66.7)	3.60	1.04
21. The CSSPS site is safe and secured.	2(6.7)	12(40.0)	16(53.3)	3.67	0.88
22. The CSSPS site normally slows down when more candidates are accessing it during placement.	6(20.0)	5(16.7)	19(63.3)	3.43	1.22
23. The site (CSSPS) is always available to users during placement.	9(30.0)	12(40.0)	9(30.0)	3.10	1.16
24. Access to the CSSPS on the smart phone.	11(36.6)	5(16.7)	14(46.7)	3.13	1.33
25. The CSSPS site is very interactive.	3(10.0)	6(20.0)	21(70.0)	3.67	0.76
26. The access speed of the network is good.	8(26.7)	10(33.3)	12(40.0)	3.23	0.97
27. The CSSPS has improved over the previous years.	1(3.3)	14(46.7)	15(50.0)	3.53	0.68
28. Where the candidates are supposed to go when they encounter problems on the placements are provided adequately.	5(16.7)	12(40.0)	13(43.3)	3.27	0.74
29. I am able to navigate through the system (CSSPS).	6(20.0)	10(33.3)	14(46.7)	3.33	0.88
30. User supports are always available to users.	8(26.7)	6(20.0)	16(53.3)	3.27	0.87
31.The CSSPS is user friendly.	6(20.0)	6(20.0)	18(60.0)	3.53	0.97
32. The information is clear.	0(0.00)	3(10.0)	27(90.0)	4.00	0.46
33. Objectivity between the user and the system is good.	0(0.00)	8(26.7)	22(73.3)	3.77	0.50
34. The CSSPS is easy to use.	10(33.3)	7(23.3)	13(43.3)	3.30	1.15
35. Candidates can use computers without help from others.	20(66.6)	6(20.0)	4(13.3)	2.23	0.97

Source: Field survey (2019)

In Table 11 above, 53.3% of the headteachers disagreed that candidates are able to log into the system easily with 56.7% disagreeing that the access speed during the use of the CSSPS is very good. Another study conducted by Nelima, Mbugua and Kilwake (2016) in Kenya to investigate factors affecting information systems user satisfaction in Kenyan Universities, it was revealed that information management was greatly affected by poor network access and poor management systems. The findings of Nelima, Mbugua and Kilwake is also in line with this current study where most of the respondents complained of poor network access (break in network) during the opening of the system (CSSPS). Also, approximately 67% of the respondents disagreed that candidates can use computers without help from others. Besides, 60.0% of the respondents agreed that instructions are clear to follow and the interface design is user friendly. Also, majority of the headteachers agreed to the fact that the CSSPS is relevant to decision making (70.0%), the information are good (83.4%) and the information are timely (73.3%). The format of the information on the CSSPS is presented in a useful manner had 80.0% agreed and the CSSPS site being very interactive had 70.0% affirmation from the respondents. Ninety percent (90.0%) with a mean of 4.0 also agreed that the information is clear to them on the site. More than 50% of the respondents were satisfied with the system because, out of the 34 items, 24 of them seen more than 50% level of satisfaction.

To answer this same research question 2, questionnaire item from 19 to 28 on the satisfaction level of students were used. The data is presented in Table 12 below.

Table 12: The Students' satisfaction level during the opening of the System (CSSPS).

Statements	D N (%)	U N (%)	A N (%)	M	SD
1. Candidates are able to log into the system easily.	246(49.6)	37(7.5)	213(42.9)	2.82	1.47
2. Instructions are clear to follow.	110(22.2)	52(10.5)	334(67.4)	3.56	1.20
3. The interface design is user friendly.	145(29.2)	149(30.0)	202(40.7)	3.10	1.15
4. The system is relevant to decision making.	151(30.4)	82(16.5)	263(53)	3.26	1.28
5. The language was suitable to Candidates.	88(17.8)	39(7.9)	369(74.4)	3.84	1.22
6. The CSSPS site is easy to access.	180(36.3)	74(14.9)	242(48.7)	3.18	1.31
7. The CSSPS site normally slows down when more candidates are accessing it during placement.	130(26.2)	48(9.7)	318(64.1)	3.63	1.48
8. The site (CSSPS) is always available to users during placement.	190(38.3)	45(9.1)	261(52.7)	3.12	1.46
9. Where the candidates are supposed to go when they encounter problems on the placements are provided adequately.	253(51.0)	73(14.7)	170(34.3)	2.65	1.39
10. The instructions on how to use the scratch cards are clear and understandable.	156(31.4)	51(10.3)	289(58.3)	3.34	1.42

Source: Field survey (2019)

It can be seen in Table 12 that, almost half of the students (49.6%) refuted to the statement that candidates are able to log into the system easily. This was substantiated earlier in Table 11 by the headteachers. A little more than half also disagreed that where the candidates are supposed to go when they encounter problems on the placements are provided adequately. Even so, 67.4%

of the students agreed that the instructions are clear to follow. This was asserted in Table 11 by the headteachers. Seventy-four point four percent (74.4%) also agreed that the language was understandable to candidates while 64.1% agreed that the CSSPS site normally slows down when more candidates are accessing it during placements. This result is in line with the study conducted by Nelima, Mbugua and Kilwake (2016) in Kenya to investigate factors affecting information systems user satisfaction in Kenyan Universities where most of the respondents complained of poor network access (break in network) during the opening of the system (CSSPS).

The summary of the perception level of the heads and the ICT coordinators is presented in Tables 13.

Table 13: Summary of Heads, Exams officer and ICT coordinators Perception level During the Opening of the CSSPS.

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Information Quality	30	3.69	.09	.48	.23
System Quality	30	3.39	.13	.70	.50
ICT Self-Efficacy	30	3.35	.10	.54	.29
Technology Issues	30	3.32	.09	.49	.24
Service Quality	30	3.27	.08	.46	.21

Table 13 above summarizes the satisfaction level of the basic headteachers, SHS assistant headmasters and ICT coordinators during the opening of the system. It was a clear indication that the respondents were

satisfied with the system during placement since all the mean for the independent variables were above 3.00 as the criterion value. This is also in line with Tella and Abdulmumin study in 2015 as 93.5% of the respondents were satisfied and moderate satisfied with the E-payment system.

The summary of the perception level of the heads and the ICT coordinators is presented in Table 14.

Table 14: Summary of Students Perception level During the Opening of the CSSPS.

	N	Mean	Std. Deviation	Variance
Information Quality	496	3.55	.99	.98
Service Quality	496	3.41	1.04	1.09
ICT Self-Efficacy	496	3.34	1.42	2.03
System Quality	496	3.16	.97	.94
Technology Issues	496	2.89	1.15	1.32

From Table 14 above, only one variable (technological issues) had a mean of 2.89 which was below the normal. The rest (information quality, service quality, ICT self-efficacy and system quality) have mean more than 3.00 meaning the students were satisfied with the four variables during the opening of the system.

The statistics on how closely two variables co-vary in relation to the perception level during the opening of the system (CSSPS) is presented in

Tables 15 for headteachers, assistant headmasters, ICT Coordinators and exams coordinator.

Table 15: Heads, Exams officer and ICT Coordinators Correlation statistics Perception level During the Opening of the system.

Variables	1	2	3	4	5
System Quality	1.0				
Information Quality	.82**	1.0			
Service Quality	.59**	.22	1.0		
Technology Issues	.72**	.44*	.77**	1.0	
ICT Self-Efficacy	.83**	.58**	.71**	.88**	1.0

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

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

N = 30

From the results in Table 15, almost all the variables with two stars (**) are statistically significant at 0.01 level of significance (information quality and system quality, service quality and system quality, technological issues and system quality, ICT self-efficacy and system quality, ICT self-efficacy and information quality, technological issues and service quality, ICT self-efficacy and service quality) whereas the variable with one star (*) is also significant at the 0.05 level (medium significance). This means that there is a strong correlation between the variables (system quality, information quality, service quality, technological issues and ICT self-efficacy).

The statistics on how closely two variables co-vary in relation to the perception level during the opening of the system (CSSPS) is presented in Tables 16 below.

Table 16: Students Correlation statistics Perception level during the Opening of the CSSPS.

Variables	1	2	3	4	5
System Quality	1.0				
Information Quality	.41**	1.0			
Service Quality	.34**	.32**	1.0		
Technology Issues	.34**	.28**	.23**	1.0	
User IT Self-Efficacy	.30**	.28**	.25**	.27**	1.0

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

N = 496

In Table 16 above, there are strong correlation between the variables (system quality, information quality, service quality, technological issues and user IT self-efficacy) with all the variables having two stars (**) at significant level of 0.01 which means they are of high significance. Based on the results from the analysis on Research Question 2, it is clear that during the opening of the system, instructions and information on the site are clear to stakeholders. Candidates have problem with the slowing down or intermittent breakdown in networks when accessing the site. This was also supported in Ajoye and Nwagwu research conducted in 2014 and recommended that the government should invest in large scale internet infrastructure to a world class standard as well as the wholesome availability of internet services to all students in all communities in the country.

Research Question 3: What is stakeholders' satisfaction after the opening of the CSSPS?

To answer this research question, questionnaire item from numbers 59 to 68 on the satisfaction level of heads of basic schools, SHS assistant heads, exams officer and ICT coordinators were used. The data is presented in Table 17.

Table 17 cont't

Table 17: The Heads, Exams officer and ICT Coordinators' Satisfaction level After the Opening of the system (CSSPS).

Statements	D N (%)	U N (%)	A N (%)	M	SD
1. The system (CSSPS) meets user expectations.	11(36.7)	8(26.7)	11(36.7)	2.93	0.98
2. The system (CSSPS) responded as expected.	8(26.7)	6(20.0)	16(53.3)	3.33	0.96
3. The placement is accurate.	13(43.4)	8(26.7)	9(30.0)	2.87	1.07
4. The information are credible.	2(6.7)	7(23.3)	21(70.0)	3.57	0.82

Table 17 Cont'd

meet the specific needs of Candidates.	6(20.0)	8(26.7)	16(53.3)	3.47	1.17
6. Concise representation of the services rendered.	7(23.3)	9(30.0)	14(46.7)	3.23	0.82
7. The CSSPS is Compatible and fits to user's current needs, values and past experiences.	7(23.3)	11(36.7)	12(40.0)	3.17	0.79
8. User expectations are met accurately.	11(36.7)	8(26.7)	11(36.7)	3.13	1.25
9. The CSSPS is good because, candidates and parents can even access the system on their smart phones apart from computers.	8(26.7)	7(23.3)	15(50.0)	3.23	1.07
10. The CSSPS provide reports that seem to be just about what I need.	6(20.0)	6(20.0)	18(60.0)	3.40	1.04

Source: Field survey (2019)

Table 17 above shows a clear trend that after the opening of the system (CSSPS), 53.3% of the respondents agreed that the system responded as expected. It can also be seen from Table 17 that 70.0% of the respondents supported the statement that the information are credible with a little more than half (53.3%) affirming that the data and information meet the specific needs of the candidates. Half of the respondents (50.0%) also agreed to the statement that the CSSPS is good because, candidates and parents can even access the system on their smart phones apart from desktop computers. In addition, 60.0% agreed that the CSSPS provide reports that seem to be just about what the stakeholders need. Almost all the mean were above 3.0 in the exception of two of them that fall below 3.0.

Likewise, Table 18 added to the responses to this same research question 3.

Table 18: The Students' Satisfaction level After the Opening of the system (CSSPS).

Statements	D N (%)	U N (%)	A N (%)	M	SD
1. The system (CSSPS) meets user expectations.	227(45.8)	71(14.3)	198(39.9)	2.87	2.31
2. The system (CSSPS) responded as expected.	213(42.9)	79(15.9)	204(41.1)	2.92	1.32
3. The placement is accurate.	243(49.0)	51(10.3)	202(40.7)	2.75	1.49
4. The information are credible.	148(29.8)	96(19.4)	252(50.8)	3.21	1.29
5. The data and information meet the specific needs of Candidates.	197(39.8)	86(17.3)	193(42.9)	2.99	1.38
6. Concise representation of the services rendered.	165(33.3)	183(36.9)	148(29.9)	2.91	1.12
7. The CSSPS is Compatible and fits to user's current needs, values and past experiences.	176(35.4)	134(27.0)	186(37.5)	2.96	1.25
8. User expectations are met accurately.	235(47.4)	93(18.8)	168(33.9)	2.76	1.30

Table 18 Cont'd

9. The CSSPS is good because, candidates and parents can even access the system on their smart phones apart from computers.	102(20.6)	59(11.9)	335(67.5)	3.75	1.33
10. The CSSPS provide reports that seem to be just about what I need.	182(36.7)	77(15.5)	237(47.8)	3.10	1.43

Source: Field survey (2019)

It is apparent from Table 18 above that almost half of the students (49.0%) disagreed to the statement that the placement was accurate. However, 50.8% of the students agreed that the information are credible. A little over two-thirds of the students (67.5%) also agreed that the CSSPS is good because, candidates and parents can even access the system on their smart phones apart from the desktop computers. This was swore by the headteachers as represented in Table 17 above.

The summary of the basic headteachers, SHS assistant headmasters, exams officer and ICT coordinators satisfaction level after the opening of the system can be found in Table 19 below.

Table 19: Summary of Heads, Exams officer and ICT Coordinators Satisfaction level After the Opening of the CSSPS.

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Information Quality	30	3.30	.15	.81	.66
ICT Self-Efficacy	30	3.26	.18	1.01	1.02
Service Quality	30	3.23	.15	.82	.67
Technology Issues	30	3.17	.14	.79	.63
System Quality	30	3.13	.17	.91	.83

As shown in Table 19 above, it was obvious that the basic headteachers, SHS assistant headmasters, exams officer and ICT coordinators are satisfied with the CSSPS after the opening of the system. All the mean values are above 3.0, the criterion value, with information quality taking the topmost position down to the system quality as the least among the variables. This result was also verified in a research carried out in 2017 by Abdulkarim and Setiawan on the application of Information System Online University Based on Civitas Academic Satisfaction level, a case in Indonesia University of Education where an average value of 2.95 out of a maximum value of 4.00 was assumed.

The summary of the students' satisfaction level after the opening of the system can also be seen in Table 20 below.

Table 20: Summary of Students Satisfaction level After the Opening of the CSSPS.

	N	Mean	Std. Deviation	Variance
ICT Self-Efficacy	496	3.20	1.02	1.03
Information Quality	496	2.98	1.06	1.12
Technology Issues	496	2.96	1.25	1.55
Service Quality	496	2.91	1.12	1.26
System Quality	496	2.85	1.18	1.40

It can be seen in Table 20 that, the students were not satisfied with the CSSPS after the opening of the system. This could be verified from the table that out of the five variables, only one (ICT Self-Efficacy) had a mean above 3.00 as the criterion value while the rest (information quality, technological issues, service quality and system quality) have below 3.00 mean. It agrees with what Nelima, Mbugua and Kilwake (2016) what found as information management was greatly affected by poor network access and poor management systems. Ajoye and Nwagwu (2014) also had a similar finding that service quality has a mixed effect on user satisfaction.

The statistics on how closely two variables co-vary in relation to the satisfaction level after the opening of the system (CSSPS) is presented in Tables 21 for heads, assistant headmasters, exams coordinator and ICT coordinators.

Table 21: Heads, Exams officer and ICT Coordinators Correlation Statistics Satisfaction level After the Opening of the CSSPS.

Variables	1	2	3	4	5
System Quality	1.0				
Information Quality	.64**	1.0			
Service Quality	.37*	.67**	1.0		
Technology Issues	.66**	.35	.47**	1.0	
ICT Self-Efficacy	.82**	.70**	.68**	.69**	1.0

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

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

N = 30

As represented in Table 21, there are strong correlation with two stars (**) at 0.01 level and one star (*) at 0.05 level of significance respectively.

Table 22: Students Correlation statistics on the Satisfaction level After the Opening of the CSSPS.

Variables	1	2	3	4	5
System Quality	1.0				
Information Quality	.54**	1.0			
Service Quality	.38**	.42**	1.0		
Technology Issues	.42**	.46**	.41**	1.0	
User IT Self-Efficacy	.51**	.54**	.39**	.48**	1.0

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

N = 496

From the findings in Table 22, all the variables with ** are strong correlation and are statistically significant at 0.01 level throughout.

Based on the results from the analysis on Research Question 3, it is clear that after the opening of the system, only the headteachers, assistant headmasters and ICT coordinators were satisfied with the CSSPS and the students thought otherwise.

Research Question 4: What in stakeholders view can be done to improve upon the system?

To answer this research question, questionnaire item number 40 and 69 were used for students and headteachers respectively which were open ended. Table 23 summarizes the data gathered on research question 4.

Table 23: Statistics on Stakeholders' view whether they like the idea of the CSSPS (Yes or No)

Categories	Actual Sample Size	Yes CSSPS N (%)	No CSSPS N (%)	Total N (%)
Basic Heads, SHS Assistant Heads, Exams officer, ICT Coordinators	30	27 (90.0)	3 (10.0)	30 (100)
Students	496	432 (69.0)	154 (31.0)	496 (100)
Total	**526**	**369 (70.2)**	**157 (29.8)**	**526 (100)**

Source: Field Survey (2019)

As illustrated in Table 23, more than two-thirds of the sample were in favor of the CSSPS innovation and would like it to be continued. From the analysis, 10% of the respondents said the CSSPS was cost effective and less

burdened as compared to the manual way of placement with 15% confirming that they were given the schools that they selected when they were in JHS. In addition, 21% were of the view that enough education about the CSSPS be given to candidates, teachers and parents before the start of the BECE so that when the time comes for them to access the system, it would not be so strange to them. Out of the respondents, 8% suggested that more sites should be created to ease the pressure on only one site whereas 2% also suggested that the placement should come a bit earlier so that they could get enough time to prepare before reporting at school. Further, 5% said they know the schools they would attend ahead of time and 39% also were of the view that the CSSPS was the fastest and easiest way to check results and get admissions into SHS/TI in the country. Most of the respondents gave several reasons for the continuation of this CSSPS.

The respondents claimed that this CSSPS has given a lot of candidates the opportunity to get admissions (placements) which has made the introduction of the Free SHS policy possible. Also, the respondents affirmed that this CSSPS has taken away corrupt practices of some of the SHS headmasters who just enrich their pockets to the detriments of other stakeholders. Again, the CSSPS is cost effective as compared to the manual system where parents and students have to travel from one school to the other searching for where to find placement. More than 50% of the respondents also said the CSSPS is the easiest and fastest way to know the particular school a student will go far ahead of time. Nonetheless, out of the number of students that responded “Dislike” to the CSSPS, 34% were of the view that they were not given any of their selected schools while 26% said they find it difficult getting the scratch cards and internet access. Thirty-nine percent (39%) also attributed it to slowness of the

internet access during placements with 1% claiming their grades were changed more than once.

Some of the suggestions from the stakeholders who took part in this study for its improvements in the future includes:

1. Candidates and parents should be advised to access the results and placements as soon as possible to avoid being placed far away from their localities.
2. The CSSPS Secretariat should upgrade their system so that when more people are accessing the site, the system would not slow down or freeze.
3. The CSSPS secretariat should update schools available for Self-placement frequently when candidates want to place themselves in available schools for easy selection of school choices.
4. Candidates with their respective parents/guardians should be educated well enough on how the CSSPS works and the roles of both students and parents for the acceptance of the system.
5. The CSSPS Secretariat should print enough flyers on how the CSSPS operates to be distributed to the various stakeholders before the registration of the candidates begins for them to be abreast with the currents trends of the system (CSSPS).
6. Also, the CSSPS Secretariat should create enough jingles to be played on both radios and televisions in the various Ghanaian languages to make the stakeholders understand all the ‘rules of the game’.
7. Again, the CSSPS Secretariat in collaboration with GES should educate internet café attendants on how to assist the candidates and their

parents/guardians in terms of the 'Self placement' option in case the candidates are not placed at any of their choices.

8. The government should help build ICT centers in rural areas to ease their access to the internet during placement to reduce the cost of transportation to urban areas to check placements.
9. The CSSPS Secretariat should upgrade their system so that placements could be accessed on smart phones, stored and printed later to reduce burdens on the hassles that parents/guardians go through.

Summary of Key Findings

From the findings, it was obvious that the selection and placement processes were easier and faster for both candidates and their parents as compared to the manual way. Also, less privileged candidates get placement without paying any amount of money to any of the SHS heads for admission. It has also brought about fairness and transparency to the selection and placement procedures. Again, most of the students were of the view that, the CSSPS was a laudable innovation and would have been applauded by all if the schools that they select during the selection process were given to them by the system.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview

This closing chapter of the investigation outlines of the findings, conclusions and recommendations based on the conclusions.

Summary of the Study

The purpose of this study was to investigate the satisfaction of stakeholders of the CSSPS as an innovation prior to the opening of the system, during the opening of the system and after the opening of the system against the manual way of selection and placement in the Mfantseman Municipal in the Central region of Ghana. The research questions which guided this study were:

(1) What is the stakeholders' satisfaction prior to the opening of the CSSPS?

(2) What are the perceptions of stakeholders during the opening of the CSSPS?

(3) What is the stakeholders' satisfaction after the opening of the CSSPS?

(4) What in stakeholders view can be done to improve upon the system?

The approach or methodology portrayed the casing on which the research was composed. These were dealt with using descriptive research design which was employed in this study. A sample size of 526 respondents were selected for the study using non-probability (purposive) sampling procedure. Since this study is about the satisfaction of the stakeholders on the CSSPS, it would be appropriate to use samples among those who have used the system before to get the required information for the study. The above sampling procedures were employed to limit biases in the selection as well as making the sample representative of the population under study. Also, they provide equal opportunity or chance to every subject to be represented in the sample.

Questionnaire was employed as the research instrument to collect and also to generate data for the study. The information produced was prepared and changed over into percentages (rates) to encourage the talk procedure. The information was exhibited for examination or analysis in unthinkable or tabular structure.

Results/Findings

Some of the major points found in this study include:

1. The CSSPS has given a lot of candidates the opportunity to get admissions (placements).
2. The CSSPS has also taken away corrupt practices of some of the SHS headmasters who just enrich their pockets to the detriments of other stakeholders.
3. The CSSPS is cost effective as compared to the manual system where parents and students have to travel from one school to the other searching for where to find placement.
4. The CSSPS is also the easiest and fastest way to know the particular school a student will go far ahead of time.

Some of the suggestions from the stakeholders who took part in this study for its improvements in the future includes:

1. Candidates and parents should be advised to access the results and placements as soon as possible to avoid being placed far away from their localities.
2. The CSSPS Secretariat should upgrade their system so that when more people are accessing the site, the system would not slow down or freeze.

3. The CSSPS secretariat should update schools available for Self placement frequently when candidates want to place themselves in available schools for easy selection of school choices.
4. Candidates with their respective parents/guardians should be educated well enough on how the CSSPS works and the roles of both students and parents for the acceptance of the system.
5. The CSSPS Secretariat should print enough flyers on how the CSSPS operates to be distributed to the various stakeholders before the registration of the candidates begins for them to be abreast with the currents trends of the system (CSSPS).
6. Also, the CSSPS Secretariat should create enough jingles to be played on both radios and televisions in the various Ghanaian languages to make the stakeholders understand all the 'rules of the game'.
7. Again, the CSSPS Secretariat in collaboration with GES should educate internet café attendants on how to assist the candidates and their parents/guardians in terms of the 'Self placement' option in case the candidates are not placed at any of their choices.

Conclusions

From the findings, it was obvious that the selection and placement processes were easier and faster for both candidates and their parents as compared to the manual way. Also, less privileged candidates get placement without paying any amount of money to any of the SHS heads for admission. It has also brought about fairness and transparency to the selection and placement procedures.

Again, most of the students were of the view that, the CSSPS was a laudable innovation and would have been applauded by all if the schools that they select during the selection process were given to them by the system.

Recommendations

From the findings, the recommendations have been grouped into two: Recommendation for Policy Makers and Recommendation for Practice.

a) Recommendation for Policy Makers

1. The CSSPS Secretariat should upgrade their system so that when more people are accessing the site, the system would not slow down or freeze.
2. The CSSPS secretariat should update schools available for Self placement frequently when candidates want to place themselves in available schools for easy selection of school choices.
3. Also, the CSSPS Secretariat should create enough jingles to be played on both radios and televisions in the various Ghanaian languages to make the stakeholders understand all the 'rules of the game'.
4. The government should help build ICT centers in rural areas to ease their access to the internet during placement to reduce the cost of transportation to urban areas to check placements.
5. The CSSPS Secretariat should upgrade their system so that placements could be accessed on smart phones, stored and printed later.
6. The CSSPS Secretariat should print enough flyers on how the CSSPS operates to be distributed to the various stakeholders before the

registration of the candidates begins for them to be abreast with the currents trends of the system (CSSPS).

b) Recommendation for Practice

1. Candidates and parents should be advised to access the results and placements as soon as possible to avoid being placed far away from their localities.
2. Candidates with their respective parents/guardians should be educated well enough on how the CSSPS works and the roles of both students and parents for the acceptance of the system.
3. Again, the CSSPS Secretariat in collaboration with GES should educate internet café attendants on how to assist the candidates and their parents/guardians in terms of the 'Self placement' option in case the candidates are not placed at any of their choices.

Suggestions for Future Researches

The researcher thereby suggests the following to future researchers who would like to research into similar topic or area.

1. The effects of incorporating digital learning going in schools and educational sector in Ghana.
2. The effects of the development of new technologies on education in Ghana.
3. The impacts of information technologies and Internet availability in making work from home the norm now in the educational sector in Ghana.
4. The importance of schools teaching using iPads, Smart Boards, social media, and other new technologies.

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APPENDICES

APPENDIX A

QUESTIONNAIRE FOR BASIC AND SENIOR HIGH SCHOOL HEADS, EXAMS OFFICER AND ICT COORDINATORS

The objective of this survey is to assess the Stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. A case in Mfantseman municipality.

You have therefore been chosen to participate in this research survey. Responding to this questionnaire would take you about ten to fifteen minutes. We advise that you do not write your name or identify yourself in any part of this paper. All your responses would remain confidential and anonymous.

This survey consists of **five** parts: The first part talks about your demographic information (Bio data and experience) which are closed-ended for you to select the appropriate responses. The remaining parts (Parts 2 - 4) would require you to provide your perceptions regarding your satisfaction level of the CSSPS. The fifth part is an open-ended item which you have to express your view on the perception level of the system. Thank you for taking time to provide answers to this survey.

PART ONE

Please supply the following information regarding your background and experiences. Tick (√) the appropriate one.

1. Your gender: ☐ Male ☐ Female

2. Your age: ☐ 20 – 29 yrs ☐ 30 – 39 yrs ☐ 40 – 49 yrs ☐ 50 – 59 yrs

3. Position: ☐ Basic Head ☐ SHS Assistant Head

Exams Officer ☐ ☐ ICT Coordinator

4. How long have you been on the position in (3) above?

☐ 1 -5 yrs ☐ 6 – 10 yrs ☐ 11 – 15 yrs ☐ 16 – 20 yrs

5. Have you ever received any training in using websites?

☐ Yes ☐ No

6. (If "Yes" for question 5), where did you receive your training? (Tick as much as appropriate)

☐ Self-taught ☐ Private Computer Training Centre

☐ Friends or Colleagues ☐ School

☐ Others ☐ N/A

7. What is your present level of experience in the use of computer system at your school? (Select one)

☐ Non – user ☐ Novice

☐ Average user ☐ Above average user

☐ Expert user

8. How many years have you spent using CSSPS platform in this school?

☐ 0 – 2 yrs ☐ 3 – 5 yrs

☐ 6 – 7 yrs ☐ 8 – 10 yrs ☐ N/A

PART TWO

Please tick **(√)** the response option that best describes your satisfaction prior to the opening of the system (CSSPS).

Response key:

SD = **S**trongly **D**isagree, **D** = **D**isagree, **U** = **U**ndecided, **A** = **A**gree, **SA** = **S**trongly **A**gree

#	Statements	SD	D	U	A	SA
9	Candidates have adequate knowledge (policies) about the system.					
10	Candidates have access to resources (scratch cards) on time.					
11	The system (CSSPS) is fit for the purpose.					
12	There are enough education on the information to see on the CSSPS site.					
13	There are comprehensive information to users about the CSSPS.					
14	There were briefing on how to access the CSSPS site**.**					
15	The knowledge needed about the policies of the CSSPS come on time to all the stakeholders.					
16	The CSSPS provide an up-to-date information to the candidates and parents.					
17	There were enough briefing on the services.					

18	Candidates and parents are educated well on the kinds of services to expect.					
19	Willingness to help customers and provide prompt services.					
20	There were management support for Candidates.					
21	There are ICT infrastructure in the community.					
22	IPad, notebooks, laptops and desktop computers could be used to access the CSSPS site.					
23	I am able to use computers without help.					
24	There were training on how to use information system.					

PART THREE

Please tick **(√)** the response option that best describes your satisfaction during the opening of the system (CSSPS).

Response key:

SD = **S**trongly **D**isagree, **D** = **D**isagree, **U** = **U**ndecided, **A** = **A**gree, **SA** = **S**trongly **A**gree

#	Statements	SD	D	U	A	SA
25	Candidates are able to log into the system easily.					
26	Instructions or procedures are clear to follow.					
27	The interface design is user friendly.					
28	There are help buttons to help the users.					
29	The system (CSSPS) is relevant to decision making.					
30	Information on the CSSPS site is timely.					
31	The language was suitable (understandable) to Candidates.					
32	The content of the information are good.					
33	The information are timely.					
34	The information on the CSSPS are complete.					
35	The language used on the CSSPS are easy to understand by candidates and parents.					
36	The instructions on how to use the scratch cards are clear and understandable.					
37	The format of the information on the CSSPS is presented in a useful manner.					

38	The access speed is good.					
39	The CSSPS site is easy to access.					
40	The services are responsive to users.					
41	The access speed during the use of the CSSPS is very good.					
42	The user interfaces are good.					
43	There are experiences on the CSSPS site.					
44	The CSSPS site is safe and secured.					
45	The CSSPS site normally slows down when more candidates are accessing it during placement.					
46	The site (CSSPS) is always available to users during placement.					
47	Access to the CSSPS on the smart phone.					
48	The CSSPS site is very interactive.					
49	The access speed of the network is good.					
50	The CSSPS has improved over the previous years.					
51	Where the candidates are supposed to go when they encounter problems on the placements are provided adequately.					
52	I am able to navigate through the system (CSSPS).					
53	User supports are always available to users.					

54	The CSSPS is user friendly.					
55	The information is clear.					
56	Objectivity between the user and the system is good.					
57	The CSSPS is easy to use.					
58	Candidates can use computers without help from others.					

PART FOUR

Please tick **(√)** the response option that best describes your satisfaction after the opening of the system (CSSPS).

Response key:

SD = **S**trongly **D**isagree, **D** = **D**isagree, **U** = **U**ndecided, **A** = **A**gree, **SA** = **S**trongly **A**gree

#	Statements	SD	D	U	A	SA
59	The system (CSSPS) meets user expectations.					
60	The system (CSSPS) responded as expected.					
61	The placement is accurate.					
62	The information are credible.					
63	The data and information meet the specific needs of Candidates.					
64	Concise representation of the services rendered.					
65	The CSSPS is Compatible and fits to user's current needs, values and past experiences.					
66	User expectations are met accurately.					
67	The CSSPS is good because, candidates and parents can even access the system on their smart phones apart from computers.					
68	The CSSPS provide reports that seem to be just about what I need.					

PART FIVE

69. What is your total impression about this CSSPS (and or suggestions for the future)?

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This is the end of the questionnaire.

Thank you for your time and cooperation. Your responses are very valuable and helpful to the overall success of the CSSPS in Ghana.

APPENDIX B

QUESTIONNAIRE FOR STUDENTS

The objective of this survey is to assess the Stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. A case in Mfantseman Municipality.

You have therefore been chosen to participate in this research survey. Responding to this questionnaire would take you about ten to fifteen minutes. We advise that you do not write your name or identify yourself in any part of this paper. All your responses would remain confidential and anonymous.

This survey consists of **five** parts: The first part talks about your demographic information (Bio data and experience) which are closed-ended for you to select the appropriate responses. The remaining parts (Part 2 - 4) would require you to provide your perceptions regarding your satisfaction level of the CSSPS. The fifth part is an open-ended item which requires your perceptions about the system. Thank you for taking time to provide answers to this survey.

PART ONE

Please supply the following information regarding your background and experiences. Tick (√) the appropriate one.

1. Your gender: ☐ Male ☐ Female

2. Your age: ☐ 14 – 18 yrs ☐ 19 – 23 yrs ☐ 24 – 28 yrs ☐

3. (a) School: ☐ Methodist Senior High ☐ Mfantsiman Girls ☐ Mankessim Senior High ☐ Kwagyir Aggrey SHT

(b)Form: ☐ One ☐ Two ☐ Three

4. Have you ever received any training in using websites?

☐ Yes ☐ No

5. (If "Yes" for question 4), where did you receive your training? (Select one).

☐ Self-taught ☐ Private Computer Trg Centre ☐ Friends ☐ School ☐ Others ☐ None

6. What is your present level of experience in the use of computer system at your school? (Select one)

☐ Non – user ☐ Novice ☐ Average user ☐ Above average user ☐ Expert user

7. How often do you hear issues about the CSSPS?

☐ Scarcely ☐ During selection only ☐ During placement only ☐ During both selection and placement

8. By which media do you hear issues about the CSSPS?

- ☐ Print only
- ☐ Electronic only
- ☐ Both print and electronic

PART TWO

Please tick **(√)** the response option that best describes your satisfaction prior to the opening of the system (CSSPS).

Response key:

SD = **S**trongly **D**isagree, **D** = **D**isagree, **U** = **U**ndecided, **A** = **A**gree,

SA = **S**trongly **A**gree

#	Statements	SD	D	U	A	SA
9	Candidates have adequate knowledge about the system.					
10	Candidates have access to resources (scratch cards) on time.					
11	There are enough education on the information to see on the CSSPS site.					
12	There are comprehensive information to users about the CSSPS.					
13	The knowledge needed about the policies of the CSSPS come on time to all the stakeholders.					
14	Candidates and parents are educated well on the kinds of services to expect.					
15	There were management support for Candidates.					
16	There are ICT infrastructure in the community.					
17	IPad, notebooks, laptops and desktop computers could be used to access the CSSPS site.					
18	The CSSPS provide an up-to-date information to the candidates and parents.					

PART THREE

Please tick **(√)** the response option that best describes your satisfaction during the opening of the system (CSSPS).

Response key:

SD = **S**trongly **D**isagree, **D** = **D**isagree, **U** = **U**ndecided, **A** = **A**gree, **SA** = **S**trongly **A**gree

#	Statements	SD	D	U	A	SA
19	Candidates are able to log into the system easily.					
20	Instructions or procedures are clear to follow.					
21	The interface design is user friendly.					
22	The system (CSSPS) is relevant to decision making.					
23	The language was suitable (understandable) to Candidates.					
24	The CSSPS site is easy to access.					
25	The CSSPS site normally slows down when more candidates are accessing it during placement.					
26	The site (CSSPS) is always available to users during placement.					
27	Where the candidates are supposed to go when they encounter problems on the placements are provided adequately.					
28	The instructions on how to use the scratch cards are clear and understandable.					

PART FOUR

Please tick **(√)** the response option that best describes your satisfaction after the opening of the system (CSSPS).

Response key:

SD = **S**trongly **D**isagree, **D** = **D**isagree, **U** = **U**ndecided, **A** = **A**gree, **SA** = **S**trongly **A**gree

#	Statements	SD	D	U	A	SA
29	The system (CSSPS) meets user expectations.					
30	The system (CSSPS) responded as expected.					
31	The placement is accurate.					
32	The information are credible.					
33	The data and information meet the specific needs of Candidates.					
34	Concise representation of the services rendered.					
35	The CSSPS is Compatible and fits to user's current needs, values and past experiences.					
36	User expectations are met accurately.					
37	The CSSPS is good because, candidates and parents can even access the system on their smart phones apart from computers.					
38	The CSSPS provide reports that seem to be just about what I need.					

PART FIVE

39. Do you like the idea about this CSSPS?

☐ Yes

☐ No

40. What is your total impression about this CSSPS (and or suggestions for the future)?

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This is the end of the questionnaire.

Thank you for your time and cooperation. Your responses are very valuable and helpful to the overall success of the CSSPS in Ghana.

APPENDIX C

PERMISSION LETTER

Abandze Methodist 'A' Basic School,
P. O. Box SP 48,
Saltpond.
29th April, 2019.

The Headmaster,
Methodist Senior High School,
P. O. Box 192,
Saltpond.

Dear Sir,

PERMISSION FOR STUDENTS ENROLMENT AND A DATE FOR DATA COLLECTION

I am Alfred James Blantari of the above mentioned school in Saltpond Circuit 'A' in the municipality. Currently, I am pursuing my Masters programme (Master of Education, Information Technology) at the University of Cape Coast, Regular Part – Time. For the fulfilment of the requirement, we are to undertake dissertation and mine is on the topic: "Stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. A case study of Mfantseman municipality".

I therefore write to your office for permission to kindly help me have access to the school's current enrolment form by form (boys and girls) and a date to be fixed for the collection of data to aid the success of my research work since your school is part of the population.

Attached is a copy of my admission letter from the University of Cape Coast.

I hope my permission would be granted.

Thank you.

Yours faithfully,

……..

(ALFRED JAMES BLANTARI)
0246284106 / 0205130875

APPENDIX D

PERMISSION LETTER

Abandze Methodist 'A' Basic School,
P. O. Box SP 48,
Saltpond.
29th April, 2019.

The Headmistress,
Mfantsiman Girls Senior High School,
P. O. Box 14,
Saltpond.

Dear Madam,

PERMISSION FOR STUDENTS ENROLMENT AND A DATE FOR DATA COLLECTION

I am Alfred James Blantari of the above mentioned school in Saltpond Circuit 'A' in the municipality. Currently, I am pursuing my Masters programme (Master of Education, Information Technology) at the University of Cape Coast, Regular Part – Time. For the fulfilment of the requirement, we are to undertake dissertation and mine is on the topic: "Stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. A case study of Mfantseman municipality".

I therefore write to your office for permission to kindly help me have access to the school's current enrolment form by form and a date to be fixed for the collection of data to aid the success of my research work since your school is part of the population.

Attached is a copy of my admission letter from the University of Cape Coast.

I hope my permission would be granted.

Thank you.

Yours faithfully,

……..

(ALFRED JAMES BLANTARI)
0246284106 / 0205130875

APPENDIX E

PERMISSION LETTER

Abandze Methodist 'A' Basic School,
P. O. Box SP 48,
Saltpond.
29th April, 2019.

The Headmaster,
Mankessim Senior High Technical School,
P. O. Box 50,
Mankessim.

Dear Sir,

PERMISSION FOR STUDENTS ENROLMENT AND A DATE FOR DATA COLLECTION

I am Alfred James Blantari of the above mentioned school in Saltpond Circuit 'A' in the municipality. Currently, I am pursuing my Masters programme (Master of Education, Information Technology) at the University of Cape Coast, Regular Part – Time. For the fulfilment of the requirement, we are to undertake dissertation and mine is on the topic: "Stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. A case study of Mfantseman municipality".

I therefore write to your office for permission to kindly help me have access to the school's current enrolment form by form (boys and girls) and a date to be fixed for the collection of data to aid the success of my research work since your school is part of the population.

Attached is a copy of my admission letter from the University of Cape Coast.

I hope my permission would be granted.

Thank you.

Yours faithfully,

…….

(ALFRED JAMES BLANTARI)
0246284106 / 0205130875

APPENDIX F

PERMISSION LETTER

Abandze Methodist 'A' Basic School,
P. O. Box SP 48,
Saltpond.
29th April, 2019.

The Headmaster,
Kwagyir Aggrey Senior High Technical School,
P. O. Box AN 65,
Anomabo.

Dear Sir,

PERMISSION FOR STUDENTS ENROLMENT AND A DATE FOR DATA COLLECTION

I am Alfred James Blantari of the above mentioned school in Saltpond Circuit 'A' in the municipality. Currently, I am pursuing my Masters programme (Master of Education, Information Technology) at the University of Cape Coast, Regular Part – Time. For the fulfilment of the requirement, we are to undertake dissertation and mine is on the topic: "Stakeholders' satisfaction on the Computerized School Selection and Placement System (CSSPS) in Ghana. A case study of Mfantseman municipality".

I therefore write to your office for permission to kindly help me have access to the school's current enrolment form by form (boys and girls) and a date to be fixed for the collection of data to aid the success of my research work since your school is part of the population.

Attached is a copy of my admission letter from the University of Cape Coast.

I hope my permission would be granted.

Thank you.

Yours faithfully,

……

(ALFRED JAMES BLANTARI)
0246284106 / 0205130875

APPENDIX G

HEADS, EXAMS OFFICER AND ICT COORDINATORS

RELIABILITY STATISTICS

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.934	68

APPENDIX H

STUDENTS RELIABILITY STATISTICS

Case Processing Summary

		N	%
Cases	Valid	496	100.0
	Excluded[a]	0	.0
	Total	496	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.864	39