



**EVALUATING USER SATISFACTION OF THE ELECTIONS MANAGEMENT
SYSTEM DURING MALAWI'S 2019 TRIPARTITE AND 2020 PRESIDENTIAL
ELECTIONS**

BY

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UNIVERSITY OF MALAWI

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SYSTEM DURING MALAWI'S 2019 TRIPARTITE AND 2020 PRESIDENTIAL
ELECTIONS**

M.Sc. (Informatics) Thesis

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fulfilment of the requirements for the degree of Master of Science (Informatics)

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DECLARATION

I, the undersigned, declare that this thesis is my own original work and it has not been submitted to any other institution for similar purposes. Acknowledgements have been duly made whenever another persons' work has been used. I bear the responsibility for the contents of this paper.

Dave Kadzuwa

Full Legal Name



Signature

Date

CERTIFICATE OF APPROVAL

The undersigned certify that this thesis represents the student's own work and effort and has been submitted with our approval.

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DEDICATION

This thesis work is dedicated to God Almighty, my provider and my source of wisdom and knowledge. He has been the source of my strength and guidance throughout this project and the whole program.

I also dedicate this work to my wife, Tadala who has been a constant source of support and encouragement throughout this program.

This work is also dedicated to my children, Chisomo and Chikondi for their unconditional love, patience and understanding throughout this program.

Lastly, I dedicate this work to my parents and family for their encouragement and support.

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ABSTRACT

The study aimed to measure user satisfaction of MECs Elections Management System during Malawi's 2019 Tripartite and 2020 Presidential Elections. Information systems need to be evaluated to examine not only their effectiveness but also deficiencies to inform systems improvement. There was a noted evaluation gap of MECs EMS which is at the very heart of elections management in Malawi, and this has negatively impacted MEC's ability to attain critical knowledge of how well the EMS is perceived to perform. Instead, election evaluations have primarily focused on the administration of the elections which involves analysis of administration activities at various stages of the electoral process, lightly touching on the EMS. The study adopted a descriptive cross-sectional quantitative approach to measure users' perceptions of Information, System and Service quality of the EMS to help attain and understand user satisfaction levels. Data was collected through an online survey and analysed collected data using descriptive statistics and chi square tests to find out significant relationships amongst variables. The information provided by the EMS was found highly satisfactory to its users in usefulness, currency, preciseness, comprehension, organisation, totality, and reliability. The system quality was found highly satisfactory to its users in ease of use, reliability, availability, response time, integration and security. Service was found highly satisfactory to its users in consistency, promptness, courtesy, assuredness, discreetness, communication, capability, reliability, accessibility and empathy.

Keywords: Elections Management System • Information Quality • System Quality • Service Quality • User Satisfaction • IS Success

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ABBREVIATIONS

AIS	: Academic Information System
BVR	: Biometric Voter Registration
BVRK	: Biometric Voter Registration Kit
CTC	: Constituency Tally Centre
EC	: European Commission
EMB	: Electoral Management Board
EMS	: Elections Management System
IIDEA	: International Institute for Democracy and Electoral Assistance
IS	: Information System
KPI	: Key Performance Indicator
LG	: Local Government
LGEA	: Local Government Election Act
MEC	: Malawi Electoral Commission
MIS	: Management Information System
MTL	: Malawi Telecoms Limited
NA	: National Assembly
NM	: Nomination Module
NRB	: National Registration Bureau
NRIS	: National Registration and Identification System
NTC	: National Tally Centre
OMR	: Optical Mark Recognition Technology

PEOU	:	Perceived Ease of Use
PPEA	:	Parliamentary and President Election Act
RMM	:	Results Management Module
SADC	:	Southern Africa Development Countries
SLA	:	Service Level Agreement
SUS	:	System Usability Scale
TAM	:	Technology Acceptance Model
TM	:	Transmission Module
TNM	:	Telecoms Network Malawi
UDHR	:	Universal Declaration of Human Rights
UNDP	:	United Nations Development Programme
USAID	:	U.S. Agency for International Development
USSD	:	Unstructured Supplementary Service Data
VPN	:	Virtual Private Network
VRM	:	Voter Register Module
VTM	:	Voter Transfer Module
VVM	:	Voter Verification Module

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter introduces the research study that was undertaken to evaluate user satisfaction of Malawi Electoral Commission's (MEC), Electoral Management System (EMS) during the 2019 Tripartite and the 2020 presidential elections.

1.2 Background

Information and Communications Technologies (ICT) in today's world are heavily and intricately intertwined in public e-government services that are beneficial to a multitude of sectors and the general public. Electoral commissions globally are pursuing the use of ICT to improve electoral efficiency and ensure credibility and reliability of democratic processes and election results. An information system is a set of interrelated components that collect, manipulate, store, and disseminate data and information and provide a feedback mechanism to meet an objective (Stair & Reynolds, 2020). As ICT reliance has grown and is now a widely accepted reality due to the growing degree of information systems integration. The need for information system evaluations has never been greater highlighting a shift of focus from information systems adoption to evaluation. MEC as a constitutional body, is mandated to oversee Malawi's electoral processes. MEC has its own management information system (MIS) known as the EMS which collects, stores, processes and disseminates information about voters, election candidates and election results.

1.1 MECs Electoral Management System

Global digital transformation, has driven considerable investments in information systems to attain increased profitability, market share, improved relations, and optimised operations

and processes (Rainer & Prince, 2021). Section 8 of the Electoral Commission Act mandates MEC to; organize and direct the registration of voters, establish voters' registers, print and distribute voting registers, and to establish and operate registration and polling stations. MEC has over the years employed and duly pursued ICT integration of its processes leading to the development of its EMS. MECs EMS is a combination of system modules that manage the following aspects of the electoral process; registration and verification of voters', transfer of voters from one centre to another and the tabulation, transmission and publication of results.

MEC and the National Registration Bureau (NRB) are a partnership through the signing of a memorandum of understanding that allowed for the interfacing of NRBs National Registration and Identification System (NRIS) and MECs EMS Voter Register Module (VRM). This partnership affords MEC access to national identification documents from the NRIS compiled by the NRB, to come up with its voters' register Eneji et al (2019). MEC uses a periodic voter registration method where registers are established for a single electoral event or for a sequence of elections occurring within a defined time period. After that period of time has elapsed, a new register is established and previous voter registration rolls are decommissioned (EISA, 2006). This is far cry from MECs use of manual paper-based registration in the 1994 and 1999 elections (EISA p. 161, 2006) and the use of Optical Mark Recognition (OMR) forms in 2000, that were used to capture voter information for local government elections.

Section 31 of the Parliamentary and Presidential Elections Act mandates MEC to produce copies of voter registers and to post them for inspection at appropriate public places. As such MECs EMS Voter Verification Module (VVM) allows verification officials to search and retrieve voters' information to verify entries in the provisional voters register. On top of the VVM of the EMS, the commission also established the Unstructured Supplementary Service Data (USSD) Short Code *720# that was used by voters during the 2019 and 2020 elections.to verify their registration details.

Section 75 (2) of the Parliamentary and Presidential Act empowers registered voters to apply for a transfer from the registration centre where the person is registered at to another registration centre. The law is clear that the registered voter must apply for the transfer at

the centre the voter registered at by filling form V part I. Only after which the voter must be issued with a certificate of transfer form V part II which must be presented to the presiding officer of the new centre during polling. The EMS automated the voter transfer process through the Voter Transfer Module (VTM).

Sections 27 – 39 (Local Government Elections Act), Sections 36 – 47 (Parliamentary Elections Act), Sections 48 – 55 (President Elections Act), informs on the nomination of candidates for local government, parliament and the presidency respectively Seeberg et al (2018). MECs EMS Nomination Module (NM) captures and manages aspiring candidate data. The purpose is to produce ballot paper templates and generate polling station result sheets with pre-printed contesting candidate names. The nomination form is the main source document for the system and the MEC official is required to capture names of candidates, gender, affiliation and details of electors.

Sections 95 of the Parliamentary and Presidential Elections Act and Section 81 of the Local Government Elections Act mandate district commissioner's resident at all district councils to compile the results of the elections in their respective districts. MECs voting process is manual, ballot papers are issued, voters with indelible ink on their right index mark and cast their secret ballot vote in a polling booth, into a ballot box. At the end of voting, the vote counting is done soon after, manually and uninterrupted until concluded, Malawi Electoral Commission (2020). The votes are recorded on a polling station result sheet and together with all other polling materials are transported to a constituency and or district tally centres for tabulation. MECs EMS Results Management Module (RMM) tabulates results was developed in-house with technical assistance from the United Nations Development Programme (UNDP) and key stakeholders from Malawi's political parties and their ICT experts.

MEC is mandated to publicise through gazettes, radio stations and newspapers in general circulation by Section 41A, 51, 48 and 99 of the Parliamentary and Presidential Elections Act and Section 33A and 83 of the Local Government Elections Act; the names of candidates, days and places for presidential nominations and polling, and election results. MECs EMS Transmission Module (TM) electronically transmits the results collected from the districts to the National Tally Centre (NTC). The TM was initiated employed in 2014

but was abandoned due to system forcing MEC to resort to the traditional physical transmission of original results sheets from districts to the NTC (Patel & Wahman, 2015). In 2019 the EMS transmission module was reconfigured and redeployed successfully transmitting all polling station results together with scanned images of presidential, parliamentary and local government elections from 197 Constituency Tally Centres (CTCs) across Malawi.

1.1.1 Malawi's 2019 Tripartite and 2020 Fresh Presidential Elections

MEC conducted the 2019 Tripartite Elections on 21st May 2019; parliamentary election results for 192 constituencies were announced 25th May, 2019, the presidential elections were announced 27th May, 2019 and the local government election results for 460-wards were announced 28th May, 2019 (Malawi Electoral Commission, 2019). Results for two wards were withheld pending resolution of complaints received by MEC and these were eventually announced on 27th June, 2019 after resolution of complaints. Professor Peter Mutharika was declared winner.

Two presidential candidates; Dr. Saulos Klaus Chilima the UTM presidential candidate and Dr. Lazarus McCarthy Chakwera the Malawi Congress Party presidential candidate went to court to challenge the presidential elections results and sought nullification of the 2019 presidential elections on 31st May, 2019 and 3rd June, 2019 respectively.

The two cases were consolidated on 4th June 2019 with the constitutional court delivering judgement on 3rd February, 2020 and ruled that the presidential election held on 21st May, 2019 be nullified and ordered a fresh presidential election within 150 days from the date of the judgement and subsequently were conducted on 23rd June, 2020.

For the first time in Malawi and Southern Africa, presidential elections were nullified, citing massive irregularities during the electoral process (Electoral Commissions Forum of Southern Africa Development Countries - SADC, 2020). The Supreme Court delivered its judgement upholding the constitutional court judgement on the 8th of May, 2020 after MEC's appeal. The court among other things further directed that the voters' register that was to be used in the fresh presidential election, should be as it was in the 2019 elections and that only the candidates that contested in the 2019 presidential elections were eligible

to contest in fresh presidential elections (U.S. Agency for International Development - USAID, 2019).

1.2 Problem Statement

MEC's EMS is essential for ensuring the integrity and efficiency of electoral processes. Despite its importance, concerns persist regarding the EMS's effectiveness and user satisfaction. Key issues often include system reliability, the quality of information, and the adequacy of support services. Previous studies have explored various aspects of MEC's EMS, but there remains a significant gap in understanding how these dimensions interact to influence overall user satisfaction. Specifically, the relationship between system quality, information quality, and service quality has not been thoroughly examined. This study aims to address this gap by analysing how these factors collectively impact user satisfaction within EMS during and after the 2019 tripartite and 2020 Presidential elections. The goal is to provide insights that can enhance EMS functionality and improve the management of electoral processes, thereby contributing to the credibility and effectiveness of democratic institutions.

1.3 Research Aim

To evaluate and measure the user satisfaction of MECs EMS information, system and service qualities, during the 2019 tripartite and 2020 presidential elections.

1.4 Research Objectives

The study aimed to achieve the following objectives:

- I. To assess how EMSs information quality informed user satisfaction.
- II. To assess how EMSs system quality informed user satisfaction.
- III. To assess how EMSs service quality informed user satisfaction.
- IV. To assess the overall user satisfaction of the EMS.

1.5 Research Questions

During the 2019 tripartite and 2020 presidential elections:

- I. How did the information quality of the EMS influence user satisfaction?
- II. How did the service quality of the EMS influence user satisfaction?

III. How did the service quality of the EMS influence user satisfaction?

1.6 Significance of Study

Voting is a critical formal expression of preference for proposed resolutions and or candidate for office. Article 21 of the “Universal Declaration of Human Rights” states that the will of the people shall be the basis of authority in government, and that this will shall be expressed in periodic and genuine elections which shall be universal and of equal suffrage, held by secret ballot or by equivalent free voting procedures (United Nations, 1948, p. 4).

MEC as a public institution provides mandated electoral management services to the nation of Malawi, and has in its employ its EMS. The EMS is deployed to uphold voting rights and as such must be assessed to ensure that the EMS in and of itself does not impend on such a crucial right and that their use are far more beneficial than detrimental. Information systems need to be evaluated to examine their effectiveness and deficiencies. Thus, through feedback from these evaluations can information systems be improved to be more efficient and effective. Therefore, MECs need for an IS evaluation activity is critical as it ensures the tracking of system effectiveness (Wang & Liao, 2008) and or success (Rana et al., 2015, p. 1).

Election related studies lean more to administration issues of elections which normally addresses the various stages of an electoral process (Ansolabehere & Persily, 2010), this in turn has resulted in limited literature on EMS evaluation studies. Thus, this study aims to grow the body of EMS literature as evidenced by Sibande (2022) who dissected the use of ICT along an electoral cycle's stages of registration, nomination, verification, voting, results management, and the post-election period in the 2019 General Elections in Malawi, highlighting some of the challenges and made recommendations.

The study applies the DeLone and McLean IS Success Model to evaluate MECs EMS. This model has been widely used in other fields including as assessment of e-commerce systems, knowledge-based management tools, e-government systems, health information projects, online learning platform, and many more. This study therefore offers an opportunity to employ the model in evaluating EMS.

1.7 Thesis Organisation

This paper has been organised as follows: Chapter 2 presents a literature review on the measurement of user satisfaction, Elections Information Systems, and user satisfaction theories. Chapter 3 discuss the methodology that was adopted to conduct this study. More specifically, the chapter presents the world view, approach, design, and ethical consideration. Chapter 4 and 5 presents the research findings and analysis of the findings respectively. The paper is then concluded in Chapter 6 with a conclusion and recommendations.

1.8 Summary

The study's research domain was introduced in this chapter, which included background information, elections in Malawi, the EMS and, the study's importance, the study's setting, and rationale.

The conclusion of systems failure, due to an information systems inability to deliver value by meeting its owners' needs is detrimental to an organisations ability to offer value, leading to serious time and cost overruns. Information system evaluations thus provide essential data on systems performance and relevance, exposing opportunities for systems enhancements. This activity ideally leads to the improving of information system productivity and performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This study was assessed MECs EMS user satisfaction levels to attain understanding of user perceived value that will empower the efficacy of MEC's future EMS management and investment. This chapter looks at the literature that informed the subject area and addressed the satisfaction theoretical models and conceptual frameworks. The following are the chapters sections; 2.2. electoral management, 2.3 information systems evaluation, 2.4 review of theoretical models and conceptual frameworks and 2.5 adoption of a theoretical model.

2.2 Electoral Management

Electoral management is the administration of technologies, employees, the relationships between stakeholder organizations and the communication of information throughout electoral processes. (James et al., 2019) states that electoral management is a democratic standard that gives confidence and public accountability of democratic institutions in an electoral process, bringing security, peace and conflict resolution to stakeholders.

The goal for every just election is the running of a credible election based on the democratic principles of universal suffrage and political equality. This is reflected in international standards and agreements, that focus on electoral processes that emphasize how elections must be professional, impartial, and transparent, not only in their preparation but also administration (Mochtak et al., 2021). Electoral administration and management are crucial elements of electoral integrity as observed by James & Alihodzic (2020) and as evidenced by the aftermath of Malawi's 2019 tripartite presidential elections.

Thus, the unsatisfactory delivery of elections has historically led to chaos, loss of lives and property and economic instability. This makes electoral management a crucial process that positively informs socio-economic development and the stability of democratic institutions around the world.

2.2.1 ICT Adoption in Electoral Management

Mutanga (2017) speaks on the increase of technology use in electoral management to improve process efficiencies, reliability of election results and ensure credibility of democratic processes. He observed how electoral processes in the 21st century have seen significant technological integrations and evolutions. According to Biglino et al. (2014) technology can and has been adopted in the electoral process from; voter registration to voter identification, party and candidate registration, observer registration and accreditation, districting and boundary delimitation, elections voting and vote-counting, electoral logistics, voter identification, result tabulation and transmission, results publishing and, voter information systems and elections learning.

Most electoral management bodies employ a combination of manual processes and technology to manage electoral processes in the electoral cycle. Very few countries like Norway have managed to achieve this level of automation (Biglino et al., 2014). While Estonia is the only country to offer online voting to the entire electorate (Election Observer, 2014). Using technology in elections management comes with its own challenges. Selker et al. (2003) identified three; security, cost of new technology and integrity. Mutanga (2017) also observed that the rate at which these technologies do evolve at is quite fast paced, so much that Election Management Boards (EMBs) in third world countries run the risk of introducing untimely technologies. This would lead to compromise in electoral transparency, local ownership and sustainability of electoral processes.

2.3 Information Systems Satisfaction Evaluation

There is a decent trail of satisfaction evaluation studies in the information systems space such as Pal & Vanijja (2020) study, who pursued a perceived usability evaluation of Microsoft Teams as a learning platform for an online only education delivery model

adopted in India during the COVID-19 pandemic. Their study employed both the System Usability Scale (SUS) instrument (Human Computer Interaction (HCI) approach) and the Technology Acceptance Model (TAM) instrument (primarily focusing on Perceived Ease of Use (PEOU), which is an information system approach). They conducted a large-scale study sampling 1595 university students, and addressed the digital divide of mobile and web environments. Their integrated results showcased consistency in overall experience scores indicative of the likelihood to recommend Microsoft Teams after use, denoting a significant level of user satisfaction.

NeoSIA, is a mandatory Academic Information System (AIS), developed by Hasanuddin University to support the delivery of its academic services. Dalle et al. (2020) evaluated user satisfaction of NeoSIA using DeLone's and McLean IS success model addressing information and system quality, intention to use, user satisfaction, individual impact, and organizational aspect impact. The population constituted users of NeoSIA i.e., students, faculty members, and administration staff. The study revealed significant positive effects of system, and information quality on user satisfaction, whilst actual use had an insignificant positive effect on user satisfaction. Effectiveness of NeoSIA at the user level was determined to be influenced by the intensity of use and user satisfaction. The proceeding conclusion was user satisfaction informs system effectiveness.

In health, the evaluation of deployed information systems is crucial to ensure positive and effective impact in healthcare delivery and to understand system performance (Yusof et al., 2006). Yusof et al. (2006) proposed a model called HOT-fit which builds on the IS Success Model and IT Organization Fit Model to evaluate health information systems. As Dalle et al. (2020) stated, DeLone and McLean model and other evaluation models have been successfully used and utilised in the assessment of e-commerce systems, knowledge-based management tools, and e-government systems.

2.4 Theoretical Models and Conceptual Frameworks of IS Satisfaction

IS-success research delves into abstract truths and researchers have employed varying angles of satisfaction as measures of IS success. Theorists, still debate which structures best quantify IS success (Wang & Liao, 2008, p. 2). These have been argued in various theories as to the role satisfaction plays in defining IS success. IS success research has

aimed to understand and create a truly encompassing framework. Marketing as a discipline has been in existence far longer than the IS discipline and has conducted far more extensive research on the construct of “Customer Satisfaction”. These satisfaction theories in marketing which are many and varied, have the common theme of direct or indirect comparison and the nature of these comparisons differ in definition (Thong & Yap, 1996, p. 601).

2.4.1 Theories of Consumer Satisfaction

Unlike clear measurable outcomes that possess a coherent and agreed upon baseline such as benchmarking, key performance indicators (KPIs), and service level agreements (SLAs), satisfaction as a construct of measuring fulfilment is nothing short of fuzzy logic. Marketing research has dealt with “satisfaction” as a reality that is associated with the consumption of products and services. Thus, consumer-based satisfaction as a construct has been found to be an all-encompassing complex dependent variable that is argued from a variety of perspectives. The antecedents of satisfaction in marketing theories primarily address expectation, desire, experience, affect, equity, perceived performance, service quality and perceived value. The “Dissonance Theory” of satisfaction, argues that a person who expects a high-value product and receives a low-quality product recognizes the disparity and experiences a cognitive dissonance. This dissonance can only be attained if; there is a strong conviction or desire, a public and irreversible commitment to a product, grounds for explicit disconfirmation, and the actual occurrence of disconfirmation. Due to this dissonance, the consumer in question adjusts for the disparity due to their original expectations and or their investment in attaining the product in question (Yüksel & Yüksel, 2008).

The “Contrast Theory” is the polar opposite of the “Dissonance Theory” arguing that the disparity of expectation and product use is exaggerated. Thus, when a product falls below one’s expectations, the consumer rates the experience poorer than the actual experience. And if one’s expectations are met and or exceeded the consumer rates the experience higher than its objective reality. The “Expectancy-Disconfirmation Theory” (EDT) argues that a consumer will evaluate a product against one’s own subjective expectation which is

informed by the individual's perception, the context and the nature of the stimulus (predictive or situationally-produced expectations). Thus, if one's evaluation is higher than expected they attain a higher level of satisfaction and if lower they are dissatisfied.

The "Comparison-Level Theory" argues like the EDT that satisfaction will be based on the discrepancy between the actual outcome and the comparison standard. But unlike the EDT the comparison standard of the comparison theory is informed by similar product experience, situationally produced expectation, and other consumers' experience. The comparison-level theory suggests that consumers might bring a number of different comparison standards into the consumption. The "Equity Theory" argues that satisfaction occurs when consumers compare one's perceived output (gain) against their input (effort) ratio in relation to other consumers experience they know. If a consumer believes that they got more than their counterparts based on their output/input ratio they are satisfied and if they get less under similar circumstances, they are dissatisfied.

The addressed consumer satisfaction theories, inform of the various possibilities that constitutes satisfaction. To practically indulge in ascertaining how an individual defines satisfaction for any given experience is out of context for this study but rather we register the complexity of satisfaction as a cognitive activity that takes into account a multitude of factors that shape it. Thus, the actual complexities of defining and understanding what satisfaction is must be based on its multi-dimensional dependent nature. The construct of consumer satisfaction is of utmost importance as it helps to define the intention and validity of satisfaction pursued in this study.

2.4.2 IS Theories of Satisfaction

IS-researchers in seeking in-depth understanding of satisfaction noted the similarities of customers and system end-users, and thus in turn employed these established marketing theories to inform on some of the well-known IS success theories of today. Popularly, IS success is defined as the extent to which a given information system actually contributes to achieving organizational goals, i.e., its effect on organizational performance (Hamilton & Chervany, 1981). Yet in today's reality IS success can be argued as a triangulated intersection of machine, human behaviour and satisfaction in a given space. Thus, the

importance of measuring IS success lies in the ability to determine the extent of the three in any given context. Success theories over the years in IS research have aimed to define this “relationship”. It’s argued that there exists no universal measure of success rather the measuring of IS success is influenced by the system, and the space a system exists in (this shapes the definition of success). As such Thong, highlights the impossibility of having universalistic propositions that can always bring together a set of variables in defining success since the independent variables vary from space to space.

Thus, to correctly measure IS success, selection of appropriate constructs and attributes in relation to the context that the system is used in must be pursued. To date IS success has been measured through cost-benefit analysis, system usage, user satisfaction, decision making effectiveness, utility analysis, analytic hierarchy approach, and information attribute examination (King & Rodriguez, 1978; Srinivasan, 1985).

2.4.3 The Technology Acceptance Model

The desired outcome of any developed information system is actual use. The “Technological Acceptance Model” (TAM) argues that for a person to use an IS, a person has to form a behavioural intention which is informed by their attitude (this attitude is what they think or the general impression they have of a technology). Technology acceptance as a concept in IS research, is taken as a measure of success with a focus towards the rate of technological adoption. TAM as a human non-linear approach in assessing technological adoption, aims to investigate how people perceive an IS product to inform on whether a person forms an intention to use an IS.

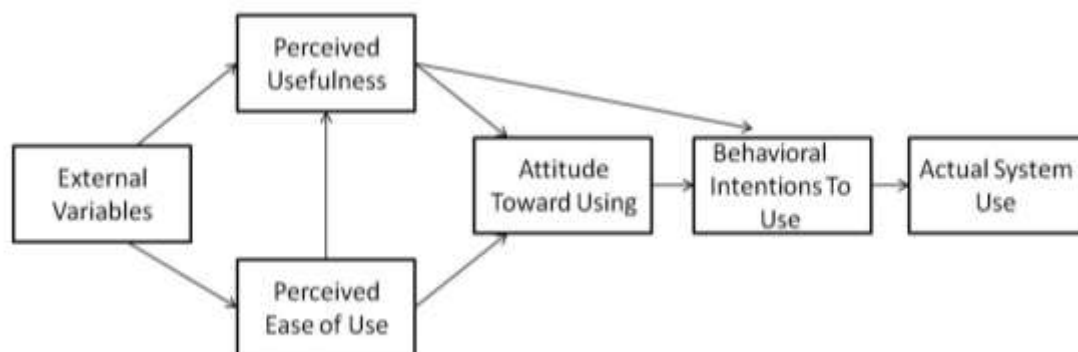


Figure 0.1 The Technology Acceptance Model (Davis et al., 1989)

TAM argues that a person attains an attitude that is informed by perceived usefulness and ease of use of the IS (see Figure 2.4). Thus, if the IS has no role to play in these two constructs, then this person will develop either an indifferent or negative attitude that influences their behavioural intention to not actually use the IS but if not so, then they will develop a positive attitude to use the IS. Ease of use also affects the user's attitude; if the supposed users find the technology easy to use then a positive attitude will result that encourages greater and far more consistent use of the IS. And if it's hard to use, the system user will have a negative attitude that will result in lower and far more inconsistent use of the IS. Variations of TAM do account for a variety of external variables beyond perceived usefulness and ease of use. For example, social influence falls under this category as it is an important aspect that informs on the attitude of the user. If but a few users use the IS with little to no support it will more likely lead to negative attitudes of a user adopting the IS. Rather if many use the IS and they have the support of many this will most likely lead to positive attitudes leading to more using the IS among.

2.4.4 The DeLone and McLean IS Success Model

DeLone and McLean, define "IS success" as a complex dependent variable. The creation of the DeLone & McLean IS success model was driven by a process understanding of IS and its impacts (B follows A). This process model has three components; the creation of a system (A), the use of the system (B), and the consequences of system use (C) (DeLone & McLean, 2003). Each of these components are necessary, for without system use, there can be no consequences or benefits. However, with system use, even extensive use, but determined as inappropriate or ill-informed, results in no IS benefits.

DeLone and McLean synthesized previous IS success research into a six-dimensional model (which has been revised over the years) based on three ascertained levels of IS success (see Figure 2.5). Technical success addresses the accuracy and efficiency of the communication system that produces information. Semantic success addresses the conveyance of the intended meaning in the information. And finally, the effectiveness success addresses the effect of the information on the receiver. Thus, to understand the dimensions of IS success, a variance model was needed known as a temporal model. It

assumes that an information system is first created, seconded by the exhibition of various degrees of information, system and service quality. After which IS users experience the IS and are either satisfied and or dissatisfied with the information, system and service quality. In contrast to the process model, the causal model of the DeLone & McLean IS success model studies the covariance of success dimensions to determine if there exists a causal relationship among them. This model enlightens on the possible causal interrelationships among the dimensions of success. DeLone and McLean ensured that these two processes of the IS success model work interchangeably as needed in the evaluation of IS success.

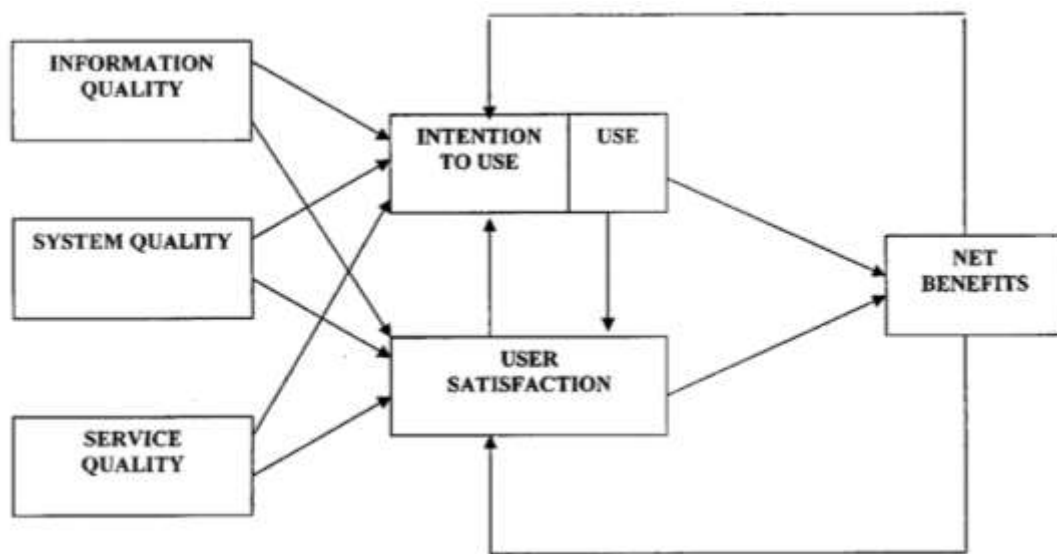


Figure 0.2 The DeLone and McLean IS Success Model (DeLone & McLean, 2003, p. 18)

In accordance with DeLone and McLean (2003), this study proposes a comprehensive, multidimensional model of eGovernment systems success (see Figure 2.5), which suggests that information quality, system quality, service quality, use, user satisfaction, and perceived net benefit are success variables in eGovernment systems.

2.4.4.1 Information Quality

Traits and properties that define the usefulness, dependability, correctness, completeness, relevance, timeliness, and clarity of information is information quality. In information systems Alfaro (2017) looks at information quality as the characteristics of output information. Miller (1996) noted how information needs inherently becomes the lens

through which a consumer perceives information quality. Gustavsson and Wänström (2009) define information quality as the ability to satisfy stated and implied needs of the information consumer. As such, information quality relates to how well information fits a consumers' requirements and expectations, affording them the ability to make effective decisions. High-quality information has desired characteristics, whereas low-quality information lacks these desired characteristics or have defects that reduce its usefulness.

2.4.4.2 System Quality

Systems are designed and developed to address and fit business requirements and specifications be them functional and non-functional. (Ohliati & Abbas, 2019, p. 2) defines system quality as the stability, reliability and suitability of hardware and software. Thus, system purpose and use inform on the required levels of effectiveness, efficiency, dependability, usability, and overall performance, which inherently demonstrates system quality. High system quality is a system that executes its intended duties effectively and efficiently, in turn satisfying system use expectations. Seddon (1997) was of the opinion that system quality is a subset of user's overall perception about ease of use of the system which is linked more to its quality such as minimal bugs, quality of user interface, and quality of documentation and program code written for the system.

2.4.4.3 Service Quality

Parasuraman et al. (1993) defined service quality as a global judgment, or attitude, relating to the superiority of the service. The “superiority” is the gap that exists when practical service is higher than the consumer expectation. Although some researchers claim that service quality is merely a subset of the model's systems quality, the changes in the role of IS over the last couple of decades argue for a separate variable called the “service quality” dimension DeLone & McLean (2003) and Wang & Liao (2008, p. 4). SERVQUAL, adapted from the field of marketing, is a popular instrument for measuring IS service quality Pitt et al. (1995).

2.4.4.4 User Satisfaction

As denoted in the DeLone & McLean model; user satisfaction does not define the very success of a system rather it helps inform on the user experience of the different aspects of a system. DeLone and McLean define it as the relationship between the use and its

compounding independent variables. Of course, there are many things that a system user experiences, so the DeLone & McLean IS success model does help inform user satisfaction and what it means for the user and the system in question.

2.5 Adopting the DeLone and McLean IS Success Model

DeLone and McLean Information System (IS) Success Model is one of the most widely adopted theoretical models and has been employed in diverse studies like assessment of e-commerce systems, knowledge-based management tools, e-government systems, health information projects, online learning platform etc.

This study aims to measure MEC's, EMS user satisfaction (as a surrogate measure of information system effectiveness) at the attribute level to attain critical understanding of user perceived value that will empower the efficacy of MEC's future EMS management and investment strategies. If an effective system is defined as one that adds value to its owner, then an effective system must have some positive influence on the user and their behaviour (i.e., improve productivity, decision making, etc.) Gatian (1994, p. 1).

The DeLone and McLean model was determined to provide the appropriate criteria in measuring user satisfaction for this study. Unlike most IS success models, the DeLone and McLean model is employed on the assumption that the system has already been in use in which MECs EMS qualifies. The model directs the study to the assessment of user experience rather than adoption and or other unrelated constructs with EMS use being mandatory. The adopted model bridges; the quality aspects of the EMSs information, system and service.

2.6 Summary

This chapter examined the literature to gain a comprehensive understanding of electoral management, MEC's management system and theoretical models of interest. As such this chapter assessed and appreciated the contributions of scholars in the field of electoral management. The research technique that determines the research design for this study is discussed in the next chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

A research methodology is a strategy of investigation that describes how a study is to be undertaken, Igwenagu (2016). This chapter outlines; the research worldview, approach and design employed to conduct the study.

3.2 Study Worldview

Being objective is an essential aspect of competent inquiry; thus, researchers must examine their methods and conclusions for bias. Thus, the adopted philosophical worldview by the researcher for this study is that of a postpositivist. The knowledge that develops through this worldview is based on careful observation and measurement of the objective reality that exists “out there” in the world Creswell (2014). Thus, developing numeric measures of observations and studying the behaviour of individuals is paramount for a postpositivist. This worldview assumes that knowledge is conjectural (and antifoundational) - absolute truth can never be found. Data, evidence, and rational considerations shape knowledge. Research does seek to develop relevant, validated statements that help explain the situation of concern or that may describe the causal relationships of interest.

3.3 Study Approach

The aim of the study was to measure the user’s satisfaction levels of the EMS during the 2019 tripartite elections and the 2020 presidential elections at the attribute level. Thus, “measure” in word points towards a quantitative research approach which was adopted as the preferred strategy of inquiry for this study. A quantitative study is the study of what can be measured and observed. This study worked towards revealing the extent of how the assessed attributes apply to the EMS in terms of user satisfaction in numerical terms

(i.e., trends and attitudes). These attributes collectively inform the holistic definition of satisfaction in the study.

3.4 Research Design

Research design is a plan conceived to obtain answers to research questions (Kothari, 2004). The study aimed at collecting and assessing the user satisfaction levels of the EMS users who used the EMS during the 2019 tripartite and 2020 presidential elections. Thus, an evaluative descriptive cross-sectional study was adopted, aiming for a snapshot of EMS user satisfaction events.

3.5 Sampling

During the 2019 tripartite and 2020 elections, the EMS had registered system users. This included 20 ICT staff members and 2614 temporary field officers. Surveying the entire population for the researcher was financially out of reach and unfeasible due to time constraints, thus a true representative sample was preferred. The study's intention was to draw inferential conclusions that wholly informed on the user satisfaction of the EMS. In so doing probability sampling was employed, which allows for the results attained from the sample to be generalized to the population of interest as each member of the population had an equal chance of being selected.

The population presented 2 groups of users, 20 permanent MEC ICT staff members and 2614 temporary field officers. Sampling the entire population together risked the probability of not including the members from the ICT staff which had a very small population comprising of only 0.8% of the whole population. Further, such a sample would offer a false representation of the total population of interest. To counter this flaw, a stratified random sample was adopted.

The population was split into two different groups based on job role which is known as a stratum and then a simple random sample was applied to pick participants from the sampling frames. An important note must be drawn to the staff stratum, which totalled 20 persons. Sampling from a stratum with such a small population is basically ineffective from a statistical perspective (with only 3 being eligible from the 20) and as such the entire staff stratum was included in the study.

Table 0.1 Sampling Table

Stratified Sample (Total Population = 2634)		
Determined sample size with a 95% confidence level (Khalifa & Alswailem, 2015, p. 4).	Working formula: N = total population <i>e</i> = error	
1 st Stratum (Staff) = 20	All 20 staff were surveyed.	Randomly generated excel list using RANDBETWEEN and VLOOKUP functions.
2 nd Stratum (Field Officers) = 2614	349/2634*2614 = 346 (346 field officers were surveyed.)	
Total Sampled Population = 349		

3.6 Data Collection

Empirical data was collected from MEC's entire ICT team; the owners, developers, implementers and users of the EMS (field officers). One data collection approach was adopted for the study and it was as follows:

3.6.1 Questionnaire

An online survey employing closed-ended questions was use in the collecting of data to measure the identified IS success dimensions primarily informed by the DeLone and McLean IS success model. EMS users were asked to assess and report, via questionnaire, their own unique satisfaction scores. The questionnaire addressed the information quality dimension Au et al (2002, p. 6) with the constructs of relevance, currency, accuracy, understandability, format, completeness and credibility. The system quality dimension Au et al. (2002, p. 6) was addressed with the constructs of ease of use, reliability, availability, response-time, integration, completeness. The service quality dimension Au et al. (2002, p. 6) was addressed with the constructs of reliability, responsiveness, assurance, courtesy,

security, privacy, communication, competence, access and empathy. And finally, basic demographic questions were addressed in the questionnaire.

The questionnaire had a total of 38 questions and was distributed to 347 EMS Users (see Appendix 1 for a copy of survey questions). The online survey was hosted on “Google Forms” which is a free online survey platform hosted by Google. It was a far more convenient and less intrusive form of data collection based not only on the nature of the data it aimed to collect but also on the availability of the survey participants.

3.6.1.1 Questionnaire Validity and Reliability

Satisfaction studies are not all the same as they address a range of constructs that form definitions of satisfaction, and researchers must be vigilant in assessing satisfaction as poor questionnaire formulation leads to irresponsible collection and interpretation of satisfaction data Gatian (1994, p. 2). This study cites the construct of user satisfaction as an indicator of system effectiveness. It was noted by Au et al. (2002, p. 2) that not only does satisfaction have a high level of face validity due to the use of dependable instruments produced by previous researchers, but other measures are either conceptually weak or experimentally difficult to validate.

Partial Least Squares (PLS) and Cronbach's (α) are often used to gain a comprehensive understanding of the measurement properties of their scales. In terms of reliability, PLS can calculate the composite reliability (CR) of a latent variable. CR is an indicator of internal consistency, similar to Cronbach's alpha, and it represents the extent to which the observed variables within a latent variable are measuring the same underlying construct. The greater the loadings, the more reliable the measures are (Aditiawarman et al., 2014, p. 3; Rana et al., 2015, p. 9). It is advised that each item must have at least a loading of 0.7 or higher in order to provide a shared variance of roughly 50% between the item and the construct Fornell & Larcker (1981). This suggests good item reliability and discriminant validity for constructs measuring user overall satisfaction. Construct composite reliability scores and average variance extracted (AVE) for each construct can also be used as indicators of convergent and discriminant validity.

Cronbach's alpha is a commonly used measure of internal consistency reliability. It assesses the extent to which a set of observed variables within a scale are interrelated and measure the same underlying construct. Cronbach's alpha ranges from 0 to 1, with higher values indicating greater internal consistency. Cronbach's alpha is commonly used in the assessment of reliability for multi-item scales, such as questionnaires or surveys. It is a widely accepted measure of internal consistency and is frequently reported in research studies to demonstrate the reliability of measurement scales.

This study used the composite reliability scores by Vaezi Reza (2013) who assessed convergent validity of information, system and service quality constructs and their subsequent attribute items. Convergent validity is concerned with determining whether all the indicators related to a latent variable are measuring the same phenomenon. Overall, there was a variance of 0.64 and above, demonstrating strong convergence. Most of the values were higher than the suggested 0.70 value, which indicates a strong convergent validity among the constructs. Vaezi Reza (2013, p. 127) results are valid indicators of discriminant validity for the constructs employed in the questionnaire.

3.7 Data Analysis Plan

The data analysis plan, accounted for the mainly quantitative approach that was aimed at the answering the studies research questions. The behavioural attitudes and trends of systems users were collected to help us understand the satisfaction levels reported on. Ordinal data was analysed in the form of a seven-point Likert-scale that measured satisfaction levels ranging from Very Dissatisfied (-3), Quite Dissatisfied (-2), Slightly Dissatisfied (-1), Neither (0), Slightly Satisfied (1), Quite Satisfied (2), Very Satisfied (3). Descriptive statistics were analysed in the form of frequencies, bar charts, pie charts (to inform on sample proportions) and the median and mode to help provide numeric and or graphical summaries of the data collected in light of the questions.

The study aimed to infer statistically significant relationships to the EMS user population that was sampled. Chi-square (χ^2) tests were employed to assess relationships of statistical significance between two categorical variables in a sample. One proportion test helps to estimate a binomial population and to compare the proportion to a target value. For the sole

purpose of attaining group attitudes the Mantel-Haenszel Chi-Squared Test was employed as it takes the ordinal nature of the attitudes into account.

3.8 Ethical Considerations

The following ethical guidelines were put into place for the study:

- I. Voluntary Participation: All participants had the freedom to decide whether to participate or not.
- II. Informed consent: All participants were furnished with necessary information before participation, and all gave consent to participate.
- III. Confidentiality: The identity of participants and the research data were protected throughout the research process.
- IV. Data Reporting: The collected data will be handled in an accurate and responsible manner, presenting findings honestly and without any distortion or manipulation.

3.9 Summary

This chapter discussed the overall research design, sampling procedure, data collecting, data analysis, and significant ethical issues. The study adopted a descriptive cross-sectional quantitative approach to evaluate EMS satisfaction. Data was collected through an online survey and analysed using descriptive statistics and chi square tests to find out relationships of variables. The next chapter summarizes the research findings.

CHAPTER FOUR

RESULTS

4.1 Introduction

MEC's Elections Management System user satisfaction was assessed in order to gain key knowledge of user perceived value, which helps direct MEC's future EMS management and investment. This chapter addresses the empirical findings based off the data collected from the studies sample as stipulated in the methodology chapter.

- I. To assess how EMS's information quality influenced user satisfaction.
- II. To assess how EMS's system quality influenced user satisfaction.
- III. To assess how EMS's service quality influenced user satisfaction
- IV. To assess the overall user satisfaction of the EMS.

Subsection 4.2 presents results on the study sample, subsection 4.3 presents results on information quality, 4.4 system quality, and 4.5 service quality.

4.2 Sample Description

The study sampled a total population of 346 participants, consisting of 68.5% men (237) and 31.5% women (109). Among the participants, 80.9% (280) identified as field officers, and 19.1% (66) identified as ICT staff. This deviated from the anticipated 326 field officers and 20 ICT staff. Due to the privacy measures adopted in the study, follow-up and verification were not possible. Consequently, we had to assume that some field officers may have identified as ICT staff, either incorrectly or correctly. This was settled as a study limitation and not a deterrent. 51.4% (178) of the EMS users reported to have been employed between a year and less than 5 years. Those who were employed 6 months to a year were at 36.4% (126) and those at 5 years or more were at 12.1% (58). 50.9% (176) of the EMS users reported to have used the EMS between a year and less than 5 years. EMS

users at 6 months to a year were at 32.4% (112) and those at 5 years or more were at 16.8% (58). 70.5% (244) representing the majority of EMS users were aged 25-34 years, followed by 35-44 years at 16.2% (56), 18 - 24 years at 7.5% (26), 45 – 54 at 4.9% (17) and 55+ at 0.9% (3).

4.3 Information Quality Satisfaction

This subsection addresses the research question of how users of the EMS were satisfied with its information quality. The attributes that informed information quality in this study were relevance, currency, accuracy, understandability, format, completeness and credibility (See Figure 4.1).



Figure 0.1 Overall Information Quality Satisfaction Levels

4.3.1 Relevance

The EMS system users were largely satisfied with the information's relevance quality of the EMS. A total of 329 EMS users out of 346 (representing 95% of the representative sample) found the EMS satisfactory with the relevance of the information (see Table 4.1). The responses from the 329 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the relevance of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's relevance. This implies that this relationship did not happen by chance rather there is a significant relationship at play between relevance and frequency of EMS use.

Table 0.1 Relevance Frequency

Relevance		Frequency	Percentage
Information is useful to one's job.	Very Dissatisfied (-3)	1	0.29
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	5	1.45
	Neither Satisfied and Dissatisfied (0)	8	2.31
	Slightly Satisfied (1)	22	6.36
	Quite Satisfied (2)	104	30.06
	Very Satisfied (3)	203	58.67

4.3.1.1 Significant Association Relationships with Relevance

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with relevance (See Figure 4.2). With 36 degrees of freedom from 346 responses the $\chi^2 = 76.949a$ and had a $p = .000$.

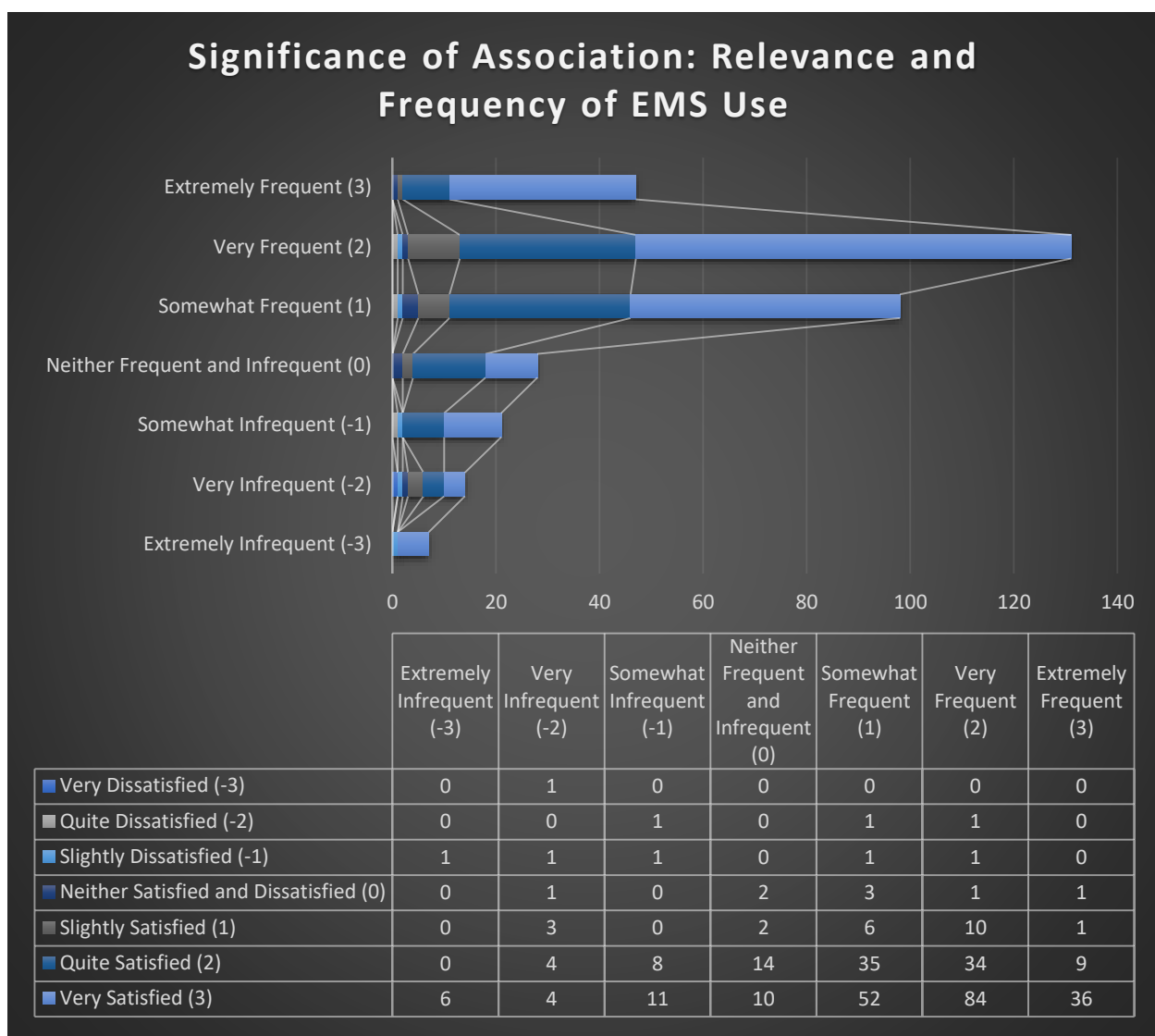


Figure 0.2 Significance of Association: Relevance and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of relevance and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the relevance of the information presented by the EMS.

4.3.2 Currency

The EMS system users were largely satisfied with the information's currency quality of the EMS. A total of 330 EMS users out of 346 (representing 95% of the representative sample) found the EMS satisfactory with the currency of the information (see Table 4.2).

The responses from the 330 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the currency of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's currency. This implies that this relationship did not happen by chance rather there is a significant relationship at play between currency and frequency of EMS use.

Table 0.2 Currency Frequency

Currency		Frequency	Percentage
Information is up-to-date	Very Dissatisfied (-3)	3	0.87
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	3	0.87
	Neither Satisfied and Dissatisfied (0)	7	2.02
	Slightly Satisfied (1)	38	10.98
	Quite Satisfied (2)	113	32.66
	Very Satisfied (3)	179	51.73

4.3.2.1 Significant Association Relationships with Currency

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with currency (see Figure 4.3). With 36 degrees of freedom from 346 responses the $\chi^2 = 97.434a$ and had a $p = .000$.

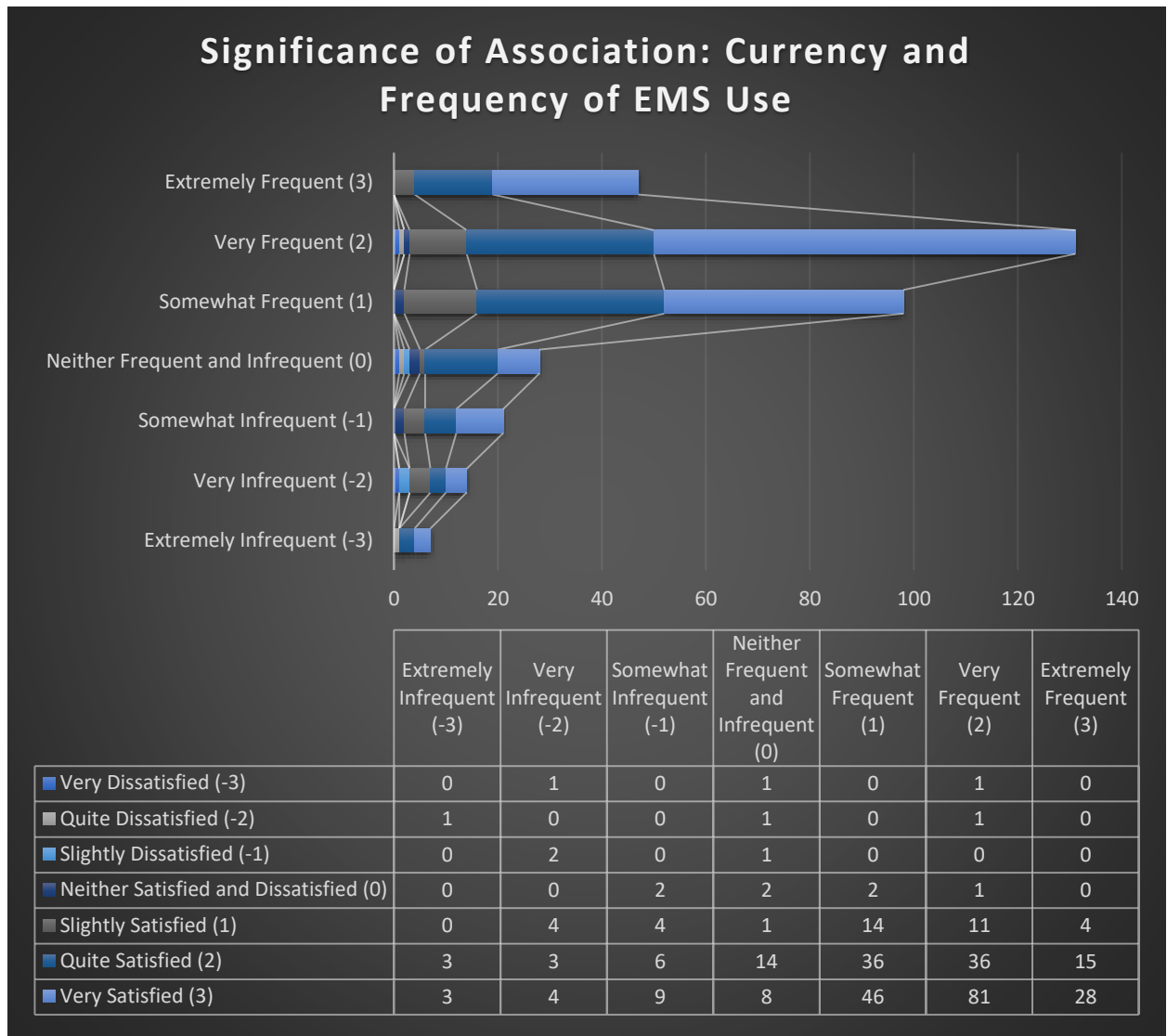


Figure 0.3 Significance of Association: Currency and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of currency and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the currency of the information presented by the EMS.

4.3.3 Accuracy

The EMS system users were largely satisfied with the information's accuracy quality of the EMS. A total of 334 EMS users out of 346 (representing 96% of the representative sample) found the EMS satisfactory with the accuracy of the information (see Table 4.3).

The responses from the 334 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the accuracy of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's accuracy. This implies that this relationship did not happen by chance rather there is a significant relationship at play between accuracy and frequency of EMS use.

Table 0.3 Accuracy Frequency

Accuracy		Frequency	Percentage
Information is accurate.	Very Dissatisfied (-3)	0	0.00
	Quite Dissatisfied (-2)	2	0.58
	Slightly Dissatisfied (-1)	6	1.73
	Neither Satisfied and Dissatisfied (0)	4	1.16
	Slightly Satisfied (1)	52	15.03
	Quite Satisfied (2)	108	31.21
	Very Satisfied (3)	174	50.29

4.3.3.1 Significant Association Relationships with Accuracy

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with accuracy (see Figure 4.4). With 30 degrees of freedom from 346 responses the $\chi^2 = 85.702a$ and had a $p = .000$.

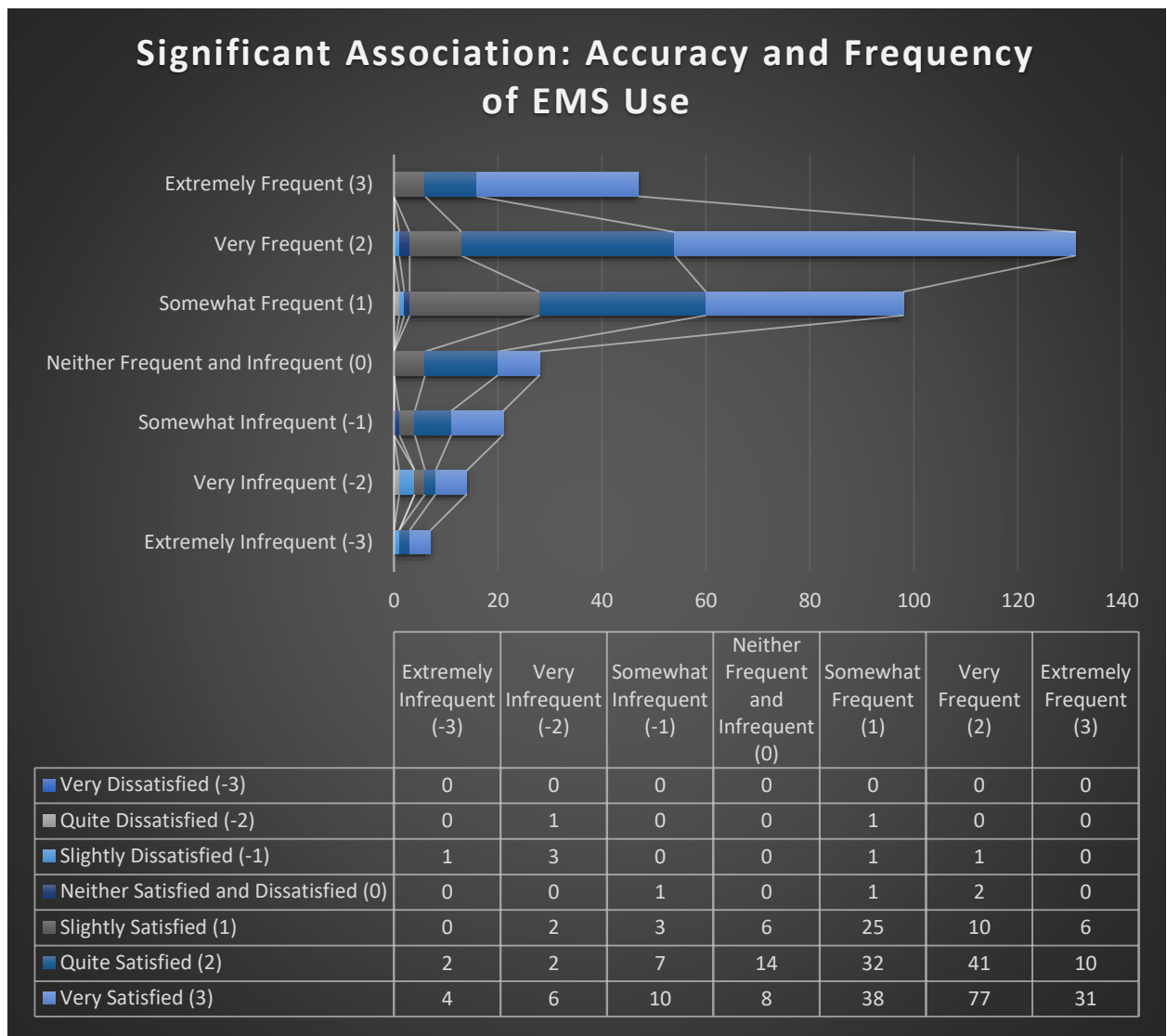


Figure 0.4 Significant Association: Accuracy and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of accuracy and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the accuracy of the information presented by the EMS.

4.3.4 Understandable

The EMS system users were largely satisfied with the information's understandability quality of the EMS. A total of 336 EMS users out of 346 (representing 97% of the representative sample) found the EMS satisfactory with the understandability of the

information (see Table 4.4). The responses from the 336 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the understandability of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's understandability. This implies that this relationship did not happen by chance rather there is a significant relationship at play between understandability and frequency of EMS use.

Table 0.4 Understandability Frequency

Understandability		Frequency	Percentage
Information is understandable.	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	3	0.87
	Neither Satisfied and Dissatisfied (0)	2	0.58
	Slightly Satisfied (1)	40	11.56
	Quite Satisfied (2)	94	27.17
	Very Satisfied (3)	202	58.38

4.3.4.1 Significant Association Relationships with Understandability

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with understandability (See Figure 4.5). With 36 degrees of freedom from 346 responses the $\chi^2 = 116.138a$ and had a $p = .000$.

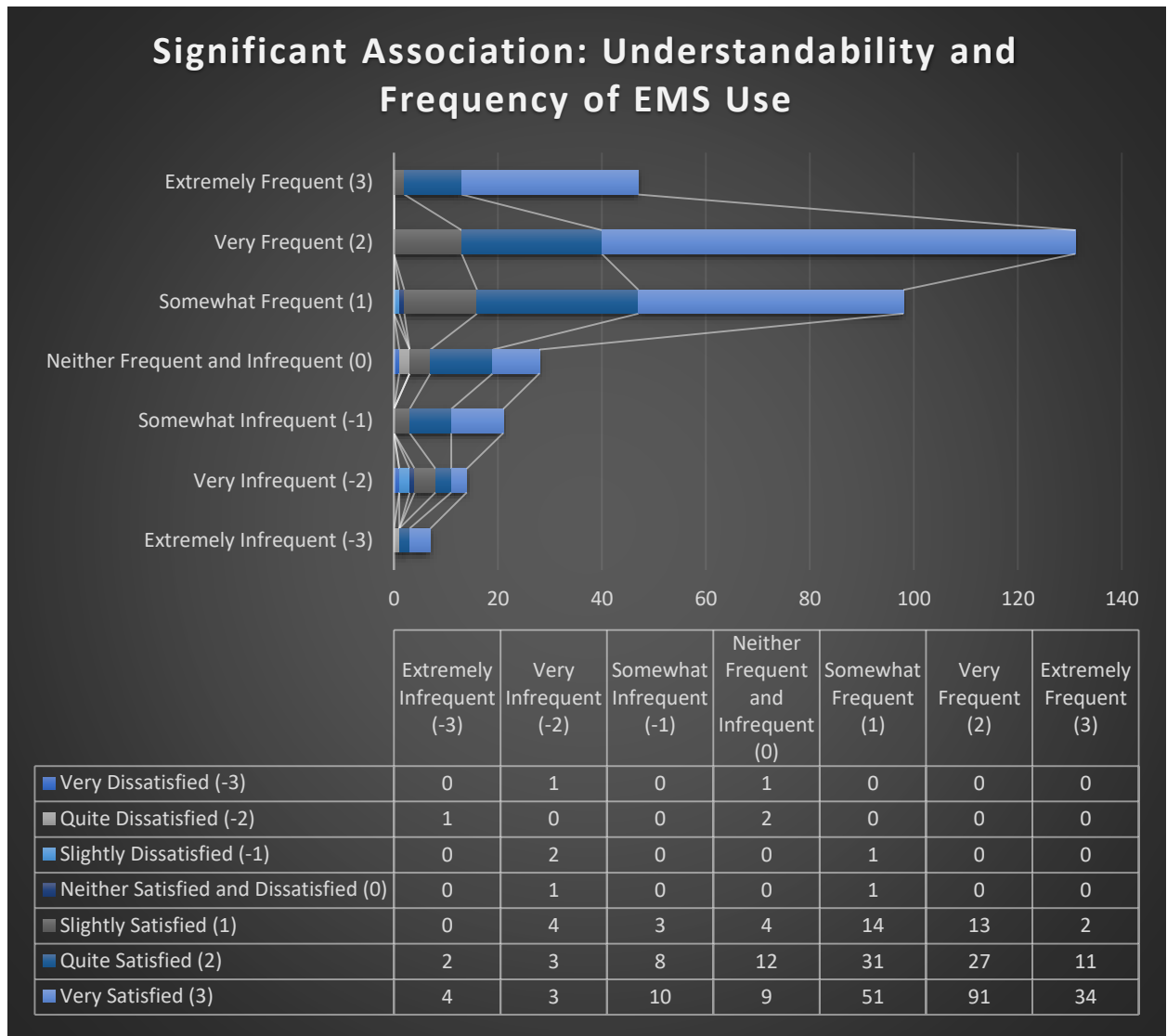


Figure 0.5 Significant Association: Understandability and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of understandability and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the understandability of the information presented by the EMS.

4.3.5 Format

The EMS system users were largely satisfied with the information's format quality of the EMS. A total of 318 EMS users out of 346 (representing 91% of the representative sample)

found the EMS satisfactory with the organization of the information (See Table 4.5). The responses from the 318 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the format of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's format. This implies that this relationship did not happen by chance rather there is a significant relationship at play between format and frequency of EMS use.

Table 0.5 Format Frequency

Format		Frequency	Percentage
Information is well organized.	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	7	2.02
	Slightly Dissatisfied (-1)	10	2.89
	Neither Satisfied and Dissatisfied (0)	9	2.60
	Slightly Satisfied (1)	53	15.32
	Quite Satisfied (2)	99	28.61
	Very Satisfied (3)	166	47.98

4.3.5.1 Significant Association Relationships with Format

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associate relationship with format (see Figure 4.6). With 36 degrees of freedom from 346 responses the $\chi^2 = 79.735a$ and had a $p = .000$.

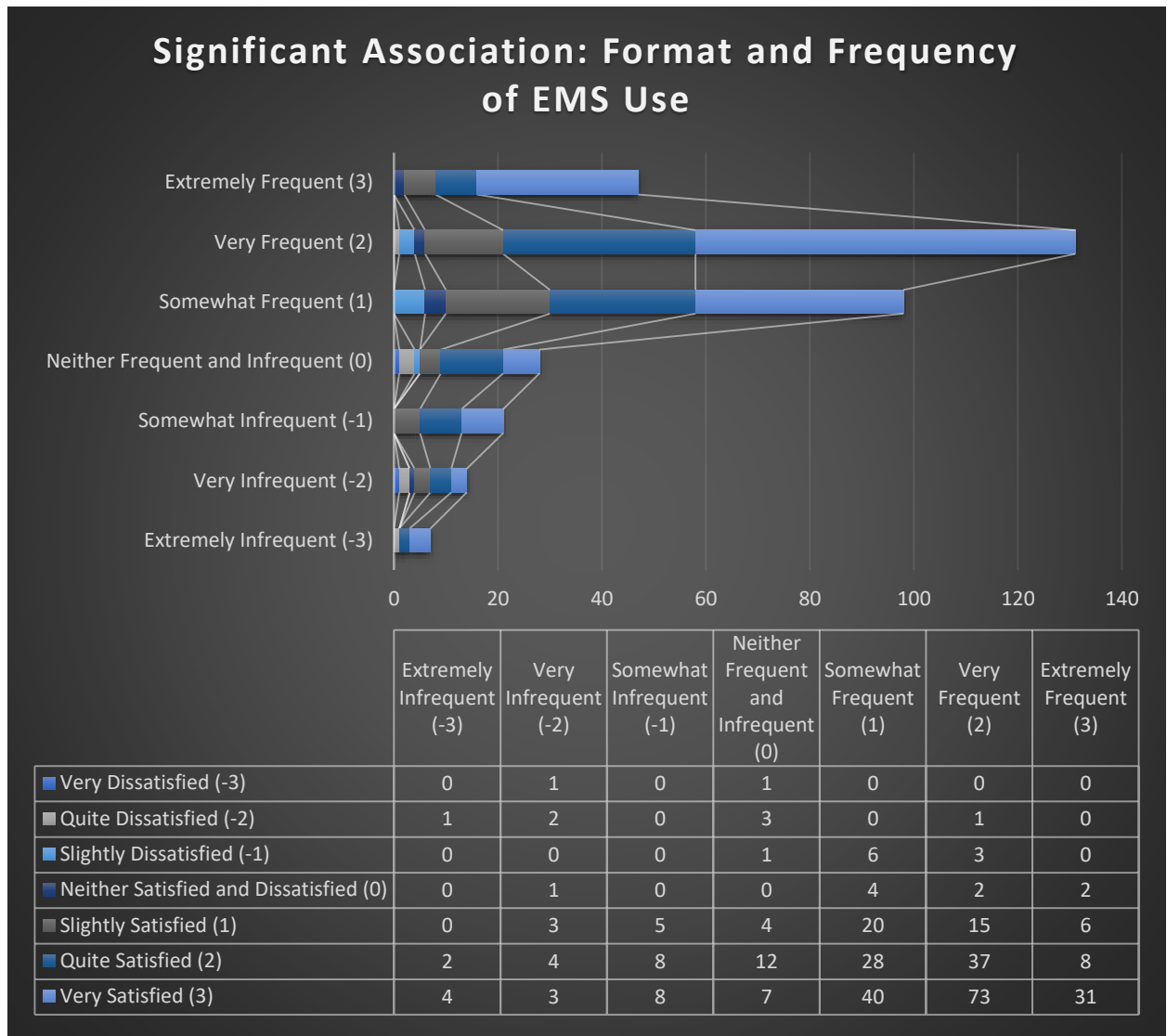


Figure 0.6 Significant Association: Format and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of format and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the format of the information presented by the EMS.

4.3.6 Completeness

The EMS system users were largely satisfied with the information's completeness quality of the EMS. A total of 318 EMS users out of 346 (representing 91% of the representative sample) found the EMS satisfactory with completeness of the information (see Table 4.6).

The responses from the 318 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the completeness attribute of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's completeness. This implies that this relationship did not happen by chance rather there is a significant relationship at play between completeness and frequency of EMS use.

Table 0.6 Completeness Frequency

Completeness		Frequency	Percentage
Information is Complete	Very Dissatisfied (-3)	1	0.29
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	12	3.47
	Neither Satisfied and Dissatisfied (0)	12	3.47
	Slightly Satisfied (1)	41	11.85
	Quite Satisfied (2)	112	32.37
	Very Satisfied (3)	165	47.69

4.3.6.1 Significant Association Relationships with Completeness

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associate relationship with completeness (see Figure 4.7). With 36 degrees of freedom from 346 responses the $\chi^2 = 88.540a$ and had a $p = .000$.

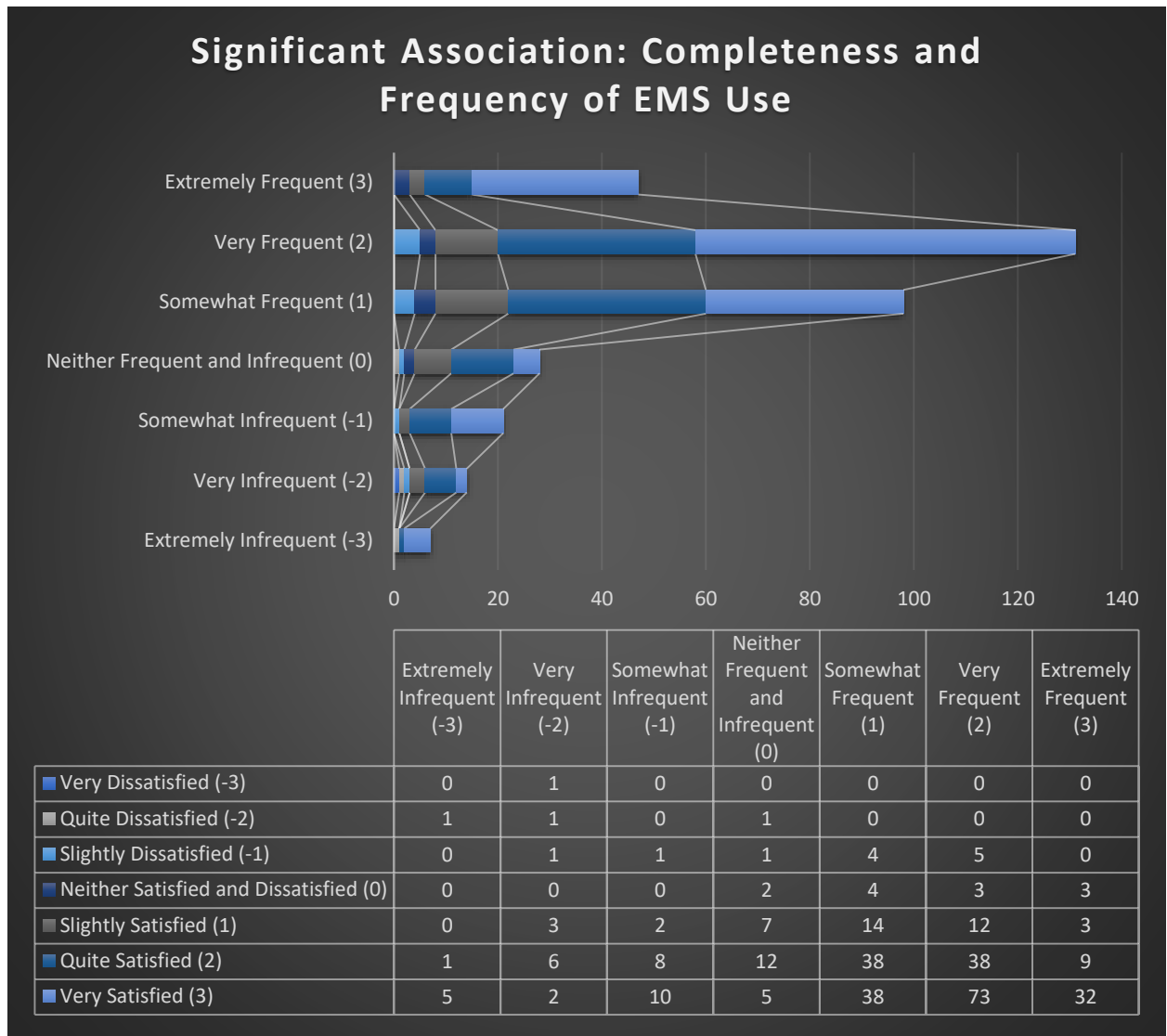


Figure 0.7 Significant Association: Completeness and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of completeness and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the completeness of the information presented by the EMS.

4.3.7 Credibility

The EMS system users were largely satisfied with the information's credibility quality of the EMS. A total of 329 EMS users out of 346 (representing 95% of the representative sample) found the EMS satisfactory with the reliability of the information (see Table 4.7).

The responses from the 329 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the credibility attribute of the information presented by the EMS.

But frequency of EMS use had a significant relationship with the information's completeness. This implies that this relationship did not happen by chance rather there is a significant relationship at play between completeness and frequency of EMS use.

Table 0.7 Credibility Frequency

Credible		Frequency	Percentage
Information is Reliable	Very Dissatisfied (-3)	3	0.87
	Quite Dissatisfied (-2)	2	0.58
	Slightly Dissatisfied (-1)	7	2.02
	Neither Satisfied and Dissatisfied (0)	5	1.45
	Slightly Satisfied (1)	59	17.05
	Quite Satisfied (2)	86	24.86
	Very Satisfied (3)	184	53.18

4.3.7.1 Significant Association Relationships with Credibility

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associate relationship with credibility (see Figure 4.8). With 36 degrees of freedom from 346 responses the $\chi^2 = 88.219a$ and had a $p = .000$.

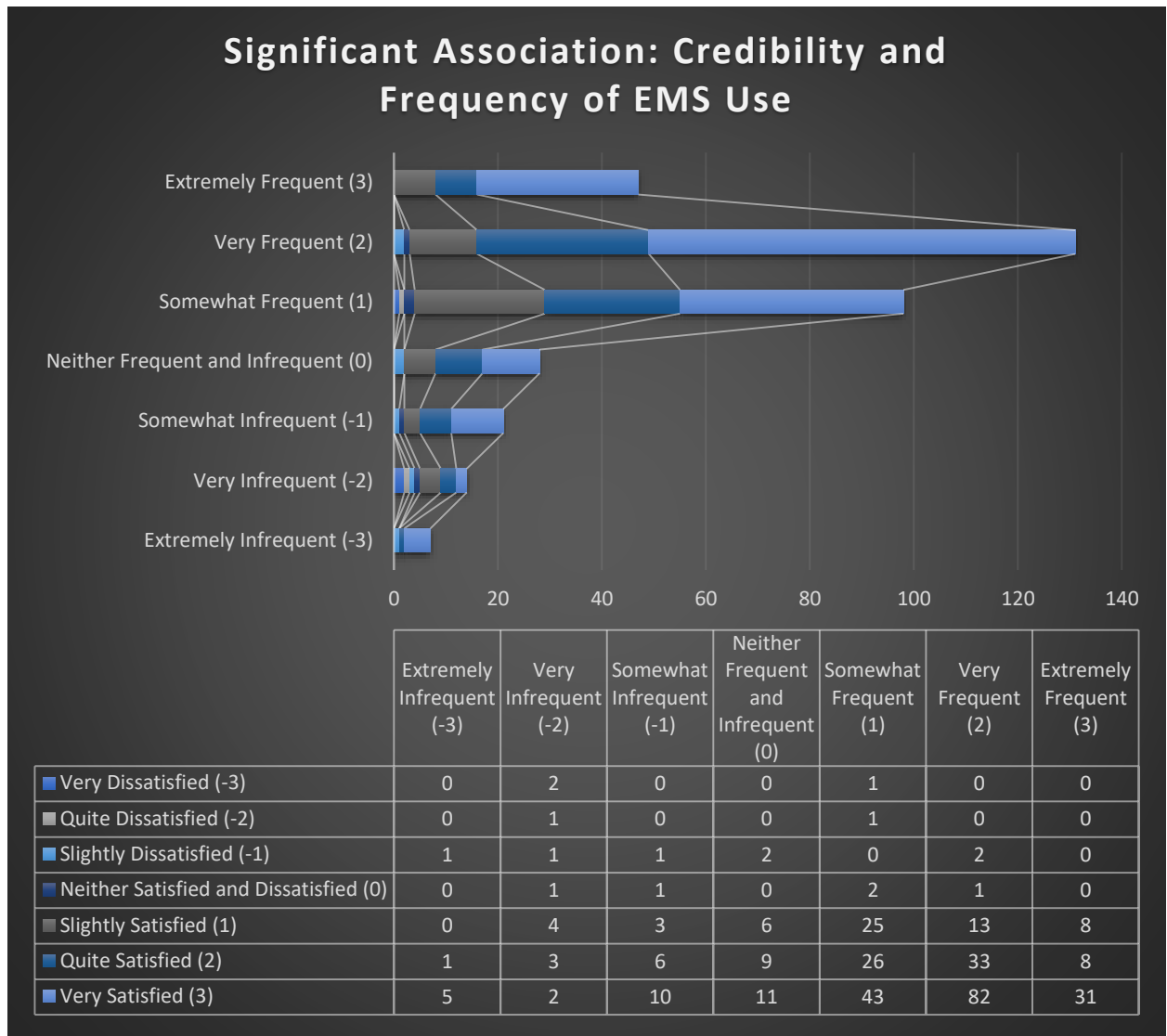


Figure 0.8 Significant Association: Credibility and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of credibility and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the credibility of the information presented by the EMS.

4.4 System Quality Satisfaction

This subsection addresses the research question of how users of the EMS were satisfied with its system quality. The attributes that informed system quality in this study were ease of use, reliability, availability, response-time, integration and completeness (see Figure 4.9).



Figure 0.9 Overall System Quality Satisfaction Levels

4.4.1 Ease of Use

The EMS system users were largely satisfied with the systems ease-of-use quality of the EMS. A total of 339 EMS users out of 346 (representing 97% of the representative sample) found the EMS satisfactory with the ease of use of the system (see Table 4.8). The responses from the 339 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, education level, duration of system-use and job duration was insignificant with the ease of use of the system presented by the EMS.

But frequency of EMS use had a significant relationship with the system ease of use. This implies that this relationship did not happen by chance rather there is a significant relationship at play between ease of use and frequency of EMS use and ease of use and job role.

Table 0.8 Ease of Use Frequency

Ease of Use		Frequency	Percentage
Easy to use.	Very Dissatisfied (-3)	1	0.29
	Quite Dissatisfied (-2)	1	0.29
	Slightly Dissatisfied (-1)	3	0.87
	Neither Satisfied and Dissatisfied (0)	2	0.58
	Slightly Satisfied (1)	21	6.07
	Quite Satisfied (2)	70	20.23
	Very Satisfied (3)	248	71.68

4.4.1.1 Significant Association Relationships with Ease of Use

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with ease of use (see Figure 4.10). With 36 degrees of freedom from 346 responses the $\chi^2 = 118.669a$ and had a $p = .000$ for frequency of EMS use and with 6 degrees of freedom from 346 responses the $\chi^2 = 14.674a$ and had a $p = .023$ for job role (see Figure 4.11).

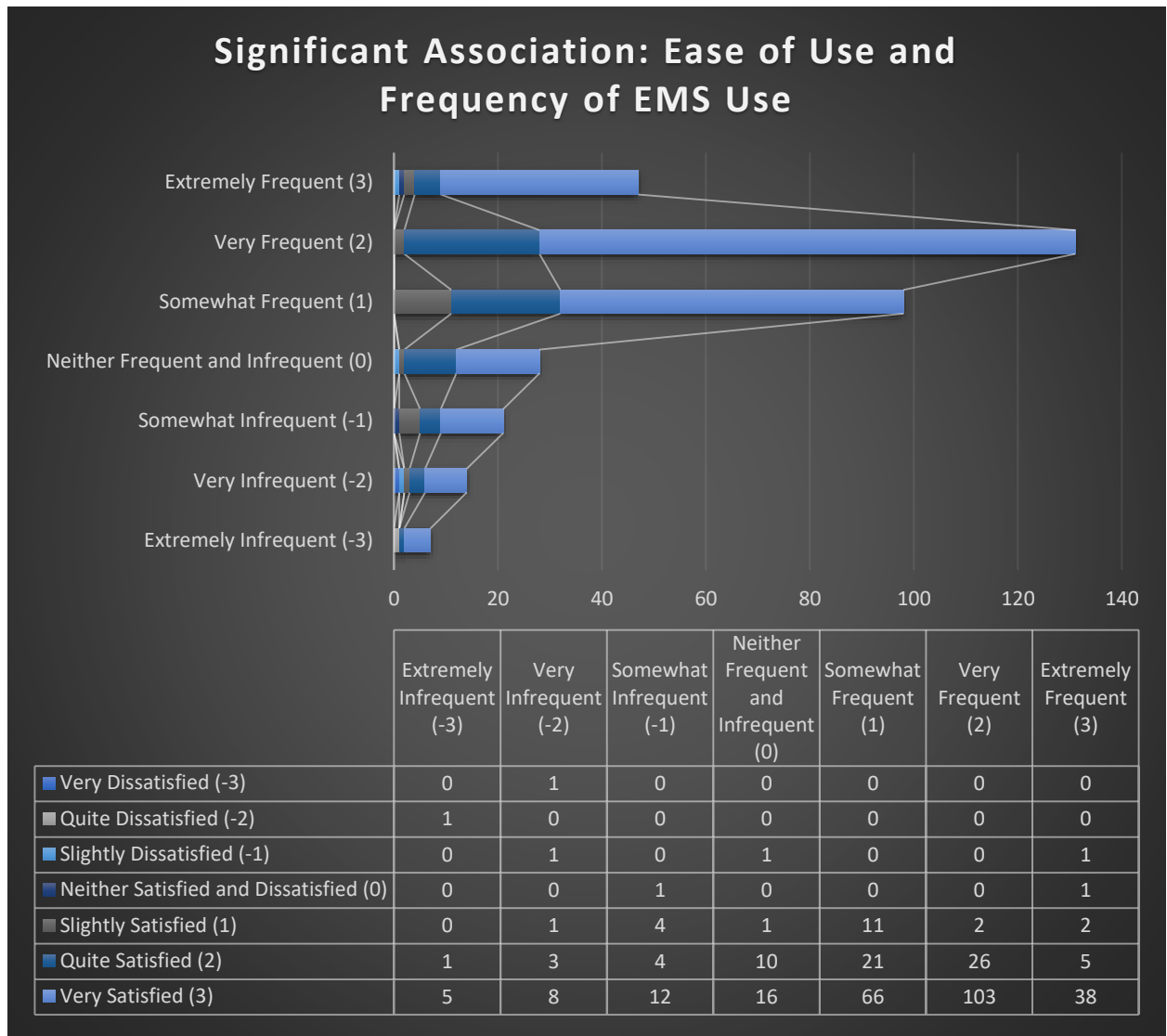


Figure 0.10 Significant Association: Ease of Use and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of ease of use and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the ease of use of the system presented by the EMS.

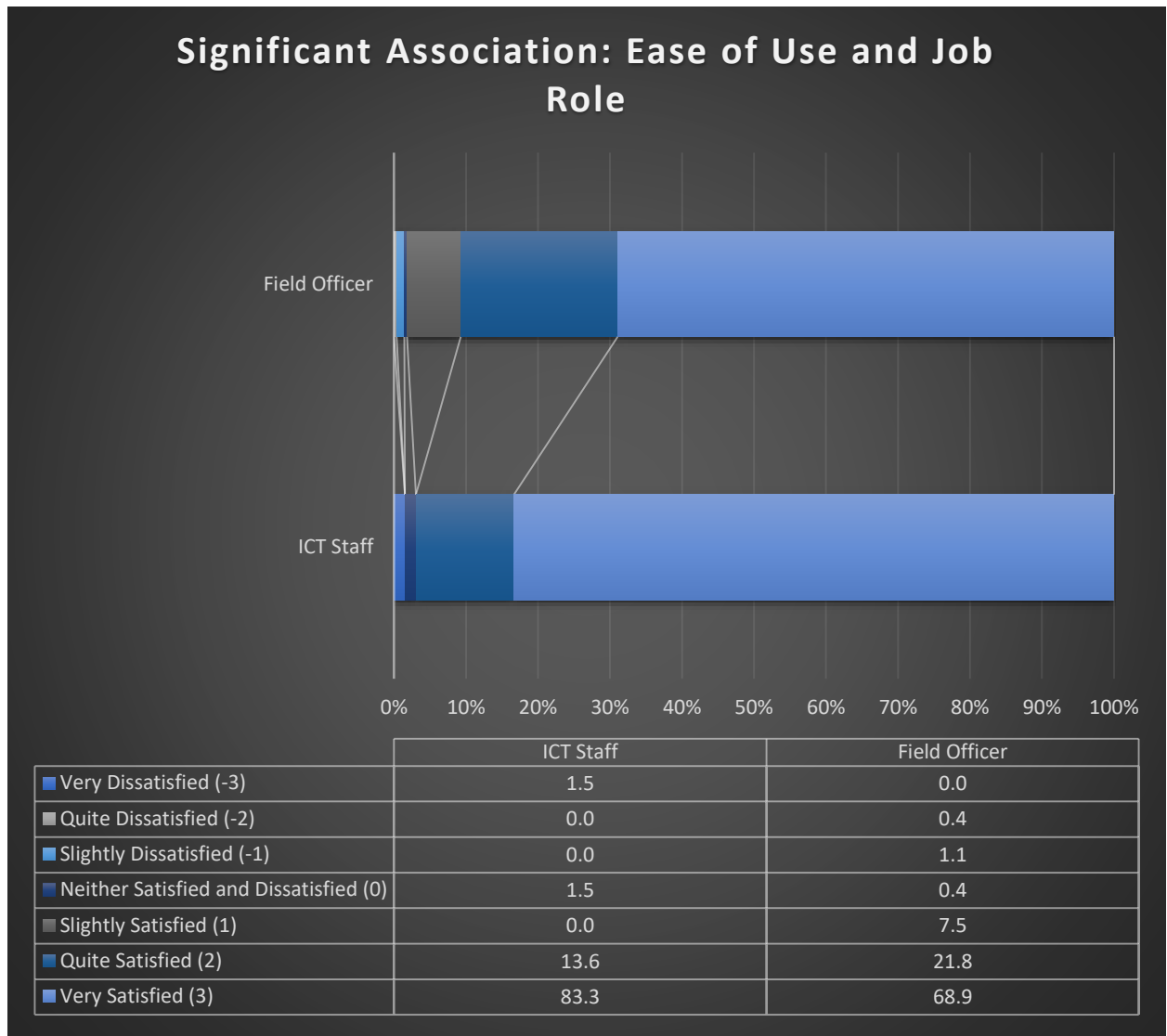


Figure 0.11 Significant Association: Ease of Use and Job Role

The significance of the relationship lies in the dominant and significant increase of satisfaction levels of ease of use of the EMS and the job role. Thus, an ICT staff member will be significantly more satisfied with ease of use of the EMS than a field officer.

4.4.2 Reliability

The EMS system users were largely satisfied with the systems reliability quality of the EMS. A total of 324 EMS users out of 346 (representing 93% of the representative sample) found the EMS satisfactory with the reliability of the system (see Table 4.9). The responses

from the 324 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the reliability of the system presented by the EMS.

But frequency of EMS use had a significant relationship with the system reliability. This implies that this relationship did not happen by chance rather there is a significant relationship at play between reliability and frequency of EMS use.

Table 0.9 Reliability Frequency

Reliability		Frequency	Percentage
Operations are dependable.	Very Dissatisfied (-3)	3	0.87
	Quite Dissatisfied (-2)	2	0.58
	Slightly Dissatisfied (-1)	8	2.31
	Neither Satisfied and Dissatisfied (0)	9	2.60
	Slightly Satisfied (1)	51	14.74
	Quite Satisfied (2)	94	27.17
	Very Satisfied (3)	179	51.73

4.4.2.1 Significant Association Relationships with Reliability

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with reliability (see Figure 4.12). With 36 degrees of freedom from 346 responses the $\chi^2 = 65.782a$ and had a $p = .002$.

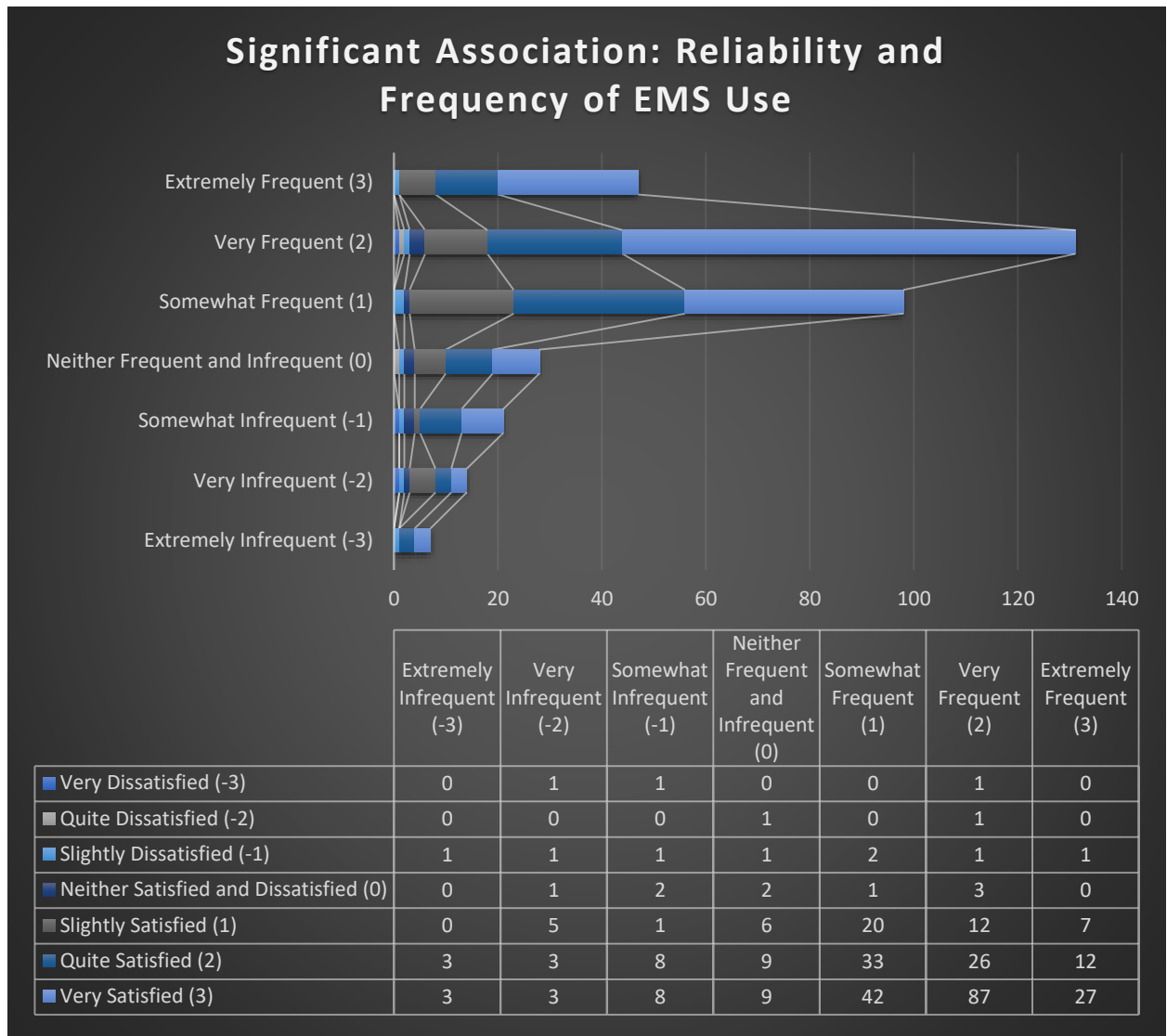


Figure 0.12 Significant Association: Reliability and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of reliability and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the reliability of the system presented by the EMS.

4.4.3 Availability

The EMS system users were largely satisfied with the systems availability quality of the EMS. A total of 321 EMS users out of 346 (representing 92% of the representative sample) found the EMS satisfactory with the availability of the system (see Table 4.10). The

responses from the 321 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the availability of the system presented by the EMS.

But frequency of EMS use had a significant relationship with the system availability. This implies that this relationship did not happen by chance rather there is a significant relationship at play between availability and frequency of EMS use.

Table 0.10 Availability Frequency

Availability		Frequency	Percentage
The EMS is available to use at all times.	Very Dissatisfied (-3)	5	1.45
	Quite Dissatisfied (-2)	1	0.29
	Slightly Dissatisfied (-1)	6	1.73
	Neither Satisfied and Dissatisfied (0)	13	3.76
	Slightly Satisfied (1)	54	15.61
	Quite Satisfied (2)	78	22.54
	Very Satisfied (3)	189	54.62

4.4.3.1 Significant Association Relationships with Availability

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with availability (see Figure 4.13). With 36 degrees of freedom from 346 responses the $\chi^2 = 57.334a$ and had a $p = .000$.

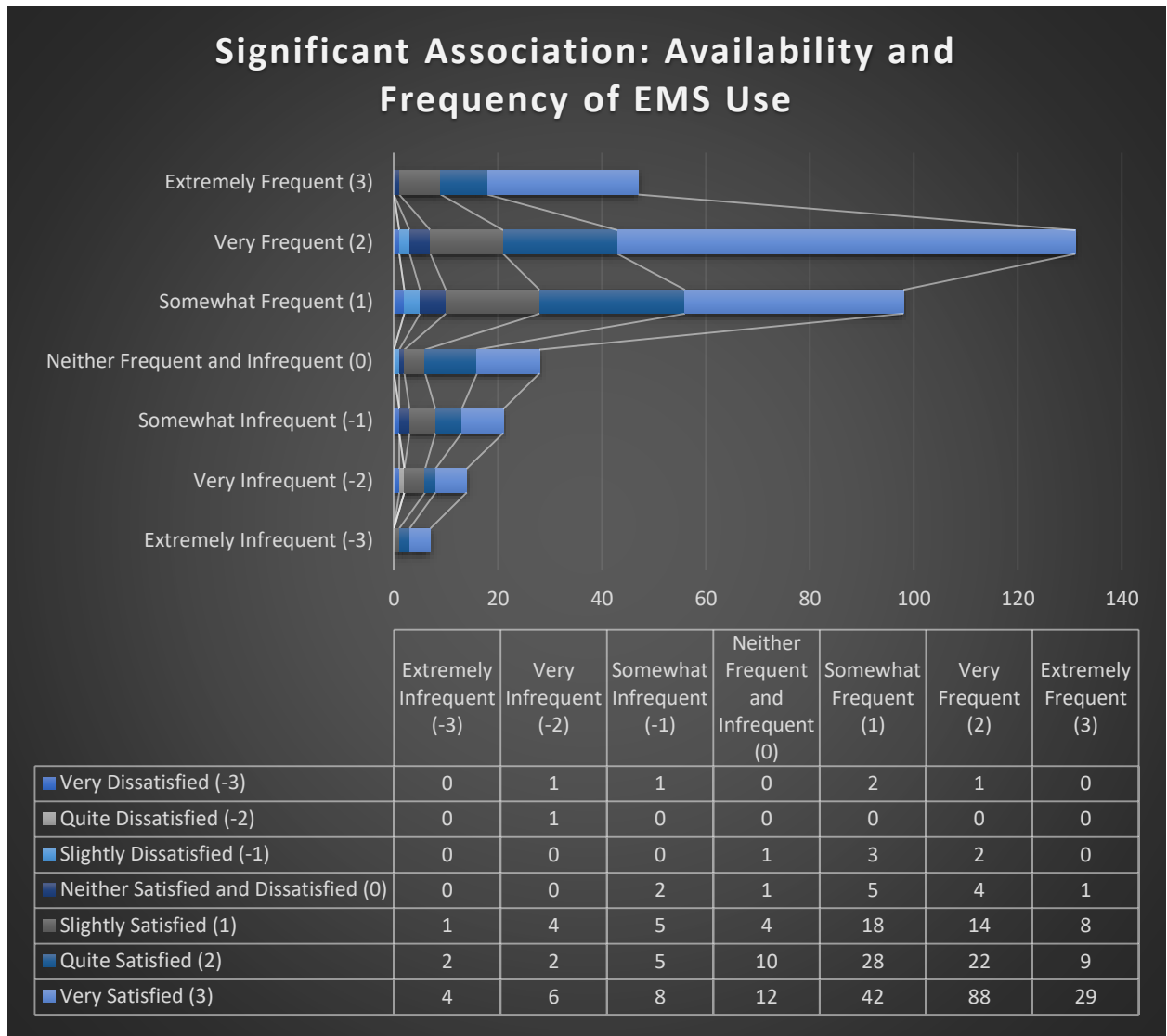


Figure 0.13 Significant Association: Availability and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of availability and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the availability of the system presented by the EMS.

4.4.4 Response-Time

The EMS system users were largely satisfied with the systems response-time quality of the EMS. A total of 319 EMS users out of 346 (representing 92% of the representative sample) found the EMS satisfactory with the response-time of the system (see Table 4.11). The

responses from the 319 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the response-time of the system presented by the EMS.

But frequency of EMS use had a significant relationship with the system response-time. This implies that this relationship did not happen by chance rather there is a significant relationship at play between response-time and frequency of EMS use.

Table 0.11 Response-Time Frequency

Response-Time		Frequency	Percentage
The EMS is fast in performing your requests.	Very Dissatisfied (-3)	3	0.87
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	8	2.31
	Neither Satisfied and Dissatisfied (0)	13	3.76
	Slightly Satisfied (1)	43	12.43
	Quite Satisfied (2)	82	23.70
	Very Satisfied (3)	194	56.07

4.4.4.1 Significant Association Relationships with Response-Time

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with response-time (see Figure 4.14). With 36 degrees of freedom from 346 responses the $\chi^2 = 72.165a$ and had a $p = .000$.

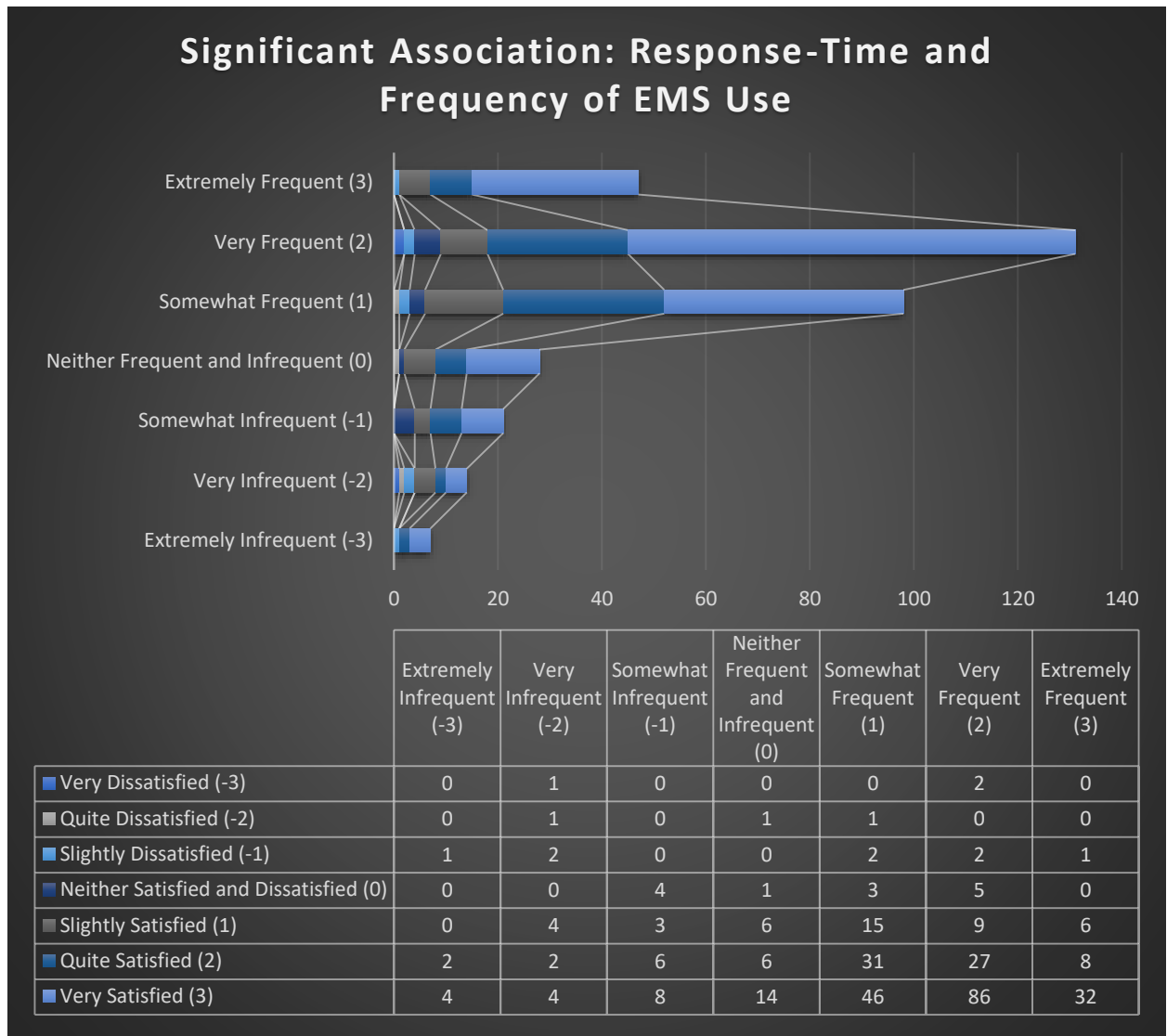


Figure 0.14 Significant Association: Response-Time and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of response-time and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the response-time of the system presented by the EMS.

4.4.5 Integration

The EMS system users were largely satisfied with the systems integration quality of the EMS. A total of 321 EMS users out of 346 (representing 92% of the representative sample) found the EMS satisfactory with the integration of the system (see Table 4.12). The

responses from the 321 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the integration of the system presented by the EMS.

But frequency of EMS use had a significant relationship with the system integration. This implies that this relationship did not happen by chance rather there is a significant relationship at play between integration and frequency of EMS use.

Table 0.12 Integration Frequency

Integration		Frequency	Percentage
The EMS brings together information from various sources.	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	5	1.45
	Slightly Dissatisfied (-1)	9	2.60
	Neither Satisfied and Dissatisfied (0)	9	2.60
	Slightly Satisfied (1)	39	11.27
	Quite Satisfied (2)	87	25.14
	Very Satisfied (3)	195	56.36

4.4.5.1 Significant Association Relationships with Integration

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with integration (see Figure 4.15). With 36 degrees of freedom from 346 responses the $\chi^2 = 60.501a$ and had a $p = .006$.

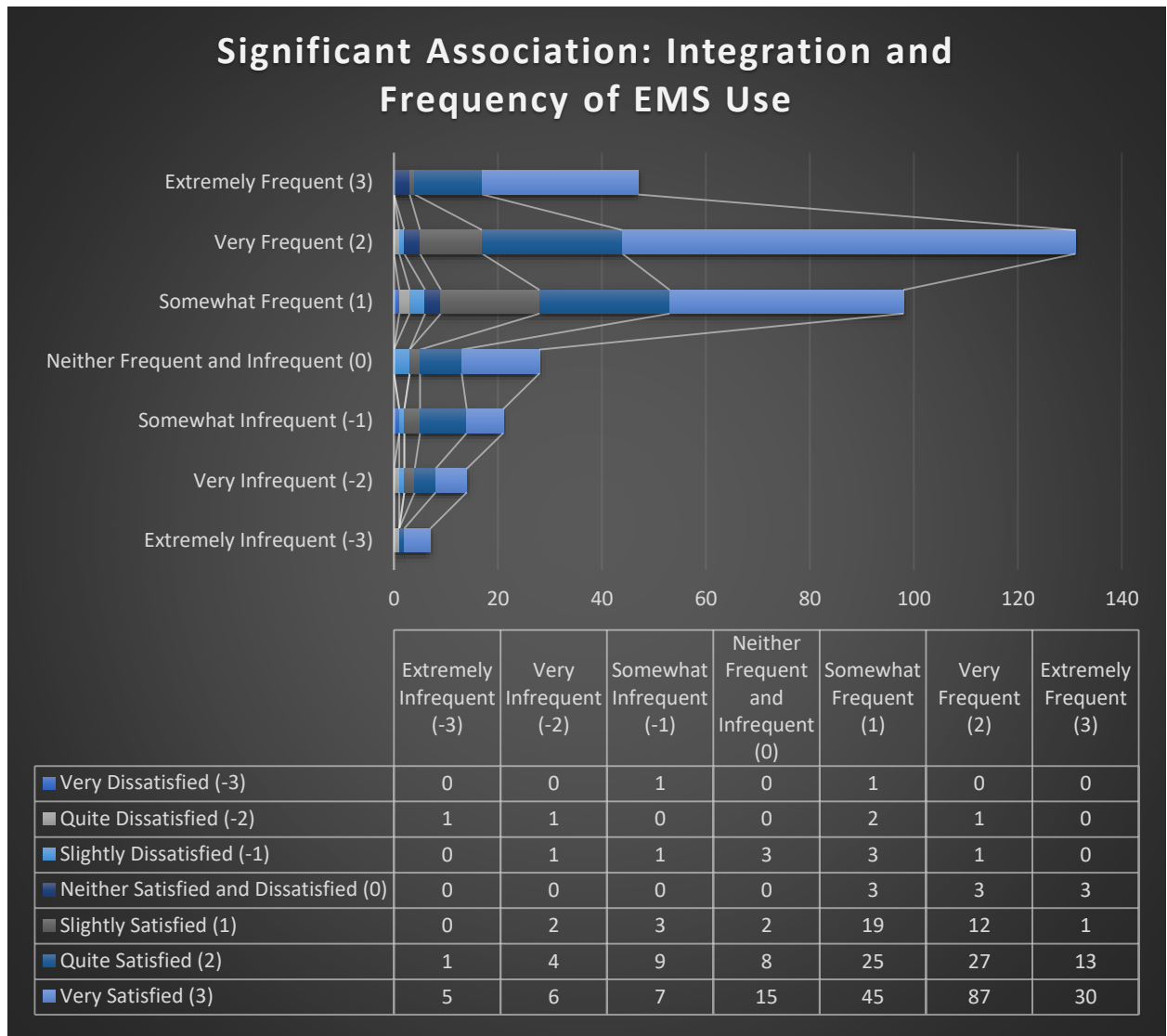


Figure 0.15 Significant Association: Integration and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of integration and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the integration of the system presented by the EMS.

4.4.6 Security

The EMS system users were largely satisfied with the systems security quality of the EMS. A total of 323 EMS users out of 346 (representing 93% of the representative sample) found

the EMS satisfactory with the security of the system (see Table 4.13). The responses from the 323 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration was insignificant with the security of the system presented by the EMS.

But frequency of EMS use had a significant relationship with the system security. This implies that this relationship did not happen by chance rather there is a significant relationship at play between security and frequency of EMS use.

Table 0.13 Security Frequency

Security		Frequency	Percentage
Information is kept secure by the EMS.	Very Dissatisfied (-3)	3	0.87
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	5	1.45
	Neither Satisfied and Dissatisfied (0)	12	3.47
	Slightly Satisfied (1)	30	8.67
	Quite Satisfied (2)	77	22.25
	Very Satisfied (3)	216	62.43

4.4.6.1 Significant Association Relationships with Security

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with security (see Figure 4.16). With 36 degrees of freedom from 346 responses the $\chi^2 = 88.994a$ and had a $p = .000$.

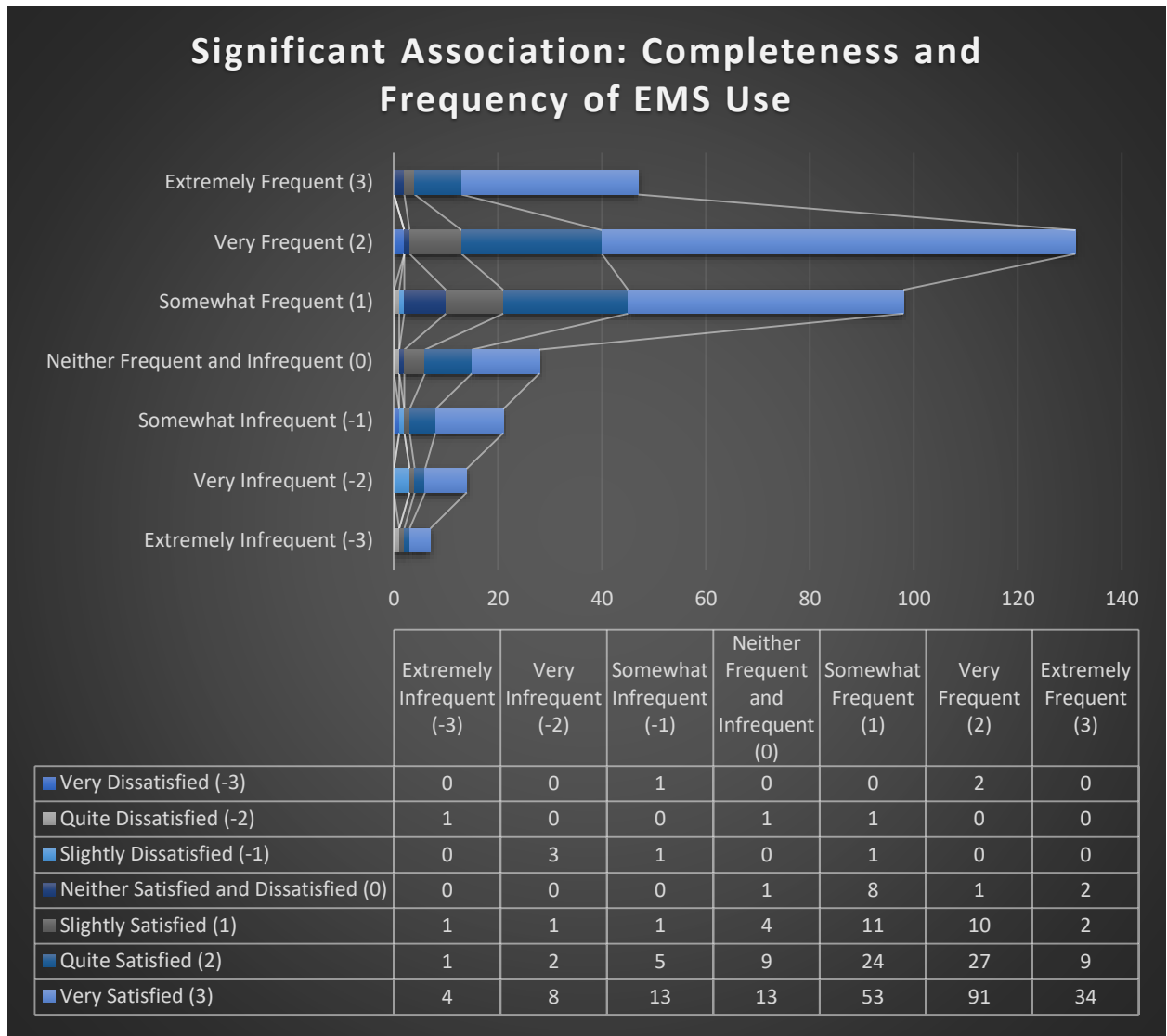


Figure 0.16 Significant Association: Security and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of security and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the security of the system presented by the EMS.

4.5 Service Quality Satisfaction

This subsection addresses the research question of how users of the EMS were satisfied with its service quality. The attributes that informed service quality in this study were reliability, responsiveness, assurance, courtesy, security, privacy, communication, competence, access and empathy (see Figure 4.17).



Figure 0.17 Overall Service Quality Satisfaction Levels

4.5.1 Reliability

The EMS system users were largely satisfied with the reliability quality of the support services provided for the EMS. A total of 311 EMS users out of 346 (representing 89% of the representative sample) found the EMS satisfactory with the reliability in its support services (see Table4.14). The responses from the 311 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the reliability of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with reliability provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between reliability and frequency of EMS use.

Table 0.14 Reliability Frequency

Reliability		Frequency	Percentage
The dependability of the support services in place.	Very Dissatisfied (-3)	1	0.29
	Quite Dissatisfied (-2)	8	2.31
	Slightly Dissatisfied (-1)	7	2.02
	Neither Satisfied and Dissatisfied (0)	19	5.49
	Slightly Satisfied (1)	58	16.76
	Quite Satisfied (2)	116	33.53
	Very Satisfied (3)	137	39.60

4.5.1.1 Significant Association Relationships with Reliability

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with reliability (See Figure 4.18). With 36 degrees of freedom from 346 responses the $\chi^2 = 104.086a$ and had a $p = .000$.

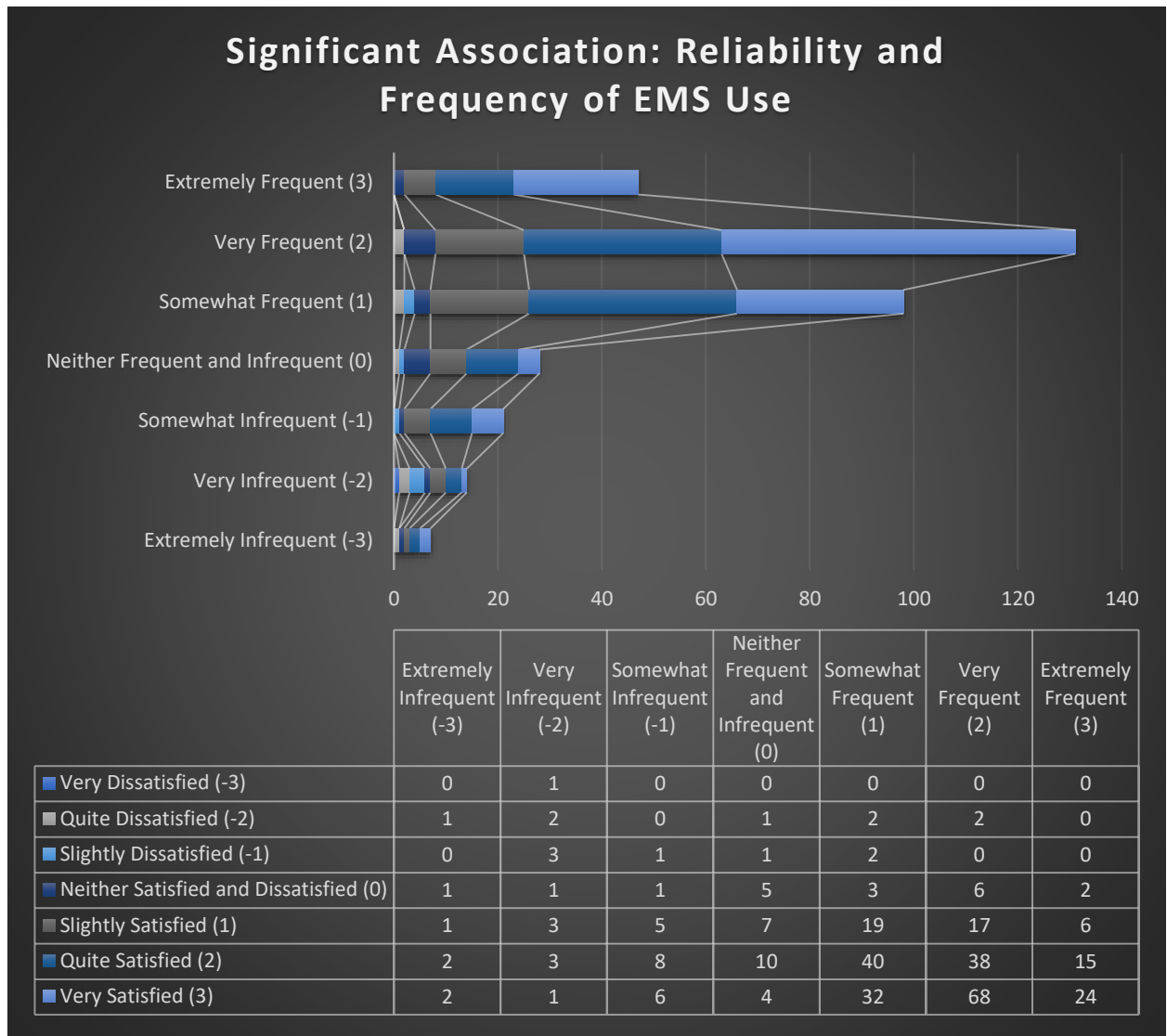


Figure 0.18 Significant Association: Reliability and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of reliability of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the reliability of the support services of the EMS.

4.5.2 Responsiveness

The EMS system users were largely satisfied with the responsiveness quality of the support services provided for the EMS. A total of 320 EMS users out of 346 (representing 92% of

the representative sample) found the EMS satisfactory with the responsiveness in its support services (see Table 4.15). The responses from the 320 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the responsiveness of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with responsiveness provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between responsiveness and frequency of EMS use.

Table 0.15 Responsiveness Frequency

Responsiveness		Frequency	Percentage
How understanding the support services are about user needs.	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	4	1.16
	Slightly Dissatisfied (-1)	6	1.73
	Neither Satisfied and Dissatisfied (0)	14	4.05
	Slightly Satisfied (1)	58	16.76
	Quite Satisfied (2)	108	31.21
	Very Satisfied (3)	154	44.51

4.5.2.1 Significant Association Relationships with Responsiveness

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with Responsiveness (see Figure 4.19). With 36 degrees of freedom from 346 responses the $\chi^2 = 85.674a$ and had a $p = .000$.

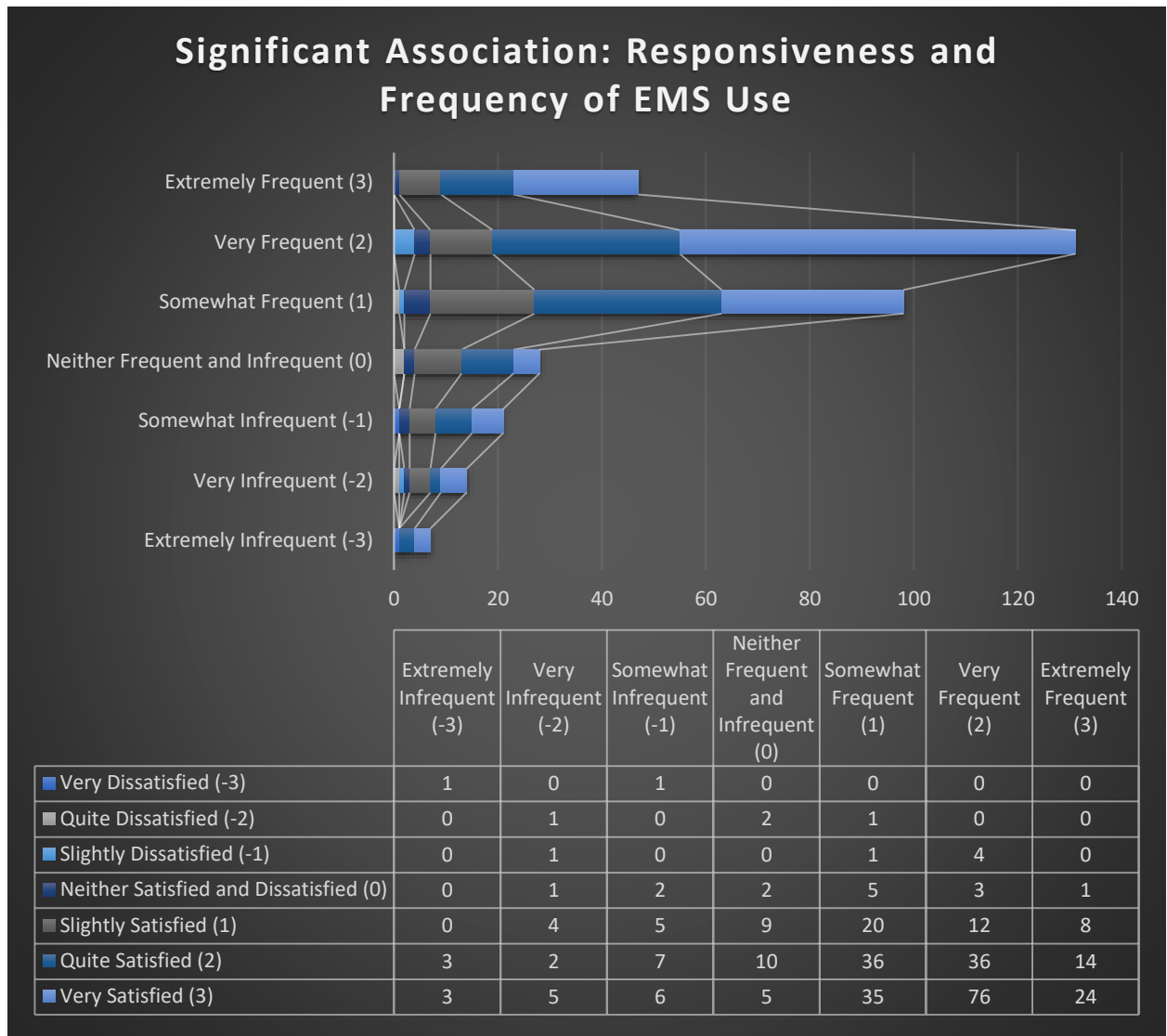


Figure 0.19 Significant Association: Responsiveness and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of responsiveness of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the responsiveness of the support services of the EMS.

4.5.3 Assurance

The EMS system users were largely satisfied with the assurance quality of the support services provided for the EMS. A total of 319 EMS users out of 346 (representing 92% of

the representative sample) found the EMS satisfactory with the assurance in its support services (see Table 4.16). The responses from the 319 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the assurance of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with assurance provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between assurance and frequency of EMS use.

Table 0.16 Assurance Frequency

Assurance		Frequency	Percentage
How support services provide assurance that your requests will be attended to.	Very Dissatisfied (-3)	1	0.29
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	9	2.60
	Neither Satisfied and Dissatisfied (0)	14	4.05
	Slightly Satisfied (1)	75	21.68
	Quite Satisfied (2)	93	26.88
	Very Satisfied (3)	151	43.64

4.5.3.1 Significant Association Relationships with Assurance

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with assurance (see Figure 4.20). With 36 degrees of freedom from 346 responses the $\chi^2 = 137.115a$ and had a $p = .000$.

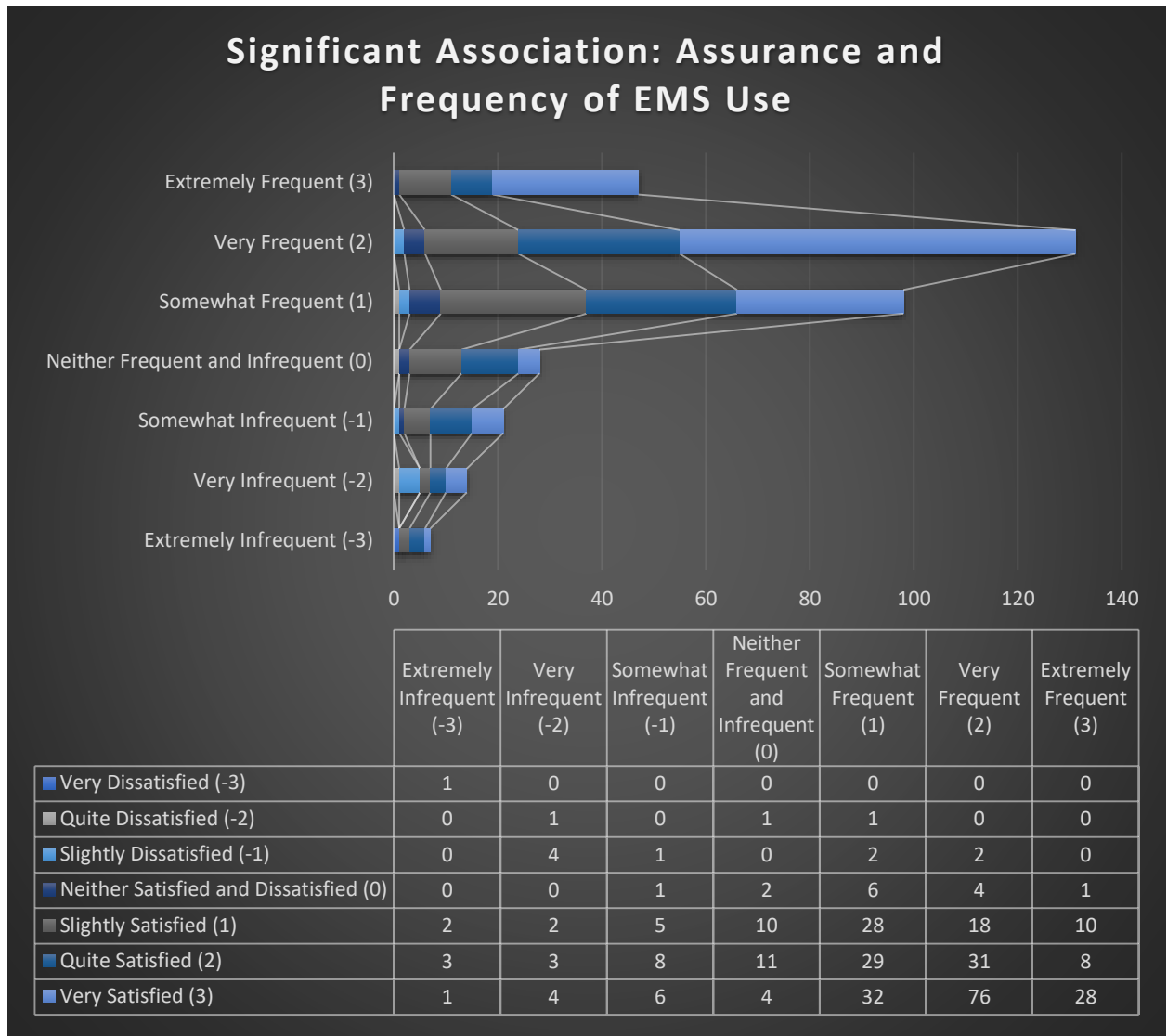


Figure 0.20 Significant Association: Assurance and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of assurance of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the assurance of the support services of the EMS.

4.5.4 Courtesy

The EMS system users were largely satisfied with the courtesy quality of the support services provided for the EMS. A total of 322 EMS users out of 346 (representing 93% of

the representative sample) found the EMS satisfactory with the courtesy in its support services (see Table 4.17). The responses from the 322 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the courtesy of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with courtesy provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between courtesy and frequency of EMS use.

Table 0.17 Courtesy Frequency

Courtesy		Frequency	Percentage
How respectful the support services are to users?	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	8	2.31
	Neither Satisfied and Dissatisfied (0)	11	3.18
	Slightly Satisfied (1)	45	13.01
	Quite Satisfied (2)	98	28.32
	Very Satisfied (3)	179	51.73

4.5.4.1 Significant Association Relationships with Courtesy

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with courtesy (see Figure 4.21). With 36 degrees of freedom from 346 responses the $\chi^2 = 88.836a$ and had a $p = .000$.

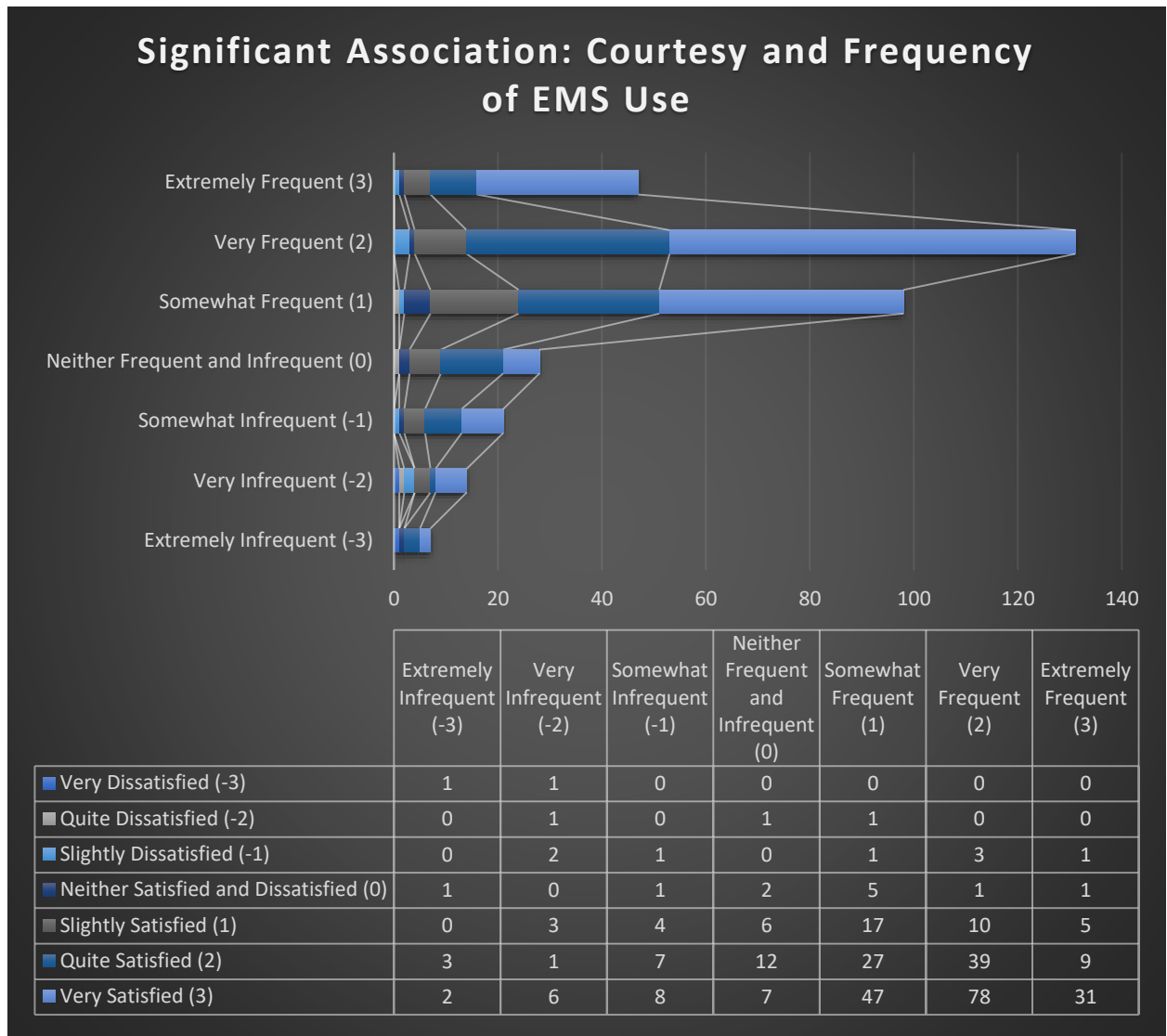


Figure 0.21 Significant Association: Courtesy and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of courtesy of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the courtesy of the support services of the EMS.

4.5.5 Security

The EMS system users were largely satisfied with the security quality of the support services provided for the EMS. A total of 318 EMS users out of 346 (representing 91% of

the representative sample) found the EMS satisfactory with the security in its support services (see Table 4.18). The responses from the 318 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the security of the support services provided for the EMS.

But frequency of EMS use and gender had a statistically significant relationship with security provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between security and frequency of EMS use and security and gender.

Table 0.18 Security Frequency

Security		Frequency	Percentage
How support services provide you with a safe and secure service encounter.	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	2	0.58
	Slightly Dissatisfied (-1)	13	3.76
	Neither Satisfied and Dissatisfied (0)	11	3.18
	Slightly Satisfied (1)	45	13.01
	Quite Satisfied (2)	91	26.30
	Very Satisfied (3)	182	52.60

4.5.5.1 Significant Association Relationships with Security

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with security (see Figure 4.22). With 36 degrees of freedom from 346 responses the $\chi^2 = 65.233a$ and had a $p = .002$ for frequency of EMS use and 6 degrees of freedom from 346 responses the $\chi^2 = 13.393a$ and had a $p = .037$ for gender (see Figure 4.23).

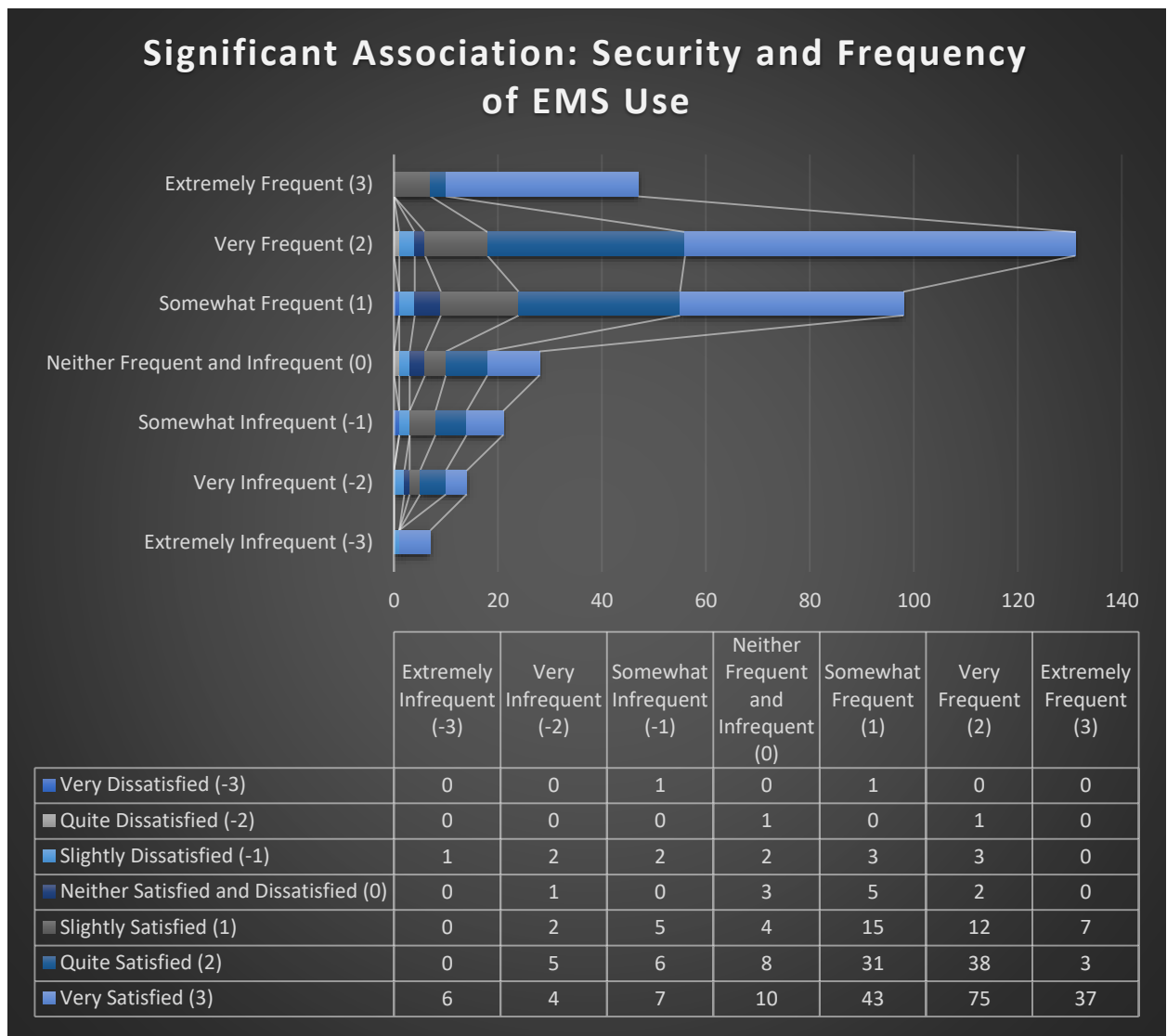


Figure 0.22 Significant Association: Security and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of security of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the security of the support services of the EMS.

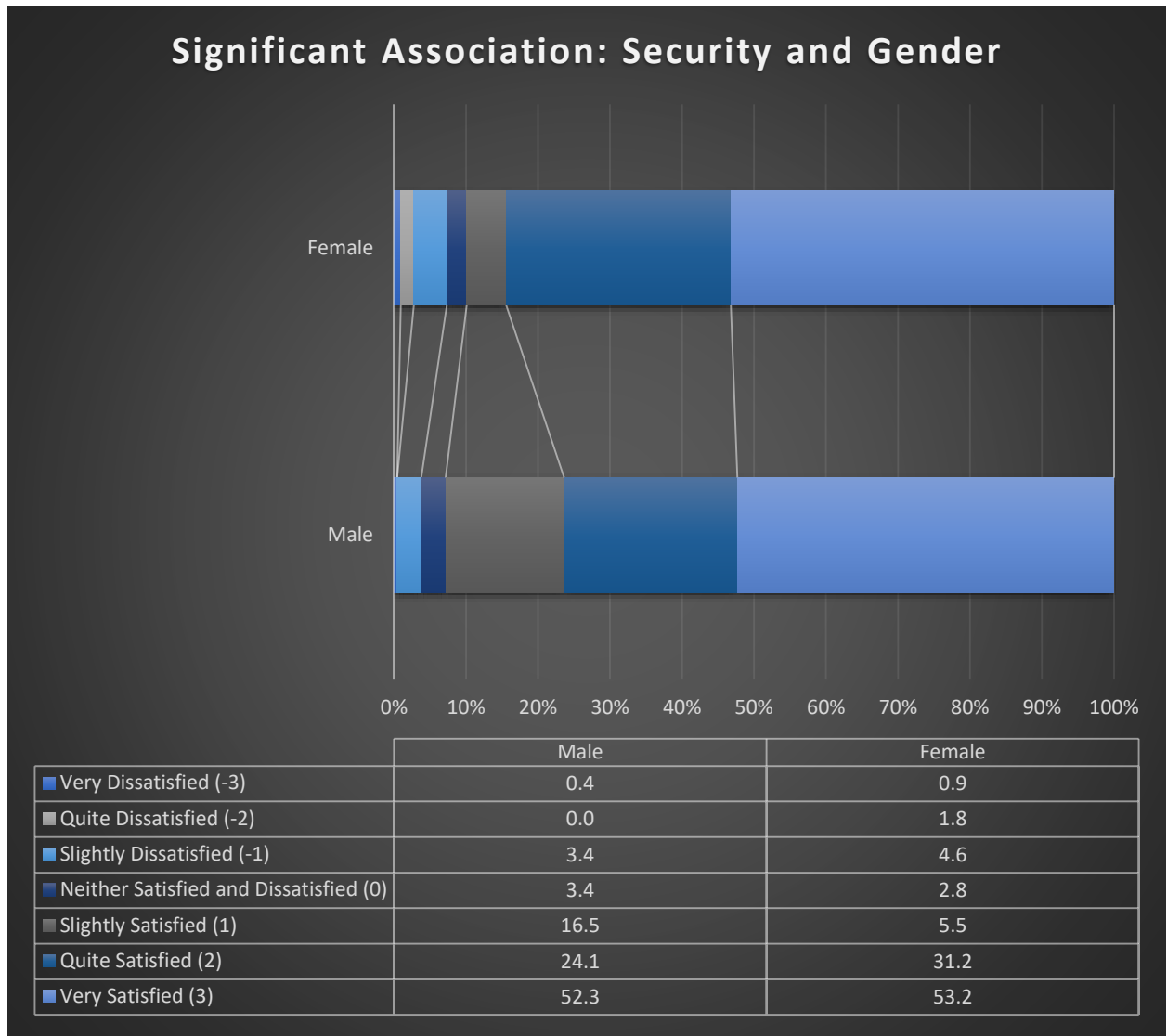


Figure 0.23 Significant Association: Security and Gender

The significance of the relationship lies in the increased satisfaction levels of security of support services amongst males rather than females and that females in the dissatisfaction of security outnumber the males. Thus, male EMS users, are more satisfied with security than their female counterparts of the security provided by the support services of the EMS.

4.5.6 Privacy

The EMS system users were largely satisfied with the privacy quality of the support services provided for the EMS. A total of 326 EMS users out of 346 (representing 94% of

the representative sample) found the EMS satisfactory with the privacy in its support services (see Table 4.19). The responses from the 326 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role and education level all had statistically insignificant relationship with the privacy of the support services provided for the EMS.

But frequency of EMS use, duration of system-use and job duration had a statistically significant relationship with privacy provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between privacy and frequency of EMS use, privacy and a and privacy and length of system use.

Table 0.19 Privacy Frequency

Privacy		Frequency	Percentage
How support services make one feel that your interactions with them are confidential.	Very Dissatisfied (-3)	3	0.87
	Quite Dissatisfied (-2)	6	1.73
	Slightly Dissatisfied (-1)	3	0.87
	Neither Satisfied and Dissatisfied (0)	8	2.31
	Slightly Satisfied (1)	36	10.40
	Quite Satisfied (2)	80	23.12
	Very Satisfied (3)	210	60.69

4.5.6.1 Significant Association Relationships with Privacy

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with Privacy (see Figure.4.24). With 36 degrees of freedom from 346 responses the $\chi^2 = 93.234a$ and had a $p = .000$ for frequency of EMS use with 12 degrees of freedom from 346 responses the $\chi^2 = 29.811a$ and had a $p = .003$ for length of system use (see Figure 4.26), and 12 degrees of freedom from 346 responses the $\chi^2 = 21.889a$ and had a $p = .039$ for length of employment (see Figure 4.26).

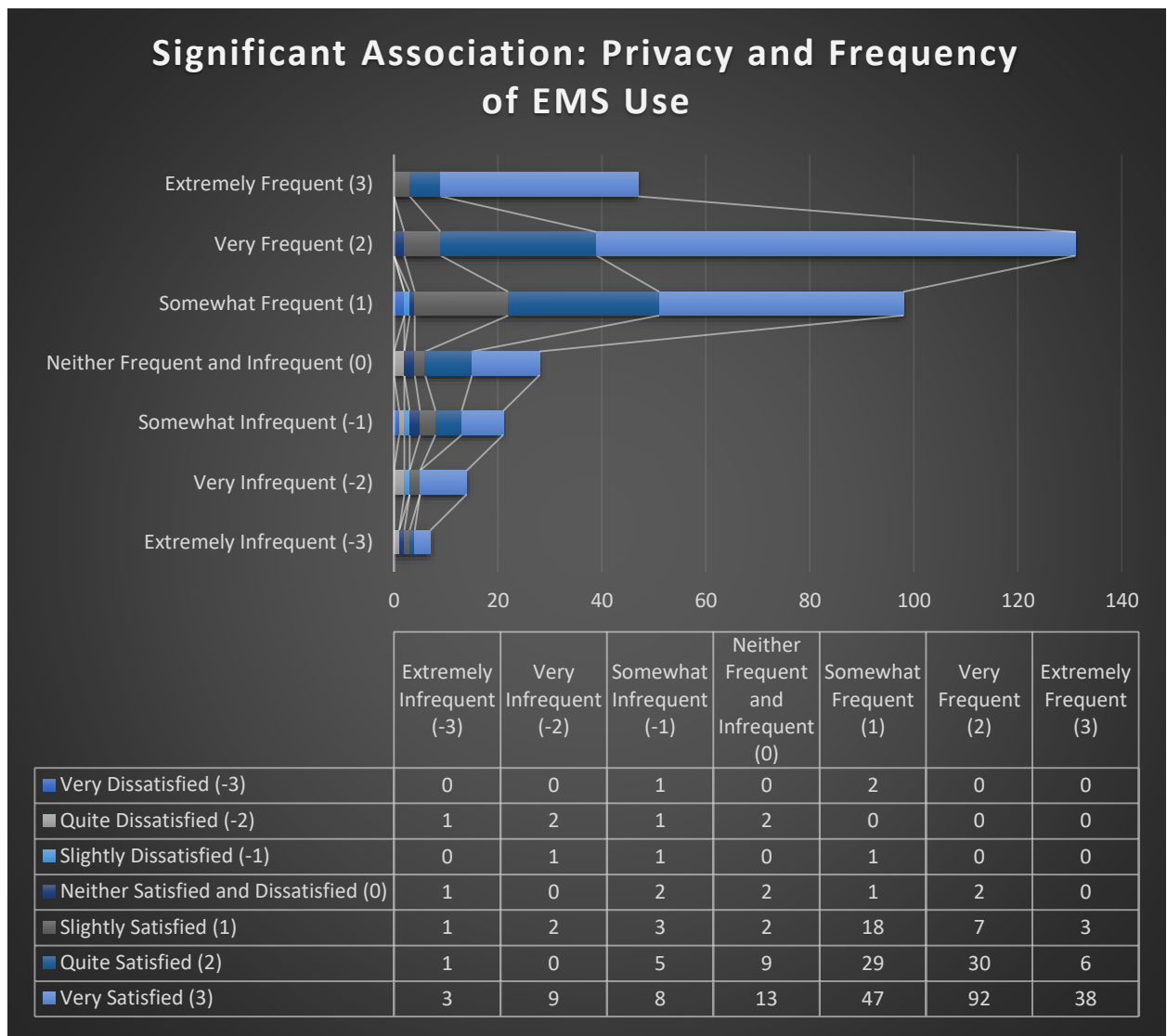


Figure 0.24 Significant Association: Privacy and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of privacy of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the privacy of the support services of the EMS.

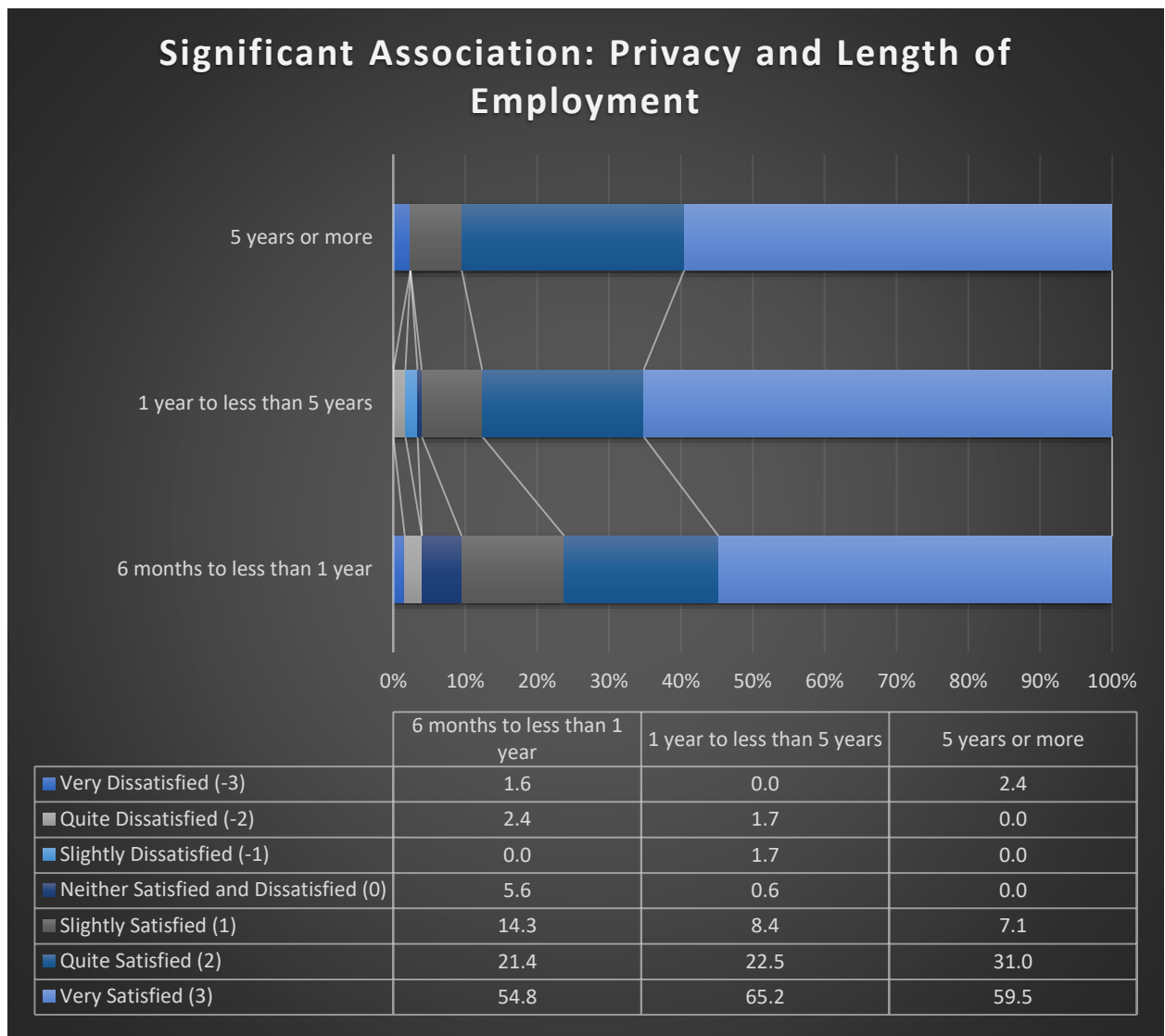


Figure 0.25 Significant Association: Privacy and Length of Employment

The significance of the relationship lies in the increased satisfaction levels as well as the decreased experience of dissatisfaction of privacy as one's employment period extends beyond a year. Thus, the longer a user is employed beyond a year, the more satisfied they will be with the privacy of the support services of the EMS.

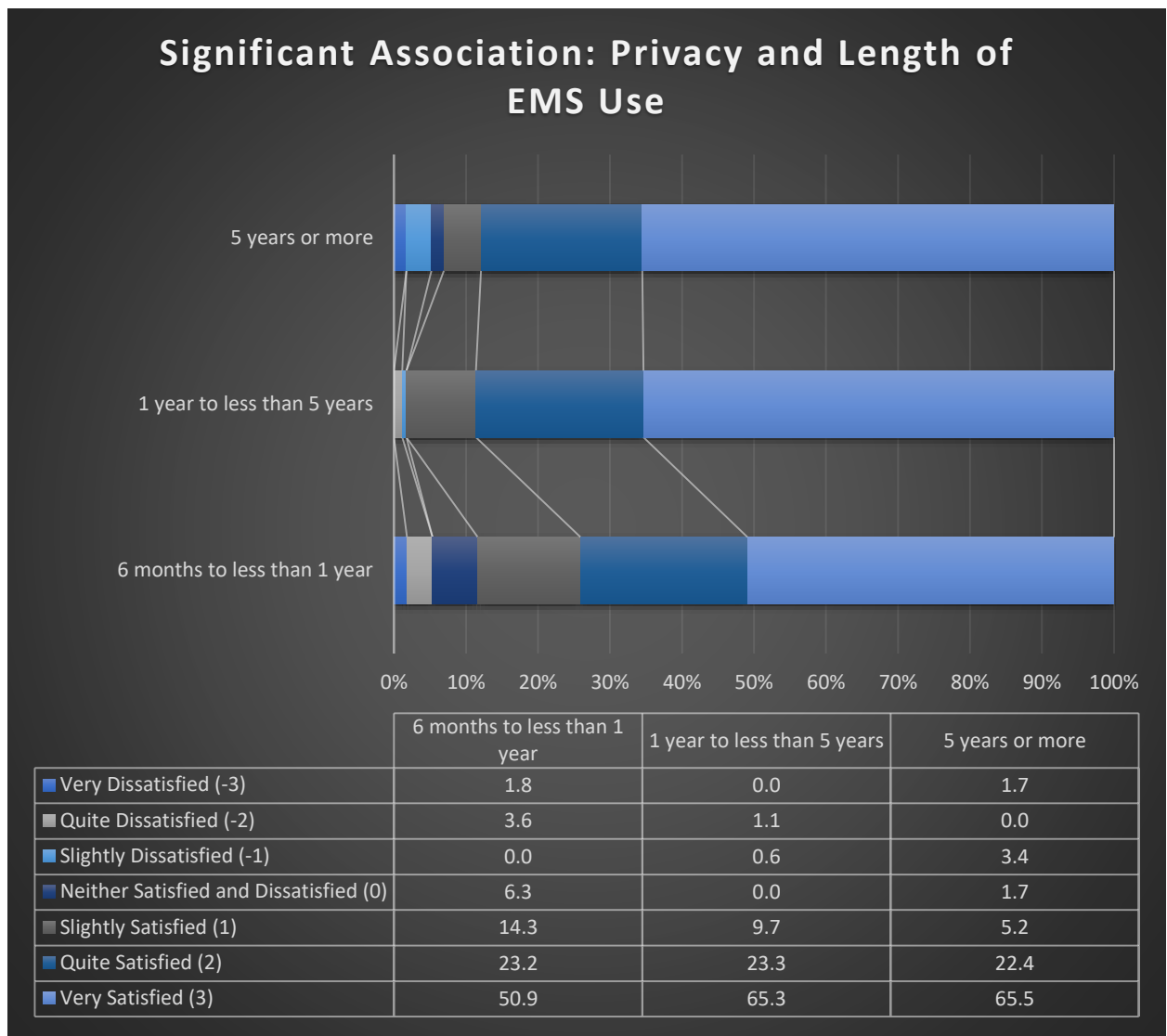


Figure 0.26 Significant Association: Privacy and Length of EMS Use

The significance of the relationship lies in the increased satisfaction levels as well as the decreased experience of dissatisfaction of privacy as one's EMS use extends beyond a year. Thus, the longer a user is using the EMS beyond a year, the more satisfied they will be with the privacy of the support services of the EMS.

4.5.7 Communication

The EMS system users were largely satisfied with the communication quality of the support services provided for the EMS. A total of 321 EMS users out of 346 (representing 92% of

the representative sample) found the EMS satisfactory with the communication in its support services (see Table 4.20). The responses from the 321 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the communication of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with communication provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between communication and frequency of EMS use.

Table 0.20 Communication Frequency

Communication		Frequency	Percentage
How to communicate clearly and understandably	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	4	1.16
	Neither Satisfied and Dissatisfied (0)	16	4.62
	Slightly Satisfied (1)	50	14.45
	Quite Satisfied (2)	106	30.64
	Very Satisfied (3)	165	47.69

4.5.7.1 Significant Association Relationships with Communication

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with communication (see Figure 4.27). With 36 degrees of freedom from 346 responses the $\chi^2 = 74.474a$ and had a $p = .000$.

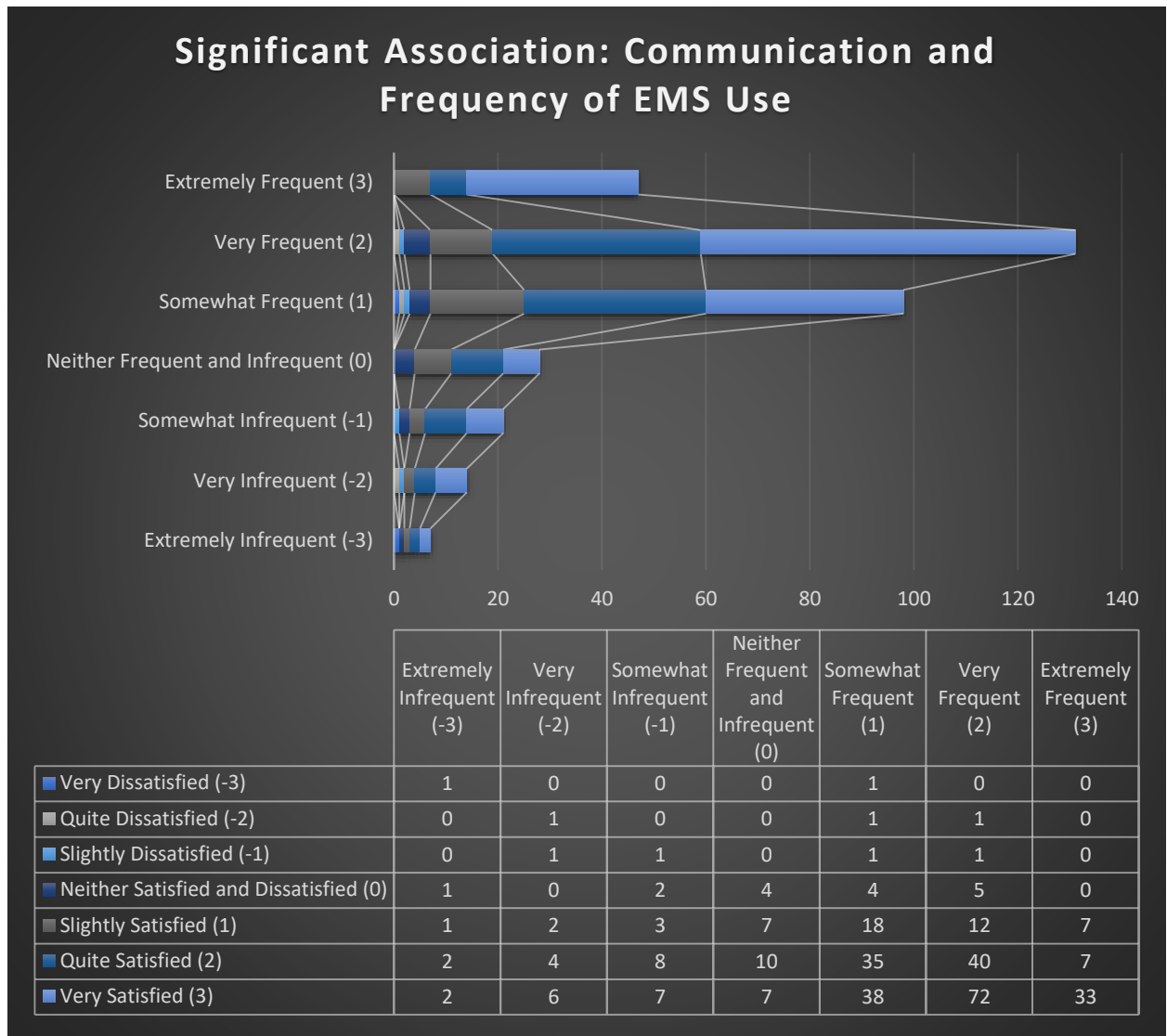


Figure 0.27 Significant Association: Communication and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of communication of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the communication of the support services of the EMS.

4.5.8 Competence

The EMS system users were largely satisfied with the competence quality of the support services provided for the EMS. A total of 316 EMS users out of 346 (representing 91% of

the representative sample) found the EMS satisfactory with the competence in its support services (see Table 4.21). The responses from the 316 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the competence of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with competence provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between competence and frequency of EMS use.

Table 0.21 Competence Frequency

Competence		Frequency	Percentage
How well the support services perform their tasks.	Very Dissatisfied (-3)	4	1.16
	Quite Dissatisfied (-2)	2	0.58
	Slightly Dissatisfied (-1)	7	2.02
	Neither Satisfied and Dissatisfied (0)	17	4.91
	Slightly Satisfied (1)	45	13.01
	Quite Satisfied (2)	107	30.92
	Very Satisfied (3)	164	47.40

4.5.8.1 Significant Association Relationships with Competence

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with competence (see Figure 4.28). With 36 degrees of freedom from 346 responses the $\chi^2 = 106.410a$ and had a $p = .000$.

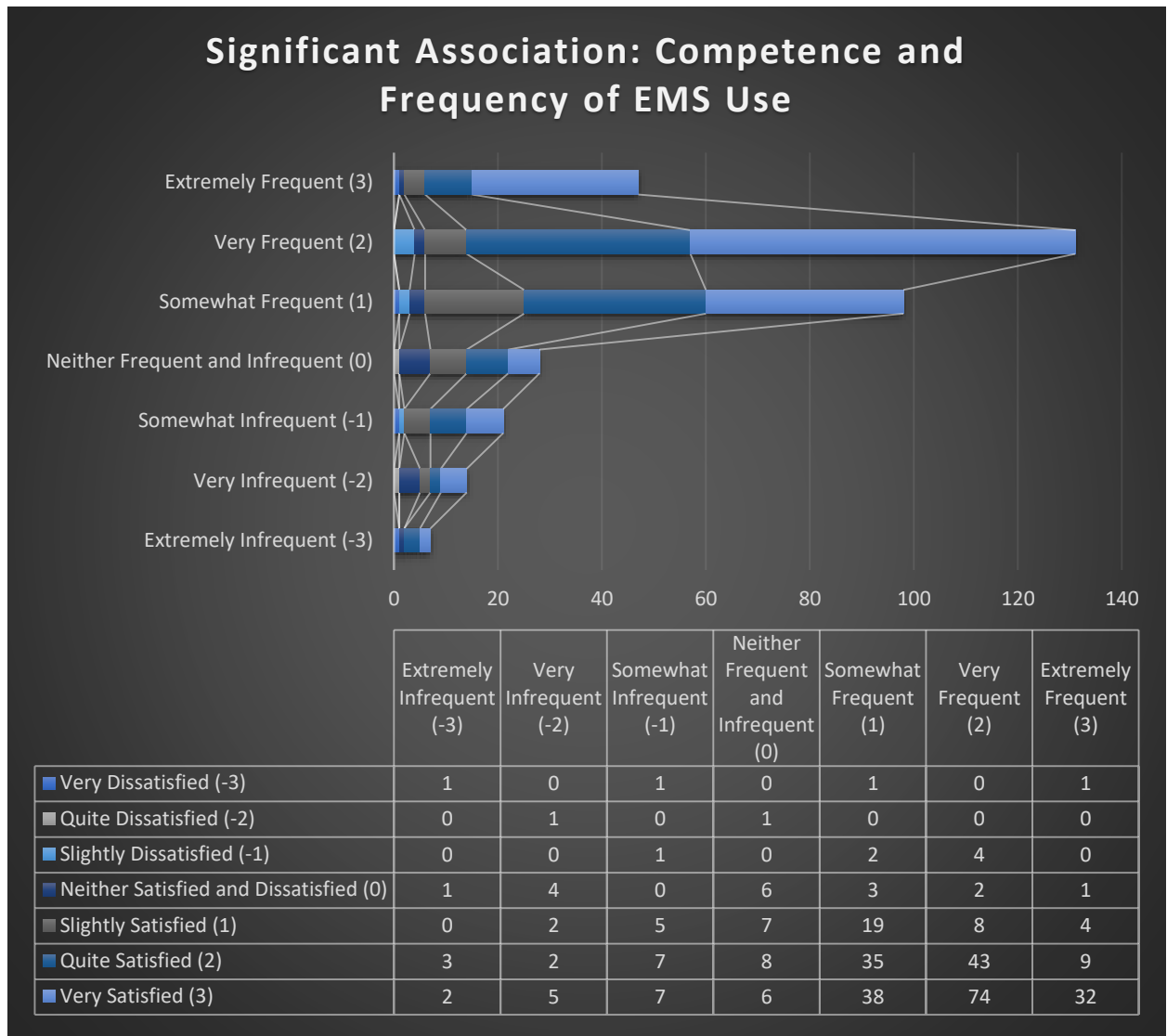


Figure 0.28 Significant Association: Competence and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of competence of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the competence of the support services of the EMS.

4.5.9 Access

The EMS system users were largely satisfied with the access quality of the support services provided for the EMS. A total of 320 EMS users out of 346 (representing 92% of the

representative sample) found the EMS satisfactory with the access in its support services (see Table 4.22). The responses from the 320 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the access of the support services provided for the EMS.

But frequency of EMS use and job role had a statistically significant relationship with access provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between access and frequency of EMS use and access, and job role.

Table 0.22 Access Frequency

Access		Frequency	Percentage
How easy it is to acquire support services.	Very Dissatisfied (-3)	2	0.58
	Quite Dissatisfied (-2)	3	0.87
	Slightly Dissatisfied (-1)	11	3.18
	Neither Satisfied and Dissatisfied (0)	10	2.89
	Slightly Satisfied (1)	78	22.54
	Quite Satisfied (2)	95	27.46
	Very Satisfied (3)	147	42.49

4.5.9.1 Significant Association Relationships with Access

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had two significant associative relationships with access (see Figure 4.29). With 36 degrees of freedom from 346 responses the $\chi^2 = 93.038a$ and had a $p = .000$ for frequency of EMS use and with 6 degrees of freedom from 346 responses the $\chi^2 = 15.137a$ and had a $p = .000$ for job role (see Figure 4.30).

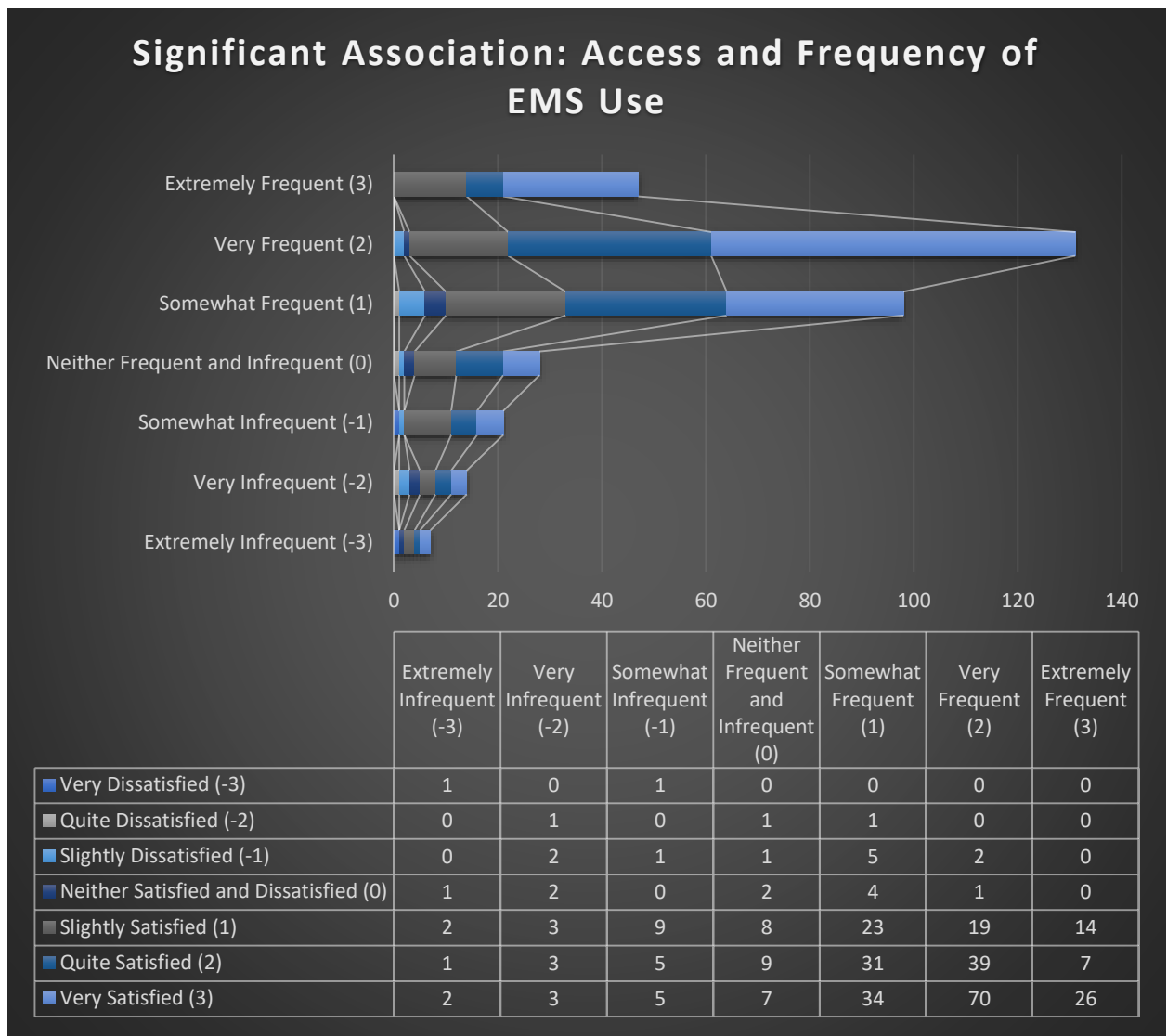


Figure 0.29 Significant Association: Access and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of access to support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the access of the support services of the EMS.

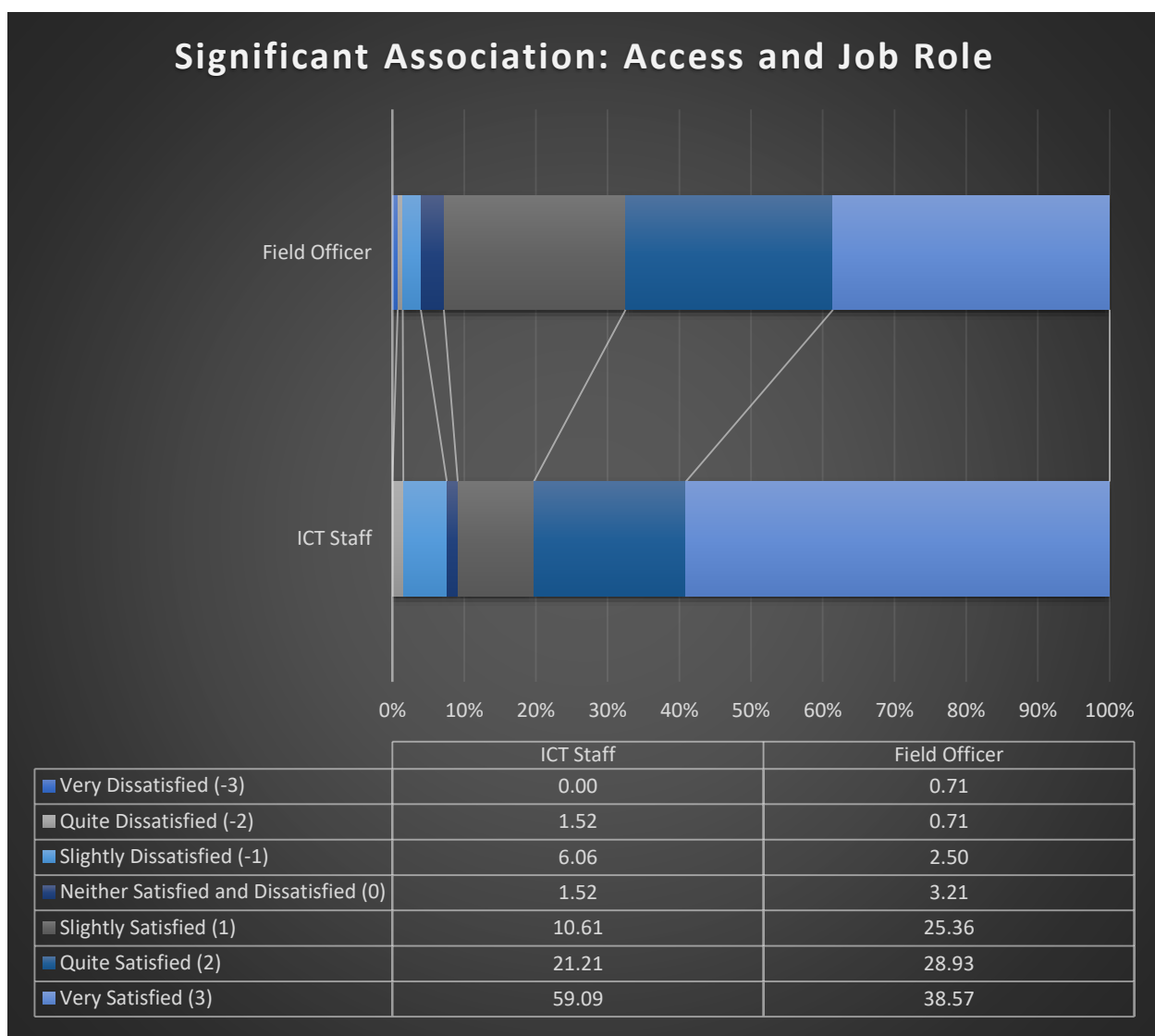


Figure 0.30 Significant Association: Access and Job Role

The significance of the relationship lies in the dominant and significant increase of satisfaction levels of access to support services and the job role. Thus, an ICT staff member will be significantly more satisfied with access to support services than a field officer.

4.5.10 Empathy

The EMS system users were largely satisfied with the empathy quality of the support services provided for the EMS. A total of 315 EMS users out of 346 (representing 91% of the representative sample) found the EMS satisfactory with the empathy in its support

services (see Table 4.23). The responses from the 315 ranged from very, quiet and slightly satisfied and the majority were very satisfied.

Age, gender, service encounter, job role, education level, duration of system-use and job duration all had statistically insignificant relationship with the empathy of the support services provided for the EMS.

But frequency of EMS use had a statistically significant relationship with empathy provided by support services. This implies that this relationship did not happen by chance rather there is a significant relationship at play between empathy and frequency of EMS use.

Table 0.23 Empathy Frequency

Empathy		Frequency	Percentage
How understanding the support services are about user needs.	Very Dissatisfied (-3)	1	0.29
	Quite Dissatisfied (-2)	4	1.16
	Slightly Dissatisfied (-1)	12	3.47
	Neither Satisfied and Dissatisfied (0)	14	4.05
	Slightly Satisfied (1)	60	17.34
	Quite Satisfied (2)	105	30.35
	Very Satisfied (3)	150	43.35

4.5.10.1 Significant Association Relationships with Access

A Chi-square (χ^2) test at α (alpha) = 0.05 revealed that frequency of EMS use had a significant associative relationship with empathy (see Figure 4.31). With 36 degrees of freedom from 346 responses the $\chi^2 = 72.043a$ and had a $p = .000$.

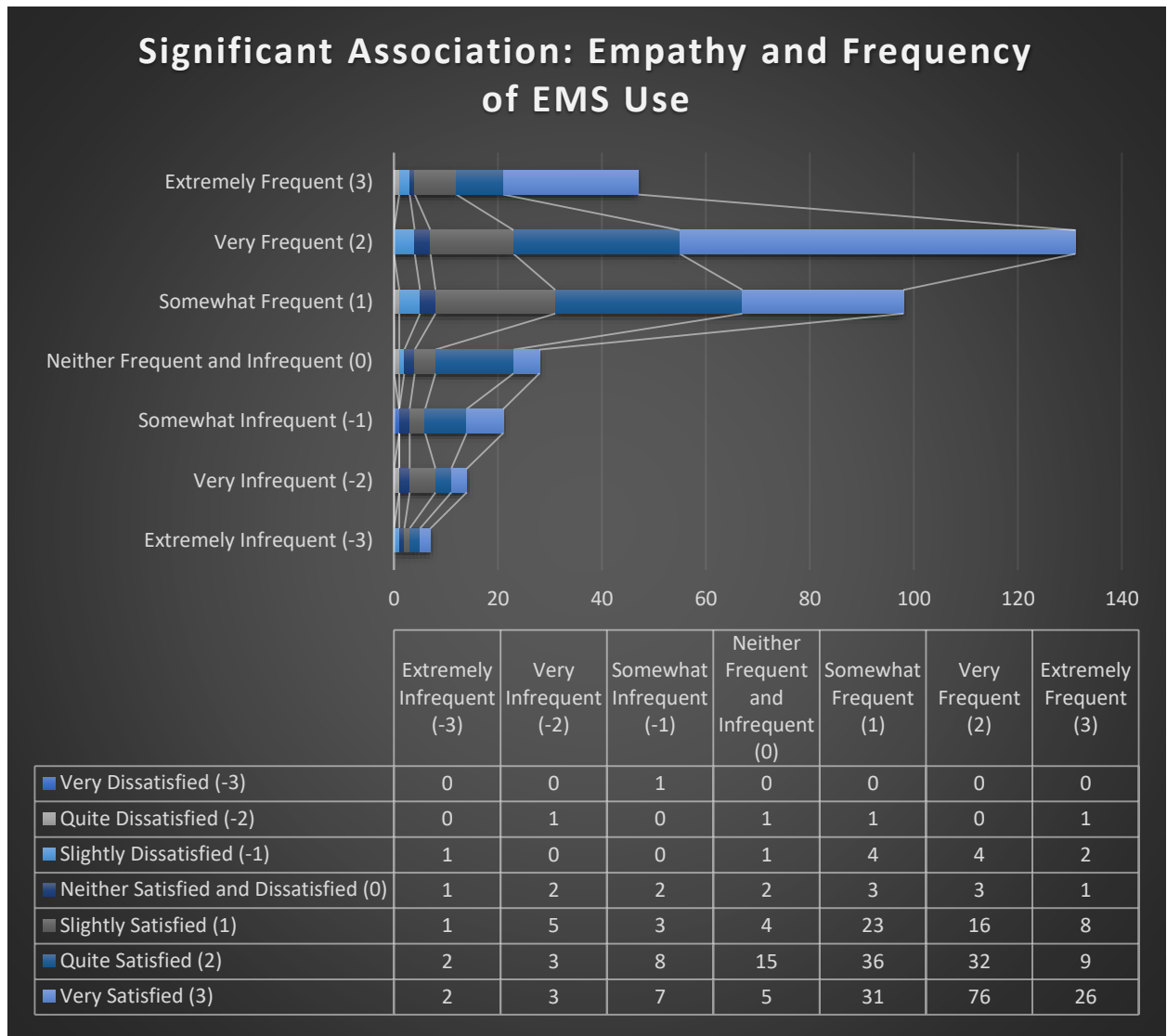


Figure 0.31 Significant Association: Empathy and Frequency of EMS Use

The significance of the relationship lies in the increased satisfaction levels of empathy of support services and the frequent use of the EMS. Thus, the more consistently a user uses the EMS, the more satisfied they will be with the empathy of the support services of the EMS.

4.6 Summary

The results were categorized and organized based on the study's objectives in this chapter, which addressed the research findings. The research discussion is addressed in the next chapter.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This study aimed to evaluate the MECs EMS to measure user satisfaction of the EMS's information, system, and service qualities. Though MECs EMS is at the heart of elections management in Malawi, it has lacked a user evaluation for such an essential system.

This chapter discusses the findings of the study, informed by the research questions and DeLone and McLean's IS success model. Subsection 5.2 discusses EMS user satisfaction of the EMS, subsection 5.3 discusses information quality, 5.4 system quality, 5.5 service quality and 5.6 discusses overall user satisfaction.

5.2 Assessing EMS User Satisfaction

Governments across the world; recognise the value of information and communication technologies (ICT) incorporation. This changes how they operate their services as best fit ICT adoption leads to increased efficiency, productivity and transparency in government services Wang & Liao (2008).

This study recognises the impact of MEC's proprietary EMS, which aids in the electoral management process. An important aspect of information system management has traditionally been about determining the efficacy or success of information systems within organizations Au et al. (2002, p. 1). This makes information systems evaluation a critical activity that creates and provides knowledge, of business fit, performance and opportunity enhancement. As governments construct e-government systems that deliver services to citizens, assessment activities are required to assess their efficacy Rana et al. (2015, p. 1).

The study's research aim, pursues the attainment of EMS user satisfaction at an attribute level addressing the constructs of information, system, and service qualities. The DeLone and McLean IS Success Model Dalle et al. (2020) informs our understanding of user satisfaction. In this study, user satisfaction is a dependent variable informed by three independent variables and these are information, system, and service quality. DeLone and McLean address how increased quality in the three independent variables causes increased system use. This reasoning though rational is applicable in a setting where system use is optional. In that setting, system use can be employed as a determinant to infer quality but with EMS use being mandatory it does not apply and the rationale becomes invalid and misleading hence our validated focus on user satisfaction.

Whenever an EMS user uses the EMS, they form their opinions of satisfaction be them positive and or negative. The emotive and cognitive appraisal of consumption-related experience with features of an information system, is known as user satisfaction (Gürkut & Nat, 2017, p. 3). The satisfaction reaction is defined as the consumer's fulfilment response Au et al. (2002, p. 3). Characterised by ambiguity and uncertainty with satisfaction measured in attitude, informed by expectation, user satisfaction is the most distinguishable and essential notion in information system user satisfaction evaluation. There are those who worry about the possible misdirection of user satisfaction numbers as they point out that high levels of user satisfaction do not imply changes in user behaviour or system efficacy Gatian (1994, p. 3). User satisfaction is a dimension of system effectiveness, that conveys a unique partial truth that cannot be undermined. As a practical metric of information system success in comparison to other performance-related metrics Au et al. (2002, p. 9), user satisfaction alone is insufficient to fully reflect system effectiveness.

5.3 Influence of Information Quality on User Satisfaction

Effective decision-making in electoral processes begins and ends with high quality information Gürkut & Nat (2017, p. 2). DeLone and McLean define information quality as the degree to which the information provided by an information system leads to informed decisions, eases operations, increases task performance efficiency and garners trust from system users and owners. Electoral accountability is a key factor informed by the EMSs

information quality. MECs mandated duties and responsibilities make them fully answerable to electoral stakeholders as they manage electoral data.

The first objective of this study was to assess how EMS information quality informed user satisfaction. The results revealed a high user satisfaction mean score of 94.1% which alludes to the fact that the EMS itself facilitates high information quality for the execution of critical tasks such as voter registration, voter verification, transferring voters, and the tabulation, transmission, and publication of election results.

Usefulness, as an information quality attribute, significantly impacts productivity within the EMS framework. Productivity is defined by the system's ability to align and integrate data with the business information needs of the electoral process. Information that does not contribute to a legitimate electoral process is deemed extraneous. The high satisfaction levels reported by EMS users underscore the effectiveness of well-designed EMS data in providing relevant information that meets the diverse needs of users across various roles and phases of the electoral process. This correlation indicates that the usability of information directly enhances the productivity and efficiency of electoral operations, ensuring that the system supports seamless and informed decision-making.

The provision of timely information is essential for electoral stakeholders to remain current with ongoing issues within the electoral process. Given the stringent time constraints characteristic of electoral activities, timely information is indispensable. EMS users have expressed satisfaction with the timeliness of information, highlighting its effectiveness in meeting urgent informational needs across different electoral phases. This prompt dissemination of information not only enables stakeholders to make swift, informed decisions but also enhances the overall efficiency and responsiveness of the electoral process, thereby supporting the dynamic nature of electoral operations.

To uphold the legitimacy of its electoral processes, MEC requires information that is both credible and a precise representation of electoral realities. Precision refers to the degree to which EMS data accurately reflects voter intent and electoral outcomes. EMS users have acknowledged the system's high accuracy in capturing voter intent, thus minimizing the risk of misrepresentation. This accuracy is crucial for ensuring fairness and integrity in MEC's electoral processes. Additionally, precise data facilitates the identification of trends,

patterns, and areas for improvement, which is vital for effective planning, strategizing, and enhancing the overall electoral process.

The EMS must manage data that is comprehensible and contextually grounded to be meaningful. Data without proper context and clear implications can lead to misinterpretation and confusion. EMS users have reported that the system provides highly understandable information, positively impacting their ability to accurately interpret data. This clarity is achieved through well-organized and structured information that addresses the unique needs of its audience. The ability to understand and interpret data correctly is crucial for making informed decisions throughout the electoral process, ensuring that stakeholders can act on accurate and contextually relevant information.

Data comprehension is significantly enhanced when presented in user-friendly formats. The EMS utilizes clear and structured data formats such as organized tables, charts, graphs, and visualizations. These formats improve the readability and usability of information, enabling EMS users to quickly grasp key insights, trends, and patterns. According to Gürkut & Nat (2017, p. 2), data formatting plays a critical role in the decision-making process. The effective use of these formats by the EMS allows users to easily understand and utilize key information during various electoral processes, thereby supporting informed decision-making and enhancing user experience.

Comprehensive information provides a holistic view of the electoral landscape, which spans multiple stages and national agendas, including the 2019 tripartite elections and the 2020 presidential elections. For MEC to fully leverage and exploit the potential of electoral data, the information must be complete and all-encompassing. Incomplete information can lead to flawed decisions due to missing or omitted data. Therefore, the completeness of information is vital for making sound decisions that reflect the entire electoral context. Comprehensive data ensures that all aspects of the electoral process are considered, enabling more effective and inclusive planning and execution.

Credibility, defined as the reliability of information presented by the EMS, is a crucial attribute for electoral integrity. This credibility must be maintained throughout the entire electoral process, not just during the announcement of polls. Issues of security and transparency are critical in this context, and EMS users have rated the credibility of the

system highly, appreciating the validation role credible information plays. Ensuring credible information is essential for maintaining the trust and confidence of all electoral stakeholders, as it underpins the transparency and integrity of the electoral process.

Electoral information must be relevant to the needs of EMS users to be useful. Accuracy is the highest-rated information attribute of the EMS, underscoring the confidence that the information managed by the EMS accurately represents MEC's electoral realities. Information is processed data intended for interpretation, and its accuracy is key to ensuring that the information produced by the EMS conveys the correct narrative, leading to its proper use. The format of the information directly impacts how easily users can locate and comprehend meaning. The EMS has been noted to provide comprehensive and relevant information, making it indispensable to users in any phase of the electoral process.

High-quality information is crucial to the integrity of MEC's electoral processes as it prevents fraud and allows for efficient planning and organization of electoral activities. This ensures proper resource allocation and logistical arrangements. Electoral stakeholders can make informed decisions with access to reliable and transparent information, maintaining trust and ensuring credible outcomes. EMS users have reported reliable and adequate information quality across MEC's electoral phases, highlighting the system's role in supporting the integrity and credibility of the electoral process.

High information quality benefits all electoral stakeholders, including system users, owners, the public, political parties, and relevant external entities. According to DeLone and McLean's IS success model, the net benefit stems from system users' ability to use the EMS in strategic electoral activities, supporting MEC's agenda of managing electoral processes. This model emphasizes the importance of system quality, information quality, and service quality in achieving overall system success and user satisfaction. High-quality information ensures that all stakeholders are well-informed and can contribute effectively to the electoral process, fostering a transparent, efficient, and credible electoral environment.

5.4 Influence of System Quality on User Satisfaction

Systems are but tools that are employed to increase productivity by any measure of the imagination. Whether it is automation of tasks, streamlining of processes and facilitating of data management. An information system is supposed to be the foundation for efficient and effective business processes. System quality, as defined by Almarashdeh, Sahari, Zin, & Alsmadi (2010), refers to the stability, dependability, and applicability of such systems to produce essential value. Bharati & Chaudhury (2004) further describes system quality as the embodiment of both functional and non-functional requirements. These requirements outline what a system must do and how it must operate. The "how" is particularly crucial as the technical capabilities from both hardware and software perspectives significantly influence system performance. System users experience system quality through their interactions with the system, as noted by Rana et al. (2015).

The second objective of this study was to assess how the EMS's system quality impacts user satisfaction. The EMS achieved a high satisfaction mean score of 93.7%; a high level of system quality demonstrates positive system use outcomes.

Ease-of-use is a critical attribute directly correlated with user productivity. A user-friendly system reduces the time and effort required to perform tasks and necessitates minimal training. This ease-of-use maximizes productivity by allowing users to complete tasks efficiently and with less frustration. EMS users reported that the system is intuitive and straightforward, significantly enhancing their productivity. This is particularly beneficial for new users who may require less training and onboarding. Permanent ICT staff found the EMS easier to use compared to field officers, likely due to their direct involvement in development and support of the EMS, leading to greater familiarity and expertise. However, continuous improvement in use experience could further streamline the experience for all user categories, reducing the learning curve and increasing overall use satisfaction.

Information system consistency in performance over time is essential. MECs electoral operations demand that downtimes, system failures and or disruptions are kept to a minimum as their cost is quite high. The users have a responsibility to see their work through and if the EMS, being their tool of use is unreliable, it halts operations, negates

successful electoral outcomes bringing about discontentment issues, which more times than not, snowball into public chaos and resentment. System reliability is crucial for maintaining operational continuity and ensuring successful electoral outcomes, thus preventing discontent and potential public unrest. Reliable systems build user confidence, ensuring that users can depend on the system to perform critical tasks without unexpected interruptions.

Why have a system that is not working? availability does not simply imply an online presence but the ability to execute an operation when called on. High quality systems are designed for uninterrupted business operations, this affords system users the ability to access critical information and services to perform tasks at all times. Delays and disruptions do lead to incomplete transactions and information, frustrating system users and on a larger scale MECs efforts in managing electoral processes. EMS users reported satisfactory availability, reflecting the system's readiness to support electoral processes. This attribute is vital for minimizing disruptions and ensuring the smooth execution of electoral activities. The EMS's high availability ensures that stakeholders have access to a functional EMS, contributing to the credibility and efficiency of the electoral process.

Response-time is the quickness and agility of the EMS system in responding to user requests. Long response times denotes negative implications as a system is considered slow for its own good. Short response times denotes positive implications as a system is considered quick to responding to user interactions. Slow systems are counter-productive, frustrating, inefficient in every way. The EMS was developed to improve productivity, by enhancing electoral workflows, allow for the provision of real-time decision-making, facilitate transaction processing and foster collaborative work. Low response times highlights the improvement brought about in the adoption of the EMS, otherwise users would rate the EMS a hindrance. EMS users reported on the quick and efficient response times of the EMS to user requests, making the EMS a valuable tool in managing time-sensitive electoral workflows.

MECs EMS consists of multiple system modules and data repositories that work together in managing the electoral process. This highlights the multifaceted reality and the need for integration in the electoral process. In the case of national elections such as the 2019

tripartite and 2020 presidential elections, scale and coverage of electoral operations and the data accrued necessitates the need for integration. Effective integration reduces data discrepancies, eliminates redundant tasks, promotes holistic data views, and scalability of IT operations and upgrades that allow for adaptation of changing business needs on a national scale. Electoral process activities happen at different times and places and harmonization of the EMS cannot be undermined as the data collected and operations required in different areas and phases need to be brought together. EMS users found integration satisfactory denoting that all parts of the system communicate and work together, providing users with comprehensive and accurate information. This is crucial for managing the scale and complexity of national elections, where seamless data flow and system interoperability are vital.

Trust and reputation are a key issue attached to security of electoral processes. If data is protected from unauthorised access, manipulation or theft then electoral stakeholders develop trust and MEC gains a positive reputation. There is a strong need for integrity and systems security plays a big role in that narrative. International standards and gazetted electoral laws demand security of electoral data and systems to ensure unquestionable acceptance of election outcomes. EMS users found the system to be satisfactorily secure, aligning with international standards and electoral laws. Robust security measures ensure that sensitive electoral data remains protected, maintaining the integrity of the electoral process and ensuring unquestionable acceptance of election outcomes. Poor security not only threatens the integrity of the EMS but it also questions every electoral process conducted which can lead to legal disputes, financial and effort loss, and poor reputation.

5.5 Influence of Service Quality on User Satisfaction

Service quality is a critical factor in user satisfaction, particularly in the context of large-scale information systems like MEC's EMS. According to Parasuraman et al. (1993), service quality is a global assessment linked to the superiority of service, defined as the gap between actual service delivery and customer expectations. Chai et al. (2006) and Rana et al. (2015) further emphasize that service quality encompasses the support, assistance, and satisfaction users receive from the system's service and support functions. This is particularly important for e-government systems, where service quality is a strong predictor

of user satisfaction and continued usage. MEC's EMS operates at a national level, involving numerous system modules to ensure effective electoral processes. Given the complexity of such a system, failures are inevitable. When issues arise, the ICT department's capacity to provide timely and effective support becomes crucial.

The third objective of this study was to assess how the EMS's service quality influences user satisfaction. A high level of service quality was found to enhance user satisfaction, leading to positive outcomes. The study reported a high satisfaction mean score of 93%.

Service support must be reliable with a clear demonstrated ability in consistently provided support services. This is key in building the trust and assurance in system users that service support has the capacity (expertise and competence) to deliver solutions. The high satisfaction score in reliability indicates that users experienced timely and effective solutions, which is crucial for maintaining their productivity and confidence in the system. Consistent reliability fosters a dependable system environment, encouraging users to seek assistance without hesitation, thereby enhancing overall system efficiency. Reliable EMS support services demonstrate a consistent ability to resolve issues promptly, minimizing negative impacts on users' and reducing downtimes.

MEC's operations are tightly bound to strict electoral deadlines, which place a premium on the prompt resolution of user issues. The electoral process is a high-stakes, time-sensitive endeavour where delays in addressing technical difficulties can have far-reaching and potentially disruptive consequences. For instance, if an issue is not resolved swiftly, it could result in data processing delays, inaccuracies in electoral reports, or even interruptions in the voting or counting processes. Such disruptions could compromise the integrity of the election and erode public confidence in the electoral system. Therefore, it is imperative for the EMS support services to operate with high efficiency and responsiveness. This attribute is critical in maintaining operational momentum and preventing bottlenecks in the electoral process. The high satisfaction reported in support responsiveness underscores the effectiveness of the EMS support team in prioritizing quick and efficient assistance.

Effective communication is another cornerstone of high-quality support services. In this study, communication is defined as the channel through which understanding is fostered

between EMS users and the support services. It encompasses not only the clarity and accuracy of the information provided but also the manner in which it is delivered. Service support must provide system users with clear, actionable instructions and feedback, thereby facilitating the resolution of issues. The satisfaction rating for communication in the EMS indicates that users found the information provided by the support services to be both clear and comprehensible. This clarity is essential for users to correctly understand the guidance provided, which in turn helps in resolving issues more efficiently. Effective communication plays a role in building trust between users and the support team, as it demonstrates a commitment to transparency and user engagement.

Human interactions are not an exact science and the need to be clear and cordial is important in providing positive user support experiences in an environment where work pressures and poor communication can easily lead to misunderstandings which negates system support. These hiccups can clog support services and operations ultimately halting electoral operations. Relationship building and conflict resolution is essential for support services. The satisfactory rating for communication indicates that the support services effectively communicated with users, enhancing their ability to resolve issues efficiently. Human interactions in support scenarios require a balance of professionalism, politeness, and empathy to avoid misunderstandings and maintain positive relationships. MEC's EMS fosters a courteous environment, which is crucial for effective conflict resolution and user satisfaction.

Security in the support service context highlights the need to protect sensitive EMS user data. Provision of privacy by service support should rule out the possible misuse of confidential electoral information that is accessible when aiding system users seeking assistance. As users engage with support services, some help requests placed are highly sensitive and must be handled as such. Security is therefore the assurance of a safe and risk-free environment, rendered by EMS's support services. Overall, EMS users rated security satisfactory as they seek help from an assured space. However, the study noted that female users were less satisfied with security compared to their male counterparts, and users with longer employment tenure had higher satisfaction with privacy. This suggests a

need for targeted improvements in security measures to address gender disparities and build trust more quickly among newer users.

No one, knows the time nor the hour, a famous phrase that highlights the reality of how issues develop at any time. System failure is no respecter of agenda and people, and support services have to be accessible when issues arise. The high access satisfaction score reflects that EMS support services were readily available to users, contributing to efficient problem resolution. High levels of service support access motivate system users to seek out timely assistance. For this to be possible especially for MEC, multichannel support is required to offer assistance on a national level across the board in any electoral phase. An EMS user job role significantly impacts the view access satisfaction as ICT staff are more satisfied with support service access than general system users.

5.6 Impact of Overall EMS User Satisfaction

The primary objective of this study was to evaluate EMS user satisfaction using the DeLone and McLean IS Success Model. This model, which encompasses information, system and service quality, serves as a comprehensive framework for assessing the overall effectiveness of information systems. The study highlights that if any of these quality attributes fall below satisfactory levels, it signifies underlying issues with MEC's EMS which threaten the efficacy of MEC's electoral operations. Addressing these deficiencies promptly is crucial to avoid disruptions in the electoral process and to ensure the system continues to meet its intended goals.

According to Gelderman (1998), the correlation between system usage and various organizational criteria, including user satisfaction, underscores the importance of meeting user needs for optimal performance. This alignment is essential, as a system that fails to satisfy user expectations is likely capable to delivering the intended value, which undermines the system's effectiveness and the overall success of electoral processes. High user satisfaction levels not only promote continued system use but also enhances the decision-making process and overall organizational performance. This is particularly crucial in the context of electoral management, where efficiency, accuracy, and reliability are paramount.

Teo et al. (2008) and Wang et al. (2010) assert that improvements in information, system, and service quality enhance trust in e-government systems. Trust is a critical factor in the adoption and sustained use of such systems. The study's findings suggest that the EMS currently performs well, as evidenced by increased user engagement and satisfaction. DeLone and McLean (2003) emphasize that effective system usage correlates with high user satisfaction, and this principle holds true in the context of the EMS, where positive user experiences contribute to increased system utilization and better outcomes. Trust in the EMS translates into greater confidence in the electoral process among users and the general public, reinforcing the legitimacy and credibility of electoral outcomes.

In employing the updated DeLone and McLean success model, this study adopts a multidimensional approach to define EMS success. This approach integrates user satisfaction with the system's information, system, and service qualities. Kositanurit et al. (2006) and Au et al. (2002) argue that while technical attributes are crucial, addressing psychological and organizational factors is equally important for system success. The EMS's attention to these aspects, alongside its technical performance, ensures a holistic approach to user satisfaction. This comprehensive evaluation not only addresses the functional needs of users but also their emotional and cognitive engagement with the system. By acknowledging and addressing these diverse factors, the EMS can better meet user expectations and foster a more supportive and effective environment for electoral management.

Gürkut & Nat (2017) and Rana et al. (2015) highlight the direct impact of system and information quality on user satisfaction. The study corroborates these findings, showing that high-quality attributes in all three areas—information, system, and service—lead to increased user satisfaction. Wang & Liao (2008) note that information quality often has a more significant overall impact, but the study reveals that effective service quality plays a critical role in supporting and enhancing both information and system quality. This interconnectedness suggests that a deficiency in one quality attribute can adversely affect the others, emphasizing the need for a balanced and integrated approach to quality management. For instance, even if the system is technically sound, poor service quality can

diminish overall user satisfaction and trust, thereby reducing system utilization and effectiveness.

The study's results align with previous research, which confirms the significance of information, system, and service quality in influencing system use and user satisfaction (Dalle et al., 2020). The findings support the continued application of the DeLone and McLean Model for evaluating electoral management systems, providing a robust framework for understanding and improving user satisfaction in this context. In practical terms, these findings suggest that MEC should focus on continuous improvements across all quality dimensions of its EMS. Regular user feedback, iterative system enhancements, and comprehensive training programs can help maintain high satisfaction levels. Additionally, fostering a culture of responsiveness and open communication within the support team can further enhance user experiences. These strategies not only help in resolving current issues but also in anticipating and mitigating potential problems, thereby ensuring a seamless and reliable electoral process. The interdependencies among quality attributes highlight the need for a balanced approach to system management, ensuring that all three quality aspects work harmoniously to achieve optimal outcomes. Maintaining high user satisfaction is not just a measure of success but a vital component in sustaining the effectiveness and credibility of the electoral management system and the broader electoral process.

5.7 Summary

This chapter discussed the findings of the study and described the significance of the findings.

CHAPTER SIX

CONCLUSION

6.1 Introduction

This chapter concludes the study, reflecting on the motivating factors informed by the research objectives and questions, proceeding to the summarisation of key findings and closing off with the constraints and limitations to the study.

6.2 Study Overview

This study was aimed at evaluating user satisfaction of MECs EMS used during the 2019 tripartite and 2020 presidential elections to gain understanding of how information, system and service qualities informed user satisfaction.

The study aimed to achieve the following objectives:

- I. To assess how EMSs information quality informed user satisfaction.
- II. To assess how EMSs system quality informed user satisfaction.
- III. To assess how EMSs service quality informed user satisfaction.
- IV. To assess the overall user satisfaction of the EMS.

The study asked the following questions, during the 2019 tripartite and 2020 presidential elections

- I. How did the information quality of the EMS influence user satisfaction?
- II. How did the service quality of the EMS influence user satisfaction?
- III. How did the service quality of the EMS influence user satisfaction?

6.3 Study Design Overview

The study design employed was post-positivist, cross-sectional and quantitative. The study inquired measure of EMS users' satisfaction perceptions using a Likert scale (Very Dissatisfied (-3), Quite Dissatisfied (-2), Slightly Dissatisfied (-1), Neither (0), Slightly Satisfied (1), Quite Satisfied (2), Very Satisfied (3).). To that effect, a questionnaire was administered to a sample of 346 EMS users.

6.4 Investigations Conclusion

User satisfaction is an essential evaluation perspective that is capable of inform system realities through attitude assessments. The users' satisfaction levels of the EMS during the 2019 tripartite elections and the 2020 presidential elections, concluded that the EMS was deemed to be highly and positively satisfactory. Usage of the EMS is closely related to criteria increased productivity, resolution of electoral inefficiencies, improved quality of decisions, and performance. A positive user experience with the system leads to increased utilization and user satisfaction, ultimately benefits the electoral process.

The three independent variables of success; information, system and service quality grounded by DeLone & McLean IS Success Model, were assessed and evaluated. The holistic approach recognizes that technical competence alone is not sufficient for system success. Psychological and organizational concerns must also be addressed throughout the system's lifecycle. The interconnectedness of the three qualities implies that any impact (positive or negative) on one aspect will likely affect the others as well. The EMS should consistently provide high-quality in all three quality dimensions to maximize EMS user satisfaction.

6.4.1 Information Quality

The findings revealed high user satisfaction scores in various attributes of information quality, including relevance, currency, accuracy, understandability, format, completeness, and credibility. These attributes played a crucial role in supporting electoral activities such as voter registration, verification, result tabulation, transmission, and publication. The net benefit from having high information quality, is effective decision-making within MEC's

electoral processes that positively impacts various electoral stakeholders and their subsequent interests.

6.4.2 *System Quality*

The study findings highlighted the importance of system quality in the EMS context, emphasizing attributes such as ease-of-use, reliability, availability, response time, integration, and security. The positive user satisfaction ratings for these attributes demonstrated the effectiveness of the EMS itself in enhancing productivity, supporting operational efficiency, and maintaining the trust and reputation of MEC's electoral processes.

6.4.3 *Service Quality*

The study findings emphasize the importance of high service quality in enhancing user satisfaction as system issues arise in the EMS throughout MECs electoral processes. The positive satisfaction scores addressing service quality in the EMS, were inferred from the following attributes; reliability, responsiveness, assurance, courtesy, security, privacy, communication, competence, access, and empathy. These indicated that service quality played a critical role in enhancing user satisfaction, as it facilitated effective support, and contributed to the success of MEC's electoral processes. Service quality is recognized as a powerful predictor of a users' willingness to regularly engage a system.

6.5 Research Limitations

The most significant limitation was the slow response times and low response rates from study participants. The participants especially field officers were lacklustre in their enthusiasm as they were not required by MEC to respond to the questionnaire but were “politely asked”. Because this was online survey, some participants also requested internet bundles to respond to the questionnaire. This posed a threat of non-response bias and threatened the effective completion of the study. In dealing with this limitation, personal follow up calls for friendly reminders were undertaken. Internet bundles were provided as an incentive to those who requested the bundles.

The deviation from the anticipated 326 field officers and 20 ICT Staff, put the study in an impossible situation as adopted privacy measures made it impossible to follow up and verify whether it was legitimate error, or there was validity in their stance. This limitation left us to assume that field officers who identified as ICT staff either wrongly or validly identified as ICT staff and verification was out of reach. Hence the matter was settled as a study limitation and not a deterrent after assessing statistical impact.

6.6 Recommendations

As this study represents formal user satisfaction assessment of the EMS a few recommendations have been formulated for consideration.

6.6.1 Recommendations for MEC

A perpetual evaluation of the EMS should be undertaken around predetermined triggers in the form of time lapses (annual, bi-annual or quarterly) and significant events (whether they be system updates and or newer constitutional demands). This should be pursued to ensure that EMS users are always highly and positively satisfied regardless of time and appended changes.

It is imperative to know and understand how the high and positive satisfaction attitudes that are present in the EMS have been attained in the information, system, and service qualities. This will inform continuous improvement strategies allowing MEC to know what they are already doing well and what agenda they should focus on to be better. This will positively impact user training programmes, support services provision and generic EMS improvement.

6.6.2 Recommendations for the Limitations

While friendly reminders through phone calls and incentives in the form of internet bundles seemed to resolve the issue. The limitation might have, perhaps been better resolved in the research methodology by employing focus groups. A focus group brings a small group of participants to collectively discuss an issue. Although focus groups have proved to be a worthy qualitative method of gain insights into area of concern, it is expensive to organise and requires an experienced interviewer to conduct.

6.6.3 *Recommendations for Further Research*

The next logical step in furthering this work would be exploring from a qualitative perspective the factors that made all the attributes under all three quality types of information, system and service, positive and highly satisfactory. This proposed further work would offer an introspective view into how the EMS provides this level of satisfaction in all three quality types.

Another interesting study would be to assess user satisfaction from external users of the EMS not employed by MEC. These could include citizens, international and local monitors, the media, academia, and other stakeholders. This would inform how external users of the system value the EMS in their own biased roles.

And finally, further work could focus on the evaluation of EMS performance in achieving its electoral business goals.

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APPENDICES

Appendix 1: Survey Questionnaire

#163201 EMS User Satisfaction Survey By Dave Kadzuwa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

EMS User Satisfaction Survey By Dave Kadzuwa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

Hi and welcome to the survey

This survey is only meant for Election Management System (EMS) users during the 2019 Tripartite and 2020 Presidential Elections (for people who use social media and are a part of an educational and or training college only)

The EMS consists of the following: Voter Registration, Verification, Nomination and the Results Management Systems.

The aim of this survey is to collect data that aims to aid in the investigation of assessing user satisfaction of the EMS during the 2019 Tripartite and 2020 Presidential Elections.

You have the right to participate or not.
 You can answer in either Chichewa or English.
 You have the right to quit the survey at any point in time.
 You have the right to view and or edit your data.
 The data you provide becomes the sole property of Dave Kadzuwa.
 And Dave Kadzuwa has the sole right to authorize or decline any access to such data.

This survey takes an average of 15 to 25 minutes.
 Take your time, read and understand the questions posed.
 There are buttons at the bottom of every page that allow you to traverse back and forth without losing the data you input.
 We recommend using the Landscape mode, if you are using a smart phone and any other small screen device.

Special Note:
 Using the back and forth navigation of your web browser, will reset your form (please avoid at all costs until done, thanks).

*** Required**

Overall Satisfaction

For all the questions below, the term "EMS" refers to information output, the technology that delivers it and supporting services.

https://docs.google.com/forms/d/1Y2PQ3G83M2j0dly_5t4d6N1uJ4M9C4g_4u4W0Cn4Jd40

1/15

#163201 EMS User Satisfaction Survey By Dave Kadzuwa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

1. All things considered, I am _____ with the EMS. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

2. Overall, regarding my experience with all aspects related to the EMS, I am _____ *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

Information Satisfaction

For all the questions below, the term "Information" refers to the information output that you receive from the Information System that you are using.

3. I am _____ with the information I get from the EMS. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

https://docs.google.com/forms/d/1Y2PQ3G83M2j0dly_5t4d6N1uJ4M9C4g_4u4W0Cn4Jd40

2/15

4/16/2021

EMS User Satisfaction Survey By Dave Kattawa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

4. Overall, I am _____ with the information output I receive from the EMS. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

System Satisfaction

For all the questions below, the term "system" refers to the technology that delivers the information output. Please stay focused on the technology that facilitates the information system you are using.

5. I am _____ with how the EMS works. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

6. Overall, I am _____ with how the EMS operates. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

https://docs.google.com/forms/d/1ZOR0z8BWL2xMq_33aMkRv-uVAM/OutgoingWCK/vs88

3/10

4/16/2021

EMS User Satisfaction Survey By Dave Kattawa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

Service Satisfaction

For all the questions below, the term "service" refers to the supporting services you receive that help, support, and facilitate the operation and use of the information system. Please stay focused on the supporting services of the information system you are using.

7. I am _____ with the services that support the EMS. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

8. Overall, I am _____ with the supporting services associated with the EMS. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

Satisfaction with information Attributes

Overall, how satisfied are you with the information quality provided by the EMS in terms of it being...

https://docs.google.com/forms/d/1ZOR0z8BWL2xMq_33aMkRv-uVAM/OutgoingWCK/vs88

4/10

4/16/2021

ES&S User Satisfaction Survey By Dave Kallman (Please Use Landscape Mode or Rotate For Your Smart Phone Screen)

9. 9. useful to your job: *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

10. 10. up-to-date *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

11. 11. accurate *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

https://www.google.com/forms/d/12DPC2z85H4_Zhdy_5t8WPr4-uAM0zG_uh9PCu4u8

8/15

4/16/2021

ES&S User Satisfaction Survey By Dave Kallman (Please Use Landscape Mode or Rotate For Your Smart Phone Screen)

12. 12. understandable *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

13. 13. well organized *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

14. 14. complete *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

https://www.google.com/forms/d/12DPC2z85H4_Zhdy_5t8WPr4-uAM0zG_uh9PCu4u8

8/15

4/16/2021

EWS User Satisfaction Survey By Dave Kesteven (Please Use Landscape Mode or Rotate For Your Smart Phone Screen)

15. 15. reliable. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

Satisfaction with System Attributes

Overall, how satisfied are you with the system quality provided by the EWS in terms of 6...

16. 16. being easy to use. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

17. 17. being dependable in operations. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

4/16/2021

EWS User Satisfaction Survey By Dave Kesteven (Please Use Landscape Mode or Rotate For Your Smart Phone Screen)

18. 18. being available to use at all times. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

19. 19. being fast in performing your requests. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

20. 20. bringing together information from various sources. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

https://docs.google.com/forms/d/Y2JPC2B2bWZlbnRy_5tubdFh4JABQzQg_4w4tGConc4w8

5/15

5/15

120

4/16/2021

EMS User Satisfaction Survey By Dave Kutzawa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

21. 21. keeping information secure. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

Satisfaction with Service Attributes

Overall, how satisfied are you with the service quality provided by the EMS in terms of it...

22. 22. having dependable support services. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

23. 23. being timely in its support services. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

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3/15

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EMS User Satisfaction Survey By Dave Kutzawa (Please Use Landscape Mode or Rotate, For Your Smart Phone Screen)

24. 24. providing assurance of its support services that your requests will be attended to. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

25. 25. providing respectful support services to you. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

26. 26. providing support services in a safe and secure manner. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

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16/16

#160201

EMI User Satisfaction Survey By Dave Kadozia (Please Use Landscape Mode or Rotate. For Your Smart Phone Screen)

27. 27. providing support services that make you feel that your interactions with them are confidential. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

28. 28. providing clear and understandable interactions with support services during a service call. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

29. 29. having support services perform their tasks. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

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11/15

#160201

EMI User Satisfaction Survey By Dave Kadozia (Please Use Landscape Mode or Rotate. For Your Smart Phone Screen)

30. 30. having easily accessible support services. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

31. 31. having support services that are understanding of your needs. *

Mark only one oval.

☐ Very Dissatisfied (-3)
☐ Quite Dissatisfied (-2)
☐ Slightly Dissatisfied (-1)
☐ Neither Satisfied and Dissatisfied (0)
☐ Slightly Satisfied (1)
☐ Quite Satisfied (2)
☐ Very Satisfied (3)

Demographic

Please answer the following demographic questions.

32. Gender *

Mark only one oval.

☐ Female
☐ Male

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4/16/2021

EMS User Satisfaction Survey By Dave Radtzen (Please Use Landscape Mode or Rotate For Your Smart Phone Screen)

33. What is your age group? *

Mark only one oval.

☐ 18-24

☐ 25-34

☐ 35-44

☐ 45-54

☐ 55+

34. Have you had any service encounter (either automated or with service staff)? *

Mark only one oval.

☐ Yes

☐ No

35. What is your role in the EMS? *

Mark only one oval.

☐ ICT Staff

☐ Field Officer

36. What is your highest level of educational achievement? *

Mark only one oval.

☐ High School Diploma

☐ Some Undergraduate Experience

☐ Undergraduate Degree

☐ Postgraduate Degree

4/16/2021

EMS User Satisfaction Survey By Dave Radtzen (Please Use Landscape Mode or Rotate For Your Smart Phone Screen)

37. How long have you been using this information system? *

Mark only one oval.

☐ Less than 6 months

☐ 6 months to less than 1 year

☐ 1 year to less than 5 years

☐ 5 years or more

38. How long have you been in this job? *

Mark only one oval.

☐ Less than 6 months

☐ 6 months to less than 1 year

☐ 1 year to less than 5 years

☐ 5 years or more

39. On average, how frequently do you use the EMS? *

Mark only one oval.

☐ Extremely Infrequent (-3)

☐ Very Infrequent (-2)

☐ Somewhat Infrequent (-1)

☐ Neither Frequent and Infrequent (0)

☐ Somewhat Frequent (1)

☐ Very Frequent (2)

☐ Extremely Frequent (3)

40. Please enter your National ID code and the last 3 digits of your cell phone. In order to carry out the required analysis for the research study, we need this code to uniquely link your answers across different phases of data collection. *

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