UTILIZATION OF MOBILE TECHNOLOGY FOR DATA COLLECTION AND ENHANCEMENT OF DATA QUALITY AMONG HUMANITARIAN NON GOVERNMENTAL ORGANIZATIONS: A CASE OF WORLD VISION KENYA

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June 2024

DECLARATION

I declare that this thesis proposal is my original work and that it has not been presented in any other university for academic credit.

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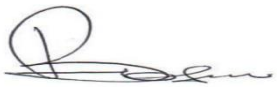
APPROVAL

This research will be conducted under my supervision and submitted with my approval as the university supervisor.

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2024

DEDICATION

I would like to first and foremost honor Almighty God for the good health, and strength to carry out this work successfully. Also, to my loving family for their love, understanding, support, and encouragement to aim higher while conducting this study and throughout my academic life.

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ABSTRACT

This study will aim to investigate the influence of mobile technology usage for data collection on data quality in the context of data collection for humanitarian non-governmental organizations (NGOs), with a specific focus on World Vision Kenya.

The landscape of data collection in humanitarian non-governmental organizations (NGOs) has evolved significantly in the recent past due to the integration of mobile technology. This paradigm shift is global, with organizations leveraging mobile technology to enhance data collection processes and improve data quality.

World Vision International has embraced mobile solutions like Last Mile Mobile Solutions® (LMMS) to enhance efficiency, effectiveness, and accountability in humanitarian services. World Vision Kenya utilizes mobile apps like KoboCollect and DreamSave among other apps to address data quality challenges. This study aims to investigate how mobile technology use for data collection influences data quality in humanitarian NGOs, focusing on accuracy, completeness, consistency, timeliness, and reliability of the data collected.

This study will explore the types of mobile devices and apps used within World Vision Kenya and their influence on data quality. Staff capacity and training in mobile data collection will be assessed, considering how this influences data collection quality. Additionally, organizational support, including policies and resources, will be examined to understand their role in ensuring quality data outputs.

Understanding the nuances of mobile technology utilization within humanitarian NGOs is crucial for optimizing data collection processes and improving decision-making in the humanitarian work. This research seeks to contribute to the broader discourse on leveraging technology for humanitarian aid and underscores the importance of data quality in enhancing humanitarian operations.

DEFINITION OF TERMS

Data Quality: Data quality encompasses various aspects of information gathered such as:

Accuracy: The precision and correctness of the data collected, ensure that it reflects the actual conditions in the field without distortion.

Completeness: The extent to which all relevant information is captured, avoiding gaps or missing elements in the data.

Consistency: The uniformity and coherence of data across various sources and periods, minimize discrepancies and enhance the reliability of the information.

Timeliness: The speed at which data is collected and made available, directly impacting its relevance for decision-making and timely intervention within the organization.

Reliability: The trustworthiness and dependability of the collected data, are essential for building confidence in the information used for decision-making processes.

Utilizing Mobile technology: Here is used to describe the various mobile devices and applications (ODK, KoboCollect, Ona Platform, surveymonkey, DreamSave App etc) used for data collection including mobile phones, tablet computers, laptop computers, and so on. Within the confines of this study, social media is largely excluded.

Staff Capacity building and training: This refers to the level of academic training as well capacity building in the different mobile data application for the various World Vision staff responsible for data collection and management.

Organizational Support: This refers to support provided by the management and leadership of World Vision mostly on policy front and budgetary allocation I support on Mobile data collection.

ABBREVIATIONS/ACRONYMS

NGO	Non-Governmental Organization
OCHA	Office for the Coordination of Humanitarian Affairs
UN	United Nations
LMMS	Last Mile Mobile Solutions
ODK	Open Data Kit
DQA	Data Quality Assurance
TAM	Technological Acceptance Model
PEOU	Perceived Ease Of Use
PU	Perceived Usefulness
ISSM	Information Systems Success Model
HIV	Human immunodeficiency virus
PC	Personal Computer
AIDS	Acquired immunodeficiency syndrome
TNA	Training needs analysis
PIA	Privacy impact assessments
ID	Identity
M&E	Monitoring and Evaluation
DMEAL	Design, Monitoring, Evaluation, Accountability & Learning
MS	Microsoft
SPSS	Statistical Package for the Social Sciences
FMH	Federal Ministry of Health

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CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

This chapter considers the background of the study, the statement of the problem, the research objectives and research questions, the significance of the study, the scope of the study, the limitations of the study, and the conceptual framework.

1.2 Background of the Study:

The landscape of data collection within humanitarian non-governmental organizations (NGOs) has undergone a remarkable transformation in recent years, driven by the integration of mobile technology. This paradigm shift has been a global phenomenon, with humanitarian organizations worldwide embracing the potential of mobile technology to revolutionize data collection processes. The use of mobile technology in the humanitarian sector has not only accelerated the pace of data collection but has also introduced new dimensions such as data quality.

At the global level, humanitarian NGOs are increasingly recognizing the potential of mobile technology to streamline their operations. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) acknowledges in its report [UN_Report "Mobile Technology for Humanitarian Action" (Report, 2016)] that "mobile technology has become a game-changer in humanitarian response, enabling organizations to gather critical information rapidly and respond more effectively to emergencies." The speed, reach, and cost-effectiveness of mobile networks make them a powerful tool for getting information to people in need and for coordinating responses to crises." The report cites several examples of mobile apps that have been used to great effect in humanitarian aid.

World Vision International has also implemented several mobile solutions for data collection such as Last Mile Mobile Solutions® (LMMS) a digital technology solution designed to strengthen efficiency, effectiveness, and accountability in humanitarian service delivery. LMMS is a stand-alone technology solution developed by World Vision in 2008 in collaboration with the IT industry. This global acknowledgment underscores the pervasive nature of the integration of mobile technology into the humanitarian sector.

World Vision Kenya's adoption of mobile technology reflects a strategic response to challenges related to data quality. Other than LMMS, World Vision Kenya also makes use of KoboCollect for data collection, and the DreamSave App to collect data on Savings and loaning groups. Thus, this context underscores the importance of understanding the nuanced relationship between mobile technology use and how it influences the different facets of data quality within the context of humanitarian NGOs.

1.2.1 Data quality

Data quality, as the dependent variable, will encompass dimensions such as 1) Accuracy: The precision and correctness of the data collected, ensure that it reflects the actual conditions in the field without distortion. Scholars like Wang et al. (2018) have emphasized the importance of accuracy in data collected through mobile technology, highlighting its role in ensuring that resources are directed where they are most needed. 2) Completeness: The extent to which all relevant information is captured, avoiding gaps or missing elements in the data. Lauer and Beck (2019), stress the significance of complete data in humanitarian contexts, particularly when utilizing mobile technology for data collection. 3) Consistency: The uniformity and coherence of data across various sources and periods, minimize discrepancies and enhance the reliability of the information. Maintaining consistency is essential for ensuring the reliability of trends and patterns identified in the data. Research by Li et al. (2020) highlights the importance of consistent

data for effective analysis and decision-making in the humanitarian sector. 4) Timeliness: The speed at which data is collected and made available, directly impacting its relevance for decision-making and timely intervention within the organization. The work of Rajabion et al. (2017) underscores the role of timely data in humanitarian settings, emphasizing how mobile technology can facilitate real-time data collection to enhance responsiveness. 5) Reliability: The trustworthiness and dependability of the collected data, are essential for building confidence in the information used for decision-making processes. Studies such as those conducted by Cheng et al. (2016) stress the significance of reliable data, particularly in the humanitarian sector where the consequences of unreliable information can be severe.

1.2.2 Utilizing Mobile technology for Data collection

Digitalizing data collection processes using mobile phones or tablets can improve the efficiency and accuracy of surveys conducted by organizations, compared to traditional paper-based methods, Emily et al (2016). This shift represents a significant step forward in modernizing survey methodologies among humanitarian organizations and World Vision Kenya in particular and aligning them with the evolving technological landscape and the desire to collect quality data. The term mobile technology is used here to describe the various mobile devices used for data collection including mobile phones, tablet computers, laptop computers, and so on. Within the confines of this study, social media is largely excluded.

1.2.2.1 Type of Mobile Technologies for data collection

This independent variable will explore the different types of mobile devices (smartphones, tablets) used for data collection within World Vision Kenya. It will also consider specific data collection apps or platforms employed (kobo, DreamSave, LMMSe tc). And how they influence data quality (the accuracy, completeness, and reliability of

data) collected within World Vision Kenya. Bella Struminkaya et al, 2021 note in the study on Understanding willingness to share smart-sensor data that “the growing smartphone penetration and the integration of smartphones into people's everyday practices offer researchers opportunities to augment survey measurement with smartphone-sensor measurement or to replace self-reports. Potential benefits she notes include lower measurement error, a widening of research questions, collection of in situ data, and a lowered respondent burden. However, privacy considerations and other concerns may lead to non-participation.” Therefore, this variable will be very critical to unearthing data quality issues in this study.

1.2.2.2 Staff Capacity building and training

This variable will focus on the extent to which staff members of World Vision Kenya and or enumerators are trained in using mobile technology for data collection. The level of their academic training will also be examined during the study, and to what extent their levels of capacity influence the kind of data they collect. Scholars have noted that survey training does contribute positively to the preparation and building of knowledge needed to conduct surveys (Oyedeji, 2013)

Staff capacity will be important in this study as great pointer to effective and accurate data collection using mobile technology. Adequate training equips staff members with the necessary skills to utilize mobile devices efficiently, reducing errors and improving the quality of data collected. Thus, this variable will be analysed to demonstrate the relationship that exist between it and data quality. Moreover, assessing their academic backgrounds will help gauge their analytical abilities and comprehension of survey methodologies. This understanding is crucial as it directly impacts the comprehensiveness and reliability of the data

1.2.2.3 Organizational Support

This independent variable organizational support will encompass issues to do with the policies, and resources provided by World Vision Kenya to facilitate the implementation of mobile technology for data collection. Management decisions made about what platforms to use and how the mobile data collection infrastructure is organized and staffed are critical components in ensuring that the output of the data collection systems/ platforms is of good quality.

Organizational support directly influences the success of implementing mobile data collection systems by shaping the policies, providing necessary infrastructure, and allocating resources needed for its deployment. Understanding the level of support from the organization is crucial for assessing the reliability and sustainability of the data collection process. Additionally, management decisions concerning platform selection and organizational structuring play a vital role in optimizing data collection outcomes. Therefore, examining organizational support is essential for evaluating the overall readiness and capability of World Vision Kenya in leveraging mobile technology for data collection purposes.

1.3 Statement of the Problem

Despite a wealth of literature highlighting the benefits of mobile technology in data collection in humanitarian contexts, a critical examination of existing datasets, progress reports, and pilot projects like the LMMS (Last mile mobile solution) and DreamSave App within World Vision Kenya exposes a significant gap in the quality of data submitted from the field. Making the need to understand what and how to effectively improve the quality of data submitted from the Area programs for program performance measurement and management decision-making the more important. While previous studies have explored the general advantages of mobile technology in the collection of data, there is a distinct

lack of in-depth examination of factors that influence the quality of data collected to effectively address gaps observed in the quality of data currently collected.

Scholars have also noted, that the advent of mobile technology in data collection has brought about unprecedented opportunities such as improved data quality. According to (Sunyoung, 2014), “The proliferation of mobile technology has opened up opportunities for more effective services through improved work processes in non-profit organizations. Mobile technology has become an indispensable tool for humanitarian organizations, offering real-time data collection capabilities and enhancing the efficiency of relief efforts." Kai Matturi in his 2016 article “*Using Digital Data Gathering to Improve Data Collection* “also notes that “One of the ways in which aid actors have responded to the growing need for good quality data to inform decision-making processes has been to invest in information communication technology to improve data collection and analysis.” A similar sentiment is echoed by Isah Mohamed et al, who observes that “Mobile phone data collection, specifically using the Open Data Kit (ODK), has improved the timeliness and quality of data in the health sector, as demonstrated in the EPI comprehensive review in East and Southern African countries.” (Isah Mohamed, 2021). The ubiquity of mobile devices has transformed the way NGOs operate, providing them with a powerful means to collect, analyse, and disseminate data in the field.

This backdrop prompts a critical examination of the intricate dynamics between mobile technology utilization and data quality. The evaluation of data quality is paramount for humanitarian organizations, as emphasized by [Marylyn Ochieng], who states that " Evaluation of data quality (DQA) processes are critical components of program implementation since they help identify weaknesses hence informing the type of correctional intervention needed to produce quality data, reports, and evidence for strengthening program implementation, future programming, policy recommendation and

further research where needed". It is a well-established fact that the reliability and accuracy of data directly impact the effectiveness and impact of interventions.

As such, this research aims to address this gap by delving into the intricate dynamics surrounding the utilization of mobile technology for data collection and the enhancement of data quality within World Vision Kenya. As already stated, existing literature suggests that factors such as organizational support, training, and the human element play pivotal roles in determining the quality of data collected. However, there is a dearth of granular insights into how these factors manifest in the specific context of Humanitarian organizations, impeding the development of tailored strategies for optimal implementation of mobile data collection systems.

1.4 Purpose of the Study

The purpose of this study is to comprehensively investigate and understand what and how the utilization of mobile technology for data collection influences the quality of data collected in the context of NGOs and more specifically in the context of World Vision Kenya.

1.5 Objectives of the Study

The primary objective of this research is to assess and understand the influence mobile technology utilization for data collection has on data quality within the humanitarian non-governmental organization (NGO) context, with a specific focus on World Vision Kenya.

1.5.1 Specific Objectives

To achieve this overarching goal, the study will be driven by the following specific objectives;

1. To examine how the use of different types of mobile technology and applications influences data quality within World Vision Kenya.

2. To establish how staff capacity and training affect the quality of data collection within World Vision Kenya.

3. To examine how organizational support on mobile technology use influences data quality within World Vision Kenya.

1.6 Research Questions

The study seeks to respond to the following research questions.

1. What is the influence of using various types of mobile technology and applications on the quality of data collected within World Vision Kenya?

2. How does the level of staff capacity and training influence the quality of data collection within World Vision Kenya?

3. What is the influence of organizational support for mobile technology implementation on data quality within World Vision Kenya?

1.7 Significance of the Study

This research holds substantial significance for both humanitarian organizations, particularly World Vision Kenya, and the academic community. It will highlight the critical gaps in the literature by exploring the intricate dynamics between mobile technology utilization during data collection and data quality within the humanitarian context. By delving into these specific factors, the study will enrich existing academic knowledge on technology adoption within non-governmental organizations (NGOs) engaged in humanitarian efforts.

The practical implications of the findings extend to guiding policy development within organizations operating in similar contexts. The study aims to offer evidence-based recommendations that can influence decision-makers in formulating policies related to the integration of mobile technology for data collection. By doing so, it directly contributes to optimizing data collection processes, improving the quality of data, and enhancing the overall efficiency of humanitarian operations.

1.8 Scope of the Study

This research focuses specifically on assessing and understanding the influence mobile technology utilization for data collection has on data quality within the humanitarian non-governmental organization (NGO) context. The study narrows its scope to World Vision Kenya, a prominent humanitarian NGO operating across the country, to provide a detailed examination of the intricate dynamics that influence the quality of collected data through mobile technology use.

1.9 Delimitation(s) of the Study

While this research will endeavor to provide a comprehensive understanding of the influence between mobile technology utilization and data quality within the humanitarian non-governmental organization (NGO) context. The study is delimited to World Vision Kenya's organizational and operational context. The findings and recommendations may not be universally applicable to all humanitarian organizations, as practices and challenges may vary across different organizational contexts.

The research primarily investigates the influence of specific independent variables, including the type of mobile technology, staff training, and organizational policy support, on the dependent variable—data quality. While these variables are deemed crucial, other potential factors influencing data quality may not be exhaustively explored in this study.

1.10 Limitations of the Study

This research has several limitations acknowledged, which may impact the generalizability and comprehensiveness of the findings.

The reliance on surveys as a primary data collection method may introduce response bias or subjectivity in participants' self-reported experiences and perceptions. The study acknowledges beforehand the potential limitations of self-reported data in reflecting the actual dynamics within the organization. Further, the study recognizes the importance of

the human element in data collection but may not comprehensively capture the complexity of individual perspectives, attitudes, and adaptability to mobile technology. Human factors are multifaceted and may require a more in-depth qualitative approach for a thorough understanding

Despite these acknowledged limitations, the study aims to contribute valuable insights within its defined scope, recognizing that further research and a broader array of methodologies may be necessary to address the complexities of mobile technology utilization and data quality in the humanitarian sector comprehensively.

1.11 Assumptions of the Study

In undertaking this research on the influence between mobile technology utilization and data quality within the humanitarian non-governmental organization (NGO) context, certain assumptions have been made to guide the study's framework and interpretation of findings.

The study assumes a consistent and relatively stable level of mobile technology adoption within World Vision Kenya during the research period. It presupposes that the organization's approach to technology integration remains steady, without significant disruptions or abrupt changes.

An underlying assumption is that the data collected through surveys and other research instruments will be accurate and reliable. It is presumed that respondents will provide truthful and representative information regarding their experiences with mobile technology usage and its impact on data quality.

The study assumes that the training and capacity-building initiatives conducted by World Vision Kenya effectively equip staff with the necessary skills to utilize mobile technology for data collection. It is presumed that these training efforts contribute positively to the relationship between mobile technology usage and data quality.

An assumption is made regarding the impact of organizational support, including policies and infrastructure, on the successful implementation of mobile technology for data collection. It is presumed that a supportive organizational environment positively influences the dynamics explored in the study.

1.12 Theoretical Framework

This research is underpinned by the Technological Acceptance Model (TAM) and the Information Systems Success Model, providing a comprehensive theoretical foundation to explore the relationship between mobile technology utilization and data quality within the humanitarian non-governmental organization (NGO) context.

1.12.1 The Technological Acceptance Model Theory

The Technological Acceptance Model[1], proposed by Davis in 1989, serves as a fundamental framework for understanding how users accept and adopt new technologies. TAM posits that perceived ease of use (PEOU) and perceived usefulness (PU) significantly influence an individual's intention to use technology, ultimately impacting its actual usage.

In the context of this research, TAM will help elucidate how staff members at World Vision Kenya perceive the ease of using mobile technology for data collection and the perceived usefulness of such technology in their daily operations. The model's relevance is highlighted by previous research in the humanitarian sector, where TAM has been successfully applied to assess technology adoption (Venkatesh et al., 2003).

The Technological Acceptance Model (TAM), as proposed by Davis in 1989, will be instrumental in this research for several key reasons. Firstly, TAM offers a structured approach to understanding how individuals, in this case, staff members at World Vision

1 TAM postulates that the acceptance of technology is predicted by the users' behavioural intention, which is, in turn, determined by the perception of technology usefulness in performing the task and perceived ease of its use

Kenya, perceive and adopt new technologies, specifically mobile technology for data collection. By focusing on perceived ease of use (PEOU) and perceived usefulness (PU), TAM allows for a nuanced examination of the factors influencing technology acceptance and subsequent usage among humanitarian workers.

In applying TAM to this study, we will gain insights into whether staff members find mobile technology easy to use and whether they perceive it as beneficial for improving data collection processes and data quality within their daily operations. These insights will be crucial for identifying potential barriers or facilitators to technology adoption within World Vision Kenya.

Practically, TAM will inform the design of questionnaires by guiding the selection of variables related to perceived ease of use and usefulness of mobile technology. Furthermore, TAM will aid in interpreting the research findings, providing a theoretical lens through which to understand staff attitudes towards mobile technology adoption and their implications for enhancing data quality and operational efficiency at World Vision Kenya. Overall, the Technological Acceptance Model represents a valuable theoretical framework that will enrich the methodology and outcomes of this research.

1.12.2 The Information Systems Success Model Theory

The Information Systems Success Model, developed by DeLone and McLean in 1992 and later revised in 2003, provides a holistic framework for evaluating the success of information systems within organizational contexts. The model includes dimensions such as system quality, information quality, use, user satisfaction, individual impact, and organizational impact.

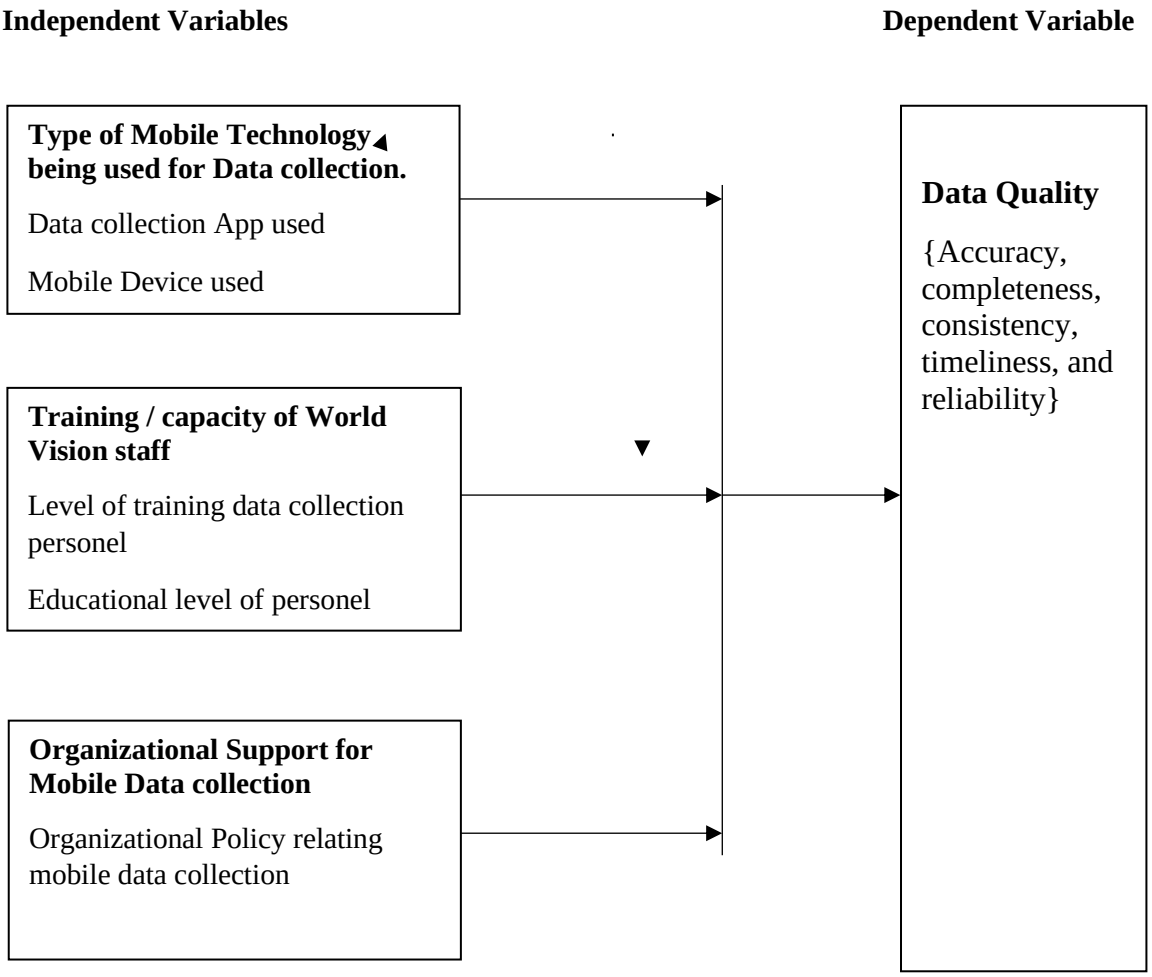
In this research, the Information Systems Success Model will be employed to assess the impact of mobile technology utilization on data quality within World Vision Kenya. The model's comprehensive nature allows for the exploration of various dimensions

influencing the success of information systems, aligning with the multifaceted relationship between mobile technology and data quality.

The Information Systems Success Model (ISSM) offers a robust framework for evaluating the impact of mobile technology utilization on data quality within World Vision Kenya. By incorporating dimensions such as system quality, information quality, use, user satisfaction, individual impact, and organizational impact, the ISSM provides a comprehensive lens through which to assess the effectiveness and success of information systems within organizational contexts.

In the context of this research, the ISSM will be instrumental in examining how different aspects of mobile technology, including information quality (e.g., accuracy, relevance), and user satisfaction, contribute to overall data quality within World Vision Kenya. By utilizing this model, the study will delve deeper into understanding the intricacies of how mobile technology adoption impacts not only data quality but also individual and organizational outcomes. This holistic approach aligns well with the complex nature of technology adoption and its implications for organizational effectiveness, making the ISSM a valuable theoretical foundation for guiding the research design, analysis, and interpretation of findings.

1.13 Conceptual Framework



1.13.1 Explanation of the conceptual framework

The figure above is the diagrammatic representation of the relationship between the independent and the dependent variables. The arrows indicate the direction of influence and thus show the independent variables. At the core of the conceptual framework is the variable of mobile technology utilization. This encompasses the adoption and usage patterns of mobile devices, including smartphones and tablets, the frequency of use, and the specific data collection apps or platforms employed within World Vision Kenya.

Acknowledging the significance of human factors in technology adoption, the framework also incorporates the variable of training and capacity building. This involves assessing the extent of training provided to World Vision Kenya staff in using mobile

technology for data collection. The organizational support variable will encompass the policies, infrastructure, and resources provided by World Vision Kenya to facilitate successful mobile technology integration. This will include the presence of supportive policies, adequate technological infrastructure, and the availability of resources for effective data collection.

Data quality, the dependent variable in this framework, represents the accuracy, completeness, timeliness, and reliability of the data collected using mobile technology within World Vision Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers relevant literature on Mobile data collection in general as well as specific to the humanitarian context and the influence mobile data collection technology has on data quality. This chapter presents a literature review of the study's objectives, a summary of the literature review, and a knowledge gap.

2.2 Empirical Review

This section summarizes and discusses recent studies and previous publications exploring related strengths and weaknesses focused on mobile data collection and data quality.

2.2.1 Types of Mobile Technologies and data quality

The exploration of the types of mobile technologies used for data collection within World Vision Kenya is crucial for understanding the intricacies of technology adoption in humanitarian contexts. Bella Struminkaya et al. (2021) provide valuable insights into the benefits and challenges associated with different types of mobile devices and platforms in the field of data collection.

Daniele, et al (2020) in their publication on Mobile Research Methods explored the various methodological possibilities and issues, compared mobile research methods with traditional survey modes, and discussed the quality of collected data and its use in commercial market research. The paper explored the use of mobile devices in various research contexts, providing detailed and updated knowledge on this field of study. It discussed the main methodological possibilities and issues related to mobile research methods. It examines the quality of collected data through mobile devices and its use in commercial market research. Finally, the paper presents interesting research findings from

a wide range of countries and contexts, providing insights into the use of mobile devices for research purposes. Mobile devices, according to this paper, especially smartphones and tablets, have become prevalent in everyday life and offer great potential for collecting quality data and analyzing research data.

While the study compares mobile research methods with traditional survey modes paper and discusses how mobile methods fare in terms of response rates, representativeness, it however does not mention anything about data accuracy of data capture using mobile phones compared to traditional mode. They study does not talk about how the use of mobile devices impact data reliability, validity, and consistency. Further, the paper mentions research findings from a wide range of countries and contexts. However, it lacks specificity regarding the nuances of mobile research adoption in the humanitarian sector.

Stephan et al (2017) also presented a study on the data quality and the response process of mobile online surveys using an experimental design as compared to a standard computer. The study used the following indicators to measure data quality and response properties: reaction time to survey invitation, break-off rate, item nonresponse, length of responses to open-ended questions, and survey transmission, processing, and completion time. Concerning completion time, the study also explored the significance of the place as well as the situation in which the survey was completed, the kind of Internet connection the respondents had as well as the hardware properties of the devices used to answer the online survey. The results suggest comparable data quality and response properties in most aspects: There were no noticeable differences between computer and mobile users as regards break-off rate, item nonresponse, and length of responses to open-ended questions, nor the place where the survey was completed. However, it took respondents in the mobile group longer to complete the survey as compared to respondents answering the online

survey on their computers. In terms of the completion time, there was a significant decrease in the differences between mobile devices and PCs when respondents used technically advanced mobile devices and had access to a fast Internet connection.

The study employed an experimental design, which is commendable. However, the paper could provide more details about the specific experimental conditions, randomization, and control groups. Methodologically, the study should have provided information whether there were any variations in the survey content or structure between mobile and computer groups? Addressing this would enhance the study's validity. The study also focused on several data quality indicators: reaction time, break-off rate, item nonresponse, length of responses, and survey transmission, processing, and completion time. However, it would be beneficial to discuss the rationale behind selecting these specific indicators and not the conventional aspects such as consistency or reliability. Did the study consider other aspects of data quality, such as response consistency or reliability? The significance of the place and situation where the survey was completed is mentioned. However, the paper could delve deeper into how these contextual factors influence data quality. Are there specific scenarios (e.g., public spaces, home, workplace) where mobile surveys perform better or worse? Therefore, while Stephan et al.'s study provides valuable insights, further research could explore the nuanced interactions between device characteristics, context, and data quality in mobile surveys.

Patrick Loola (2019) looked at Mobile Data Collection Using Open Data Kit. The paper looked at the use of ODK in the humanitarian space for data collection. The paper concluded that Mobile data collection using Open Data Kit (ODK) has become popular due to the increasing availability and affordability of mobile devices. And that the use of ODK allows for efficient and reliable data collection, enabling organizations to gather information in a timely manner. The paper further highlights the importance of considering

factors such as data security, user interface design, and data quality assurance when implementing mobile data collection using ODK. Overall, the paper concludes that Open Data Kit is a valuable tool for mobile data collection, offering organizations the ability to collect data efficiently and effectively using mobile devices.

While the paper mentions data security, user interface design, and data quality assurance, it could delve deeper into these factors. Some questions that could have been answered to enrich that examination include; How does ODK handle data encryption, user authentication, and privacy concerns? What best practices exist for designing user-friendly interfaces? The paper also emphasizes that ODK allows organizations to gather information in a timely manner. However, it lacks specifics on the time savings achieved. The study could benefit from a comparative analysis of ODK with other mobile data collection tools. How does ODK perform in terms of ease of use, scalability, and adaptability? while Patrick Loola's paper underscores the value of ODK for mobile data collection, addressing some of these issues would have enhanced its applicability and provide a more comprehensive understanding of ODK's impact in humanitarian contexts.

2.2.2 Staff Capacity Building and data quality

The section on staff capacity building and training focuses on the critical role that training plays in influencing data quality within the context of mobile technology utilization for data collection in humanitarian NGOs.

Oyedeji (2013) in his study "Does Pre-Survey Training Impact Knowledge of Survey Administrators and Survey Outcomes in Developing Countries". Conclude that comparison between the pre-test and post-test scores at the 5-day training showed a significant gain in knowledge of participants. The survey training contributed positively to the preparation and building of knowledge needed for the conduct of the 2012 NARHS-plus. In this study, a total of 185 participants consisting of State AIDS Program

Coordinators, Reproductive Health Coordinators, State Laboratory Scientists, Lead Supervisors, and Counsellor Testers were invited from the 36 states in Nigeria and the FCT for the central training of trainers in Abuja. The training lasted 5 days and the trainees were grouped into two based on behavioural epidemiology and laboratory components. Training tools such as the developed protocol, training powerpoint slides, practical sessions such as role plays, and usage of HIV rapid test kits were utilized during the training. The facilitators were drawn from the Federal Ministry of Health (FMoH), universities and research Institutions as well as Non-Governmental Organizations (NGOs). The facilitators prepared and administered 25 structured questions for the behavioral group and 28 questions for the laboratory group at the beginning of the training to assess the participants' knowledge of HIV and the survey. The same questions answered by Trainees responded to the same questions before the commencement and at the end of the training. Scores were aggregated to 100 for each test. We conducted a paired t-test to determine statistically significant differences between pre-test and post-test results at 0.05 significance level and ANOVA to determine if there were differences in knowledge level among different groups. The overall mean pre-test and post-test scores were 64.0% and 77.4% respectively indicating a 13.4% knowledge gain above what it was at the beginning of the training.

This study employed a quasi-experimental design by comparing pre-test and post-test scores after a 5-day training. This design allows for assessing changes over time. The use of paired t-tests and ANOVA for statistical analysis also demonstrates rigor in evaluating knowledge gain. However, the paper lacks details about randomization or control groups. A more robust experimental design (e.g., randomized controlled trial) would strengthen causal inferences. The absence of qualitative data or participant feedback also limits our understanding of the training experience beyond quantitative scores. The study included 185 participants from diverse roles related to HIV and reproductive health

surveys. This sample size is relatively large for a training study. The inclusion of various professional backgrounds also enhances the generalizability of findings. Even though the paper doesn't justify why this specific sample size was chosen. Was it based on power calculations or practical constraints? Finally, the study focused on Nigeria, and does not focus specifically on data quality aspects in relation to the training of enumerators.

David Osborne (1996) studied staff training and assessments. The paper discusses the importance of staff training and assessment, including the training cycle, the role of the trainer, training needs analysis (TNA) techniques and useful training methods. It also covers the assessment of training and national standards, as well as the ingredients required to train effectively and match training interventions to organizational culture. The paper further explores the essential "tools" used by trainers to analyze problem situations and the development of training policies and plans. The paper emphasizes the importance of staff training and assessment in bridging the performance gap within organizations. It highlights the role of the trainer in the training cycle and the need for effective training needs analysis (TNA) techniques to identify the specific training requirements. Overall, the paper concludes that staff training and assessment are crucial for organizations to address performance gaps, and it provides insights into the training process, assessment methods, and the importance of aligning training interventions with organizational culture.

The paper underscores that staff training and assessment play a crucial role in bridging performance gaps within organizations. It highlights the need for organizations to invest in training to enhance employee skills and competencies. However, a more explicit discussion of the research design would enhance transparency. The absence of empirical data or case studies limits our understanding of the effectiveness of different training methods more so in the humanitarian context.

2.2.3 Organizational Support and data quality

The organizational support delves into the critical policy support from the organization which plays a huge role in shaping the way data is collected and the quality of data collected through mobile technology.

World Bank data protection and privacy laws (2016) note that it is critically important for humanitarian organizations to have in place policies that address data management issues, ranging from, Data privacy and security, data breaches and transfer, technology adoption and acceptance, data quality and reliability, capacity building and training, Data integration and monitoring and evaluation of data systems. This guideline further explains that data protection requires a holistic approach to system design that incorporates a combination of legal, administrative, and technical safeguards. Many countries have adopted general data protection and privacy laws that apply to the processing of personal data as is the case in the humanitarian setting. Under international standards on privacy and data protection (2009), these laws typically have broad provisions and principles specific to the collection, storage, and use of personal information, including Purpose limitation. The collection and use of personal data should therefore be limited to purposes: (1) which are stated in law and thus can be known (at least in theory) to the individual at the time of the data collection; or (2) for which the individual has given consent: proportionality and minimization. The data collected must be proportionate to the purpose of the ID system to avoid unnecessary data collection and "function creep," both of which can create privacy risks. This is often articulated as requiring that only the "minimum necessary" data—including transaction metadata—should be collected to fulfill the intended purpose. Lawfulness. The collection and use of personal data should be done on a lawful basis, e.g., involving consent, contractual necessity, compliance with legal obligation, protection of vital interests, public interest and/or legitimate interest. Fairness and transparency. The collection and use of personal data should be done fairly and

transparently. Accuracy. Personal data should be accurate and up-to-date, and inaccuracies should be expediently corrected. Storage limitations. Personal data—including transaction metadata—should not be kept longer than is necessary for the purposes for which it is collected and processed. Concerning transaction metadata, people can be given an option for how long such data are retained. Privacy-enhancing technologies (PETs). Requirements to use technologies that protect privacy (e.g., the tokenization of unique identity numbers) by eliminating or reducing the collection of personal data, preventing unnecessary or undesired processing of personal data, and facilitating compliance with data protection rules. Accountability. The processing of personal data under the above principles should be monitored by an appropriate, independent oversight authority, and by data subjects themselves.

In summary what the UN report identifies is that organizational support for mobile data collection efforts within humanitarian contexts necessitates a comprehensive approach that prioritizes data protection and privacy. This support entails developing and implementing clear policies and guidelines that align with international standards, emphasizing principles such as purpose limitation, proportionality, and accountability. It involves selecting appropriate technologies that incorporate privacy-enhancing features like encryption and anonymization to safeguard personal data collected via mobile devices. Additionally, organizations should prioritize training and capacity-building initiatives to educate staff on data protection principles and best practices for secure data handling on mobile platforms, fostering awareness of potential privacy risks. Moreover, effective organizational support includes establishing robust data management protocols, ensuring secure data transmission, storage, and sharing on mobile devices while adhering to storage limitations and accuracy requirements outlined in data protection guidelines. It also involves conducting privacy impact assessments (PIAs) to identify and mitigate privacy

risks associated with mobile data collection initiatives. By providing technical support and infrastructure for secure mobile data collection, monitoring compliance, and fostering a culture of privacy awareness and compliance, organizations can enhance the integrity and effectiveness of their data collection efforts in humanitarian settings while maintaining ethical standards and trust among stakeholders.

Furthermore, the Data Protection Act, of 2019 imposes obligations on organizations to implement robust data protection measures, including security safeguards and data breach notification procedures. Organizations are required to adopt a 'privacy by design' approach, integrating data protection principles into their systems and processes from the outset. Non-compliance with the Act may result in significant penalties, underscoring the importance of adherence to its provisions. The Act plays a crucial role in promoting trust and confidence in the handling of personal data, fostering a culture of accountability and transparency among organizations. The Data Protection Act, of 2019 is a crucial legislative framework enacted to safeguard individuals' personal data within a specific jurisdiction. It establishes clear guidelines and standards for the collection, processing, storage, and sharing of personal data by organizations operating within its purview. The Act aims to balance the need for data-driven innovation with protecting individuals' privacy rights, ensuring that personal data is handled responsibly and ethically.

With all these studies however, there is a lack of empirical studies on how the use of mobile technology has influence the kind of data quality collected within the humanitarian sector even with the growing popularity of mobile data collection. Therefore, this study aims to address this gap by investigating the influence of mobile technology on the quality of data collected in humanitarian operations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the methodology to be used in the study. This includes the research design, the target population, the sampling design, sample size, data collection instruments, and data analysis methods. The validity and reliability of research instruments are also covered.

3.2 Research Design

The survey will use a descriptive research survey to solicit information from respondents. According to Kombo and Tromp (2006), a research design is a structured arrangement of conditions for data collection and analysis in line with the relevance of the study's purpose. Kothari (2008) gives a blueprint for data collection, measurement, and analysis. The research also apply mainly descriptive statistics using more qualitative backed by quantitative with a preference for survey research design. It will be preferred because of the ability to describe the existing problem and observe the actual situation as it is on the ground.

The use of a descriptive research survey as the study approach was selected because it will the researcher the ability to systematically collect comprehensive data that describes characteristics of a population or the phenomenon under study (mobile technology use for data collection). This approach is particularly suitable because it helps me to understand and document the current state or prevalence of specific variables of concern, attitudes, behaviors, or perceptions within a defined/target population. Descriptive surveys provide researchers with valuable insights into the distribution of variables of interest, allowing for the identification of patterns, trends, and relationships. Moreover, surveys are versatile and can be administered using various methods (e.g., online, paper-based) to reach a diverse

and representative sample. By employing a descriptive research survey, the researcher will be able to gather quantitative data efficiently, enabling statistical analysis and the generation of objective and generalizable findings. This approach is therefore well-suited for this study seeking to establish an understanding and explore the utilization of mobile data collection and the influence it has on data quality.

3.3 Research site

This study will be carried out within the World Vision Kenya programming area. World Vision Kenya activities cut across the whole, the program areas are divided into 3 large regions that is Northern Region covering the Northern western parts of Kenya; the Southern Region (covering the coastal and lower eastern region) and the Eastern region (covering central, Upper eastern and norther eastern regions). These regions are further divided into Clusters, Clusters also consist of several area programs which are the primary units where program staff who are implementing world vision activities are based. These various units have M&E personnel from where the required data will be obtained. World Vision as an organization was chosen because the researcher works there and thus it will be convenient for data collection. The field-level M&E staff are chosen because they are mostly involved in data collection and thus it will be convenient for the researcher to get appropriate data from them. Other data will also be collected from the national office staff, especially on policy-related information and high-level support with regard to data management.

3.4 Target Population

The target population for this study will be drawn from the monitoring and Evaluation personnel across the country implementing World Vision programs and field staff responsible for field level data collection. This will be the National Office DMEAL team, The regional M&E Coordinators, and all the grants DMEAL Coordinators and

Officers, a further sample of Project Officers and Community Mobilizers will also be included in the target population. Cooper and Schindler (2015) characterize the target population as the all-inclusive arrangement of all individuals' investigation from a genuine or speculative understanding of individuals, occasions, or questions that an agent wishes to sum up the outcome.

The researcher will consolidate these key staff involved in regular data collection and management of about 106 staff across the country, as illustrated in the table below. This target population will provide a reliable foundation upon which the validity of the whole study will be built.

Table 3.1: ***Target Population Distribution***

Population category	**Target population**	**Percentage**
National Office DMEAL	5	5%
Regional DMEAL	3	3%
Grants DMEAL	15	14%
Project Officer	36	33%
Community Mobilizer	47	44%
Total	**106**	**100%**

Source: Researcher, 2024

3.5 Study Sample

The study sample is a critical component of research methodology, representing the subset of individuals or entities from a larger population that will be studied to gather insights and draw conclusions. In this research, the study sample will be carefully selected to ensure its representativeness and relevance to the research objectives.

3.5.1 Sampling Procedure

For the research, a stratified sampling technique will also adopted to select the sample from various categories. Mugenda & Mugenda (2013) state, "A sample is a small group obtained from the accessible population." Sampling is the procedure a researcher

uses to gather people, places, or things to study. Kombo and Tromp (2006) further say, "It is the process of selecting many individuals or objects from a population such that the group chosen contains elements representative of characteristics found in the entire group". From each category, purposive sampling was used to determine the respondent in each category. Stratified sampling will ensure inclusion, in the sample, of subgroups, A Purposive sampling will ensure that the researcher can capture data from the very relevant respondent and have knowledge of the subject matter.

3.5.2 Study Sample Size

The sample size is an extent of the objective populace that is illustrative of the entire populace from which it is attracted request, to sum up the exploration discoveries. Mugenda and Mugenda (2013) inspecting sampling technique alludes to a systematic procedure of choosing people to speak to the more extensive gathering from which they were chosen. The sample size counts individual samples or observations in any statistical setting, such as a scientific experiment or a public opinion survey (Kothari, 2008). The entirety of the DMEAL team will form part of the sample and a sample from the project officers will be purposively selected.

Table 3.2: ***Sample Population***

Population category	**Sample population**	**Percentage**
National Office DMEAL	5	9%
Regional DMEAL	3	6%
Grants DMEAL	10	19%
Project Officer	15	28%
Community Mobilizer	20	38%
Total	**53**	**100%**

Source: Researcher, 2024

3.6 Data Collection

Data collection is a fundamental aspect of research that involves gathering information to address specific research questions or objectives.

3.6.1 Data Collection Instruments

Data will be collected using structured questionnaires. Structured questionnaires refer to questions accompanied by a list of all possible alternatives from which the respondents select the answer that best describes their situation (Mugenda & Mugenda, 2013). Structured questions are easier to analyze since they are immediately usable (Orodho & Kombo, 2002). Likert type of scale will be used; for example, besides each statement presented below, please indicate whether you are strongly agreeing, agree, neutral, disagree, or strongly disagree. Likert scales are often used in matrix questions and are composed of 5-7 categories and are ordered to indicate the presence or absence of the characteristic being measured (Mugenda & Mugenda, 2013). Questionnaires will be administered to the respondents to complete the questions themselves; the questionnaires will be delivered electronically either through Google Forms or Microsoft Office Forms.

3.6.2 Pilot Testing

For this research study, pilot testing will be undertaken at the National Office within the DMEAL team at the Headquarters because of the study population's shared characteristics. Questionnaires will be issued to 5% of the target population to ascertain the accuracy of the available research tools for the study. This is supported by the rule of thumb that suggests that 5% of the study sample size consists of a pilot test (Cooper &Schinder, 2010).

3.6.3 Instrument Reliability

A pilot study will carried out to determine the reliability of the questionnaires. The pilot study will also involved the sampled respondents. Reliability analysis will be

subsequently done using Cronbach's Alpha which measures the internal consistency by establishing if a certain item within a scale measures the same construct. Gliem and Gliem (2003) indicated a value of 0.7 to be an acceptable reliability coefficient, but lower thresholds are sometimes used in literature (Rousson, Gasser, and Seifer, 2002), thus forming the study's benchmark. Cronbach Alpha will be established for every objective. All the variables became reliable if the reliability value exceeded the prescribed threshold of 0.7.

3.6.4 Instrument Validity

Validity is defined as the extent to which the instrument measures what it purports to measure. According to Berg and Gall (1989), validity is the degree by which the sample of test items represents the content the test is designed to measure. Content validity which this study employed is a measure of the degree to which data was collected using an instrument representing a specific domain or content of a concept. Content validity, therefore, pertains to the degree to which the instrument comprehensively assesses or measures the construct of interest. Mugenda & Mugenda (1999) contend that the usual procedure for evaluating the content validity of a measure is to use a professional or expert in a field.

A content-valid instrument's development is typically achieved by a rational analysis of the instrument by raters comprising professionals or experts (ideally 3 to 5) familiar with the interest construct. Specifically, raters review all the items for readability, clarity, and comprehensiveness and come to some level of agreement as to which items should be included in the final instrument.

3.6.5 Data Collection Procedures

After approval of the Africa Nazarene University proposal to collect data, the researcher will seek a license from NACOSTI. Using the university's authorization letter

and the permit from NACOSTI, the researcher will start data collection after seeking permission from World Vision Leadership. The researcher will send out these electronic questionnaires for data collection.

3.7 Data Processing and Analysis

Quantitative data will be analyzed using descriptive statistics using MS Excel or SPSS software and thereafter presented through percentages, means, and frequencies. Descriptive analysis was used to analyze the collected data. Qualitative data will be analyzed by employing content analysis. According to Kirk and Miller (2014), descriptive analysis uses a set of categorizations for making valid and replicable inferences from data to their context. The presentation of data will be done in the form of quantitative and qualitative reports, which will then be presented in the form of tables and essays. For the quantitative reports, the tables consisted of frequencies, mean, and standard deviation values. Percentage, mean, and standard deviation will be used to show the frequency of responses. Tables will be used to display the rate of responses and to facilitate comparison. Qualitative reports will be presented in an essay that was discussed as per the study objectives aligned with the theories. Every objective will be discussed considering the supportive theories for the study.

3.8 Legal and Ethical Considerations

This research proposal is purely submitted for the academic examination of a degree in Master of Arts in Monitoring and Evaluation and can be shared with World Vision authorities in Kenya. The researcher strictly will adhere to all the rules regarding conducting research. This study aimed to find out the influence of utilizing mobile technology for data collection on data quality. A descriptive research design will be adopted for the study with a population comprising World Vision DMEAL staff and a few Project officers. The study will be conducted by the use of questionnaires, which will distributed

to World Vision programming areas. Concerning personnel, the researcher will treat the participants with care as all humans are presumed to be free and responsible persons. On informed consent, it is the right and responsibility of every competent individual to advance their welfare. Therefore, this responsibility is presumed will be exercised freely and voluntarily. Respect, confidentiality, and privacy, holding individuals' rights to confidentiality and privacy is a central tenet that the researcher will exercise. The researcher will uphold honesty and portrayed a high level of integrity while conducting the study.

CHAPTER FOUR

FINDINGS AND DATA ANALYSIS

4.1 Introduction

This chapter presents findings and data analysis based on collected data. The purpose of this study was to determine the influence of utilizing mobile data collection on Data quality within World Vision Kenya. The study was guided by the following research objectives.

1. What is the influence of using various types of mobile technology and applications on the quality of data collected within World Vision Kenya?

2. How does the level of staff capacity and training influence the quality of data collection within World Vision Kenya?

3. What is the influence of organizational support for mobile technology implementation on data quality within World Vision Kenya?

4.2 Response Rate

To achieve the objectives of this study, a sample size of 53 respondents were selected to contribute to the findings of this study. Questionnaires were administered to the 53 respondents for data collection. Out of 53 administered questionnaires sent out, 53 were duly filled and returned for data analysis. This represents 100% response rate. Mugenda & Mugenda (2003) quoted that a 50% response rate as being adequate, 60% response rate as being good, while 70% as very good from which to draw conclusion. Hence, the response rate for this study was very good to use for analysis. Finding is presented in table 4.1.

Table 4.1: ***Response rate***

Response	**Frequency**	**Percentage**
Returned	53	100%
Total	**53**	**100%**

Source: Researcher, 2024

4.3 Background Information

The study sought to identify demographic data for the respondents. This would serve to establish whether equality was established in recruiting the respondents especially especially among those who are engaged in data collection within World Vision Kenya. To begin with, the respondents were required to state their designation, age and the number of years they have been engaged in Data collection within World Vision. Names and email address was not collected for the purpose of confidentiality. only those with official email address were allowed to fill in the questionnaire.

4.3.1. Staff Designation

The study sought to establish the role/ designation of the various respondents. This helped in confirming that the respondents who were recruited had some role in handling data especially data collection and or data handling within the organization. This was helpful in determining the validity of the responses provided on the subject matter under investigation. Table 4.2 presents analysis of this findings.

Table 4.2: ***Staff designation of the Respondents***

Staff Designation	Frequency	Percent
Community Agent	12	22.64%
Community Mobilizer	13	24.53%
DMEAL Staff	9	16.98%
IT Staff	3	5.66%
Program/ Project Manager	4	7.55%
Project Officer	12	22.64%
	53	**100.00%**

Source: Researcher, 2024

Table 4.2 presents that, out of 53 respondents to this study, 12 (22.6%) were community agents/ volunteers, 13 (24.53%) were community mobilizers, 9 (16.98%) were DMEAL Staff, 3 (5.66%) were IT staff, 4 (7.55%) were Program/project managers and 12

(22.64%) were Project Officers based in the field. This implies that, the study respondents were distributed in various designation and this mix is quite vibrant to make a substantial judgment on the status of data quality.

4.3.2. Age for the respondents

The study also sought to establish the age of the respondents. This helped in confirming that the respondents were recruited from different ages. Although this does not contribute directly to the findings of this study, it is helpful in establishing that, based on age variation, the respondents had different levels of understanding and experience of this subject. Table 4.3 presents analysis of this findings.

Table 4.3: ***Age of the Respondent***

Age	Frequency	Percentage
18-27	7	13.2%
28-37	28	52.83%
38-47	14	26.42%
48-57	4	7.55%
Total	**53**	**100.0%**

Source: Researcher, 2024

Table 4.3 shows that, out of 53 respondents to this study, 7 (13.2%) were aged between 18 to 27 years, 28 (52.83%) were aged between 28-37 years, 14 (26.42%) were aged between 38-47 years and 4 (7.55%) were aged between 48-57 years. Implying that, the study respondents were distributed in all ages but mostly between the ages 28-37.

4.3.3 Years of experience in data collection

The study also sought to establish the number of years each respondent had been involved in data collection within World Vision Kenya. This was important in demonstrating the response from the respondent were backed by some level of experience

engaging in data collection within World Vision which is a key pointer to the validity of their responses. The findings are analysed and presented in table 4.4.

Table 4.4: ***Years of experience in Data collection***

How many years have you been involved in data collection activities within World Vision Kenya?	Frequency	Percentage
0-2	17	32.08%
2-4	11	20.75%
4-6	9	16.98%
6-8	8	15.09%
8-10	3	5.66%
>10	5	9.43%
Grand Total	**53**	**100.0%**

Source: Researcher, 2024

Table 4.4 shows that 17 (32%) had less than 2 years of experience in data collection within World Vision. 11 (20.75%) had between 2-4 years of data collection experience, 9 (16.98%) had 4-6 years' experience the rest (30%) had more than 6 years of collection experience within World Vision Kenya. This represents significant amount of experience in Data collection among the respondents.

4.4. The influence of using various types of mobile technology on the quality of data collected within World Vision Kenya

The study sought to establish the influence of using various types of mobile technologies on the quality of data collected within the organization. This was examined through descriptive Statistics; Summarizing the types of mobile technology (e.g., smartphones, tablets, laptops) and applications (e.g., KoboCollect, DreamSave App) used by respondents. And cross-tabulating types of mobile applications used with the rated quality of data (e.g., accuracy, completeness, consistency, timeliness, reliability). Tables 4.6, table 4.7 and table 4.8 presents analysis of the findings on this objective.

Table 4.5: ***Type of mobile device used for Data collection***

Which type(s) of mobile devices are used / do you use for data collection in your World Vision Kenya work?	**Percent**
Smartphones;	58.49%
Smartphones; Computer;	18.87%
Smartphones; Computer; Tablets;	13.21%
Smartphones; Tablets;	7.55%
Computer	1.89%

Source: Researcher, 2024

Table 4.5 above reveals that smartphones are the primary device for data collection within World Vision Kenya, used by 58.49% of respondents, highlighting their accessibility and convenience. A notable portion (18.87%) uses a combination of smartphones and computers, while 13.21% use smartphones, computers, and tablets, indicating a need for diverse functionalities. Smartphones and tablets are used together by 7.55% of respondents, and only 1.89% rely solely on computers. This demonstrates the importance of smartphones and the varying roles different devices play in the data collection process, with some staff requiring the versatility of multiple devices to handle complex tasks.

Table 4.6: ***Type of mobile application used for Data collection***

Which data collection application(s) or platform(s) are predominantly used?	**Frequency**	**percent**
DreamSave App	9	16.98%
KoboCollect	34	64.15%
Last Mile Mobile Solution (LMMS)	2	3.77%
ODK	5	11.32%
ONA	2	3.77%

Source: Researcher, 2024

The analysis of data collection applications used within World Vision Kenya shows a clear preference for KoboCollect, which is used by 64.15% of respondents, making it the predominant platform. The DreamSave App follows with 16.98%, indicating it is also fairly

popular but significantly less so than KoboCollect. Open Data Kit (ODK) is used by 11.32% of respondents, showing moderate usage. Both Last Mile Mobile Solutions (LMMS) and ONA are each used by 3.77% of respondents, indicating minimal adoption of these platforms. This distribution highlights KoboCollect as the mainstay for data collection activities, with other applications being used to a much lesser extent.

Table 4.7: ***The influence of Mobile apps on Data accuracy***

Which data collection application(s) or platform(s) are predominantly used?	**Accuracy**			
	1=poor	**2=fair**	**3=Good**	**4=Excellent**
DreamSave App	22.22%	11.11%	44.44%	22.22%
KoboCollect	29.41%	8.82%	35.29%	26.47%
Last Mile Mobile Solution (LMMS)	50.00%	0.00%	50.00%	0.00%
ODK	0.00%	20.00%	80.00%	0.00%
ONA	50.00%	50.00%	0.00%	0.00%
Grand Total	**28.30%**	**11.32%**	**39.62%**	**20.75%**

Source: Researcher, 2024

The analysis of the influence of data collection applications used within World Vision Kenya reveals varied perceptions of data accuracy across different platforms. The DreamSave App is generally well-rated, with 66.66% of respondents rating its data accuracy as good or excellent, though 22.22% find it poor on data accuracy. KoboCollect, the most widely used platform, has a mixed rating: 61.76% of respondents rate its data accuracy as good or excellent, but a significant portion, 29.41%, consider it poor on data accuracy. Last Mile Mobile Solution (LMMS) has polarized views, with an equal split between poor and good ratings, and no respondents rating it as fair or excellent. ODK, on the other hand, is seen positively by a substantial majority of its users, with 80.00% rating its accuracy as good and 20.00% as fair, without any poor or excellent ratings. ONA has predominantly negative feedback, with all respondents rating its accuracy as either poor or fair.

Overall, while the majority of users (60.37%) rate the accuracy of their data collection applications as good or excellent, indicating generally positive feedback, there are notable areas for improvement. KoboCollect stands out as the predominant application despite its mixed accuracy ratings, whereas DreamSave App and ODK show more consistently positive perceptions. Last Mile Mobile Solution and ONA exhibit significant dissatisfaction among their users.

Table 4.8: ***The influence of Mobile apps on Completeness of Data***

Which data collection application(s) or platform(s) are predominantly used?	**Completeness of data**			
	Poor	**Fair**	**Good**	**Excellent**
DreamSave App	22.22%	0.00%	66.67%	11.11%
KoboCollect	32.35%	8.82%	35.29%	23.53%
Last Mile Mobile Solution (LMMS)	50.00%	0.00%	50.00%	0.00%
ODK	0.00%	20.00%	60.00%	20.00%
ONA	50.00%	50.00%	0.00%	0.00%
Grand Total	**30.19%**	**9.43%**	**41.51%**	**18.87%**

Source: Researcher, 2024

The analysis (in table 4.8 above) of mobile app usage for data collection within World Vision Kenya shows varied levels of perception regarding data completeness. DreamSave App is generally well-regarded, with 77.78% of respondents rating it as good or excellent, though 22.22% find it poor. KoboCollect, the most used platform, has mixed results, with 58.82% rating it as good or excellent but 32.35% rating it as poor on data completeness. Last Mile Mobile Solution (LMMS) has polarized views, with an equal split between poor and good ratings. ODK is positively received, with 80.00% rating data completeness as good or excellent and no poor ratings. ONA receives predominantly negative feedback, with all respondents rating it as poor or fair. Overall, while 60.38% rate

data completeness as good or excellent across all mobile app platforms, the significant dissatisfaction, particularly with LMMS and ONA, highlights areas for improvement.

Table 4.9: ***The influence of Mobile apps on Data Consistency***

Which data collection application(s) or platform(s) are predominantly used?	**Consistency**			
	Poor	**Fair**	**Good**	**Excellent**
DreamSave App	22.22%	11.11%	33.33%	33.33%
KoboCollect	29.41%	14.71%	35.29%	20.59%
Last Mile Mobile Solution (LMMS)	50.00%	0.00%	50.00%	0.00%
ODK	0.00%	20.00%	60.00%	20.00%
ONA	50.00%	50.00%	0.00%	0.00%
Grand Total	**28.30%**	**15.09%**	**35.85%**	**20.75%**

Source: Researcher, 2024

Table 4.9 shows the analysis of the consistency of data across various platforms. DreamSave App is positively perceived by most users, with 66.66% rating its data consistency as good or excellent, though 22.22% rate it as poor. KoboCollect, the most widely used app, has mixed reviews, with 55.88% rating its consistency as good or excellent, while 29.41% find it poor. Last Mile Mobile Solution (LMMS) shows polarized views with an even split between poor and good ratings, and no respondents rating it as fair or excellent. ODK is well-regarded, with 80.00% of users rating its consistency as good or excellent and no poor ratings. ONA has predominantly negative feedback, with all respondents rating its consistency as either poor or fair. Overall, while 56.60% of respondents rate the consistency of data as good or excellent across all platforms, there is notable dissatisfaction, especially with LMMS and ONA.

Table 4.10: ***The influence of Mobile apps on Data timeliness***

Which data collection application(s) or platform(s) are predominantly used?	Timeliness			
	poor	fair	good	excellent
DreamSave App	22.22%	11.11%	55.56%	11.11%
KoboCollect	29.41%	5.88%	32.35%	32.35%
Last Mile Mobile Solution (LMMS)	50.00%	0.00%	50.00%	0.00%
ODK	0.00%	20.00%	20.00%	60.00%
ONA	50.00%	50.00%	0.00%	0.00%
Grand Total	**28.30%**	**9.43%**	**33.96%**	**28.30%**

Source: Researcher, 2024

Table 4.10 reveals varied perceptions across different platforms concerning data timeliness. DreamSave App is generally well-rated, with 66.67% of respondents rating its timeliness as good or excellent, though 22.22% find it poor. KoboCollect, the most widely used app, had 64.70% rating its timeliness as good or excellent, but 29.41% considering it poor. Last Mile Mobile Solution (LMMS) shows polarized views, with an even split between poor and good ratings, and no respondents rating it as fair or excellent. ODK is highly regarded, with 80.00% of users rating its timeliness as good or excellent, and no poor ratings. ONA has predominantly negative feedback, with all respondents rating its timeliness as either poor or fair. Overall, while 62.26% of respondents rate the timeliness of data as good or excellent across all platforms, a significant portion (28.30%) rate data timeliness as poor across all platforms, particularly influenced by LMMS and ONA.

Table 4.11: ***The influence of Mobile apps on Data reliability***

Which data collection application(s) or platform(s) are predominantly used?	Reliability of data			
	Poor	Fair	Good	Excellent
DreamSave App	22.22%	0.00%	55.56%	22.22%
KoboCollect	29.41%	8.82%	29.41%	32.35%
Last Mile Mobile Solution (LMMS)	50.00%	0.00%	50.00%	0.00%
ODK	0.00%	20.00%	60.00%	20.00%
ONA	50.00%	50.00%	0.00%	0.00%

Grand Total	**28.30%**	**9.43%**	**35.85%**	**26.42%**

Source: Researcher, 2024

Table 4.11 shows varied perceptions regarding the reliability of data collected using mobile apps. DreamSave App is largely well-regarded, with 77.78% of respondents rating its reliability as good or excellent, though 22.22% find it poor. KoboCollect, the most widely used app, had 61.76% rating its reliability as good or excellent, but 29.41% considering it poor. Last Mile Mobile Solution (LMMS) showed an equal split between poor and good ratings, and no respondents rating it as fair or excellent. ODK is highly regarded, with 80.00% of users rating its reliability as good or excellent and no poor ratings. ONA has predominantly negative feedback, with all respondents rating its reliability as either poor or fair. Overall, 62.27% of respondents rate the reliability of data as good or excellent across all platforms, but a significant portion (28.30%) rate it as poor.

Table 4.12: ***The influence of Mobile apps on Data collection efficiency***

Which data collection application(s) or platform(s) are predominantly used?	**To what extent has the utilization of mobile technology improved the efficiency of data collection processes in World Vision Kenya**		
	Moderate Improvement	**Significant Improvement**	**Worsened Efficiency**
DreamSave App	22.22%	77.78%	0.00%
KoboCollect	35.29%	61.76%	2.94%
Last Mile Mobile Solution (LMMS)	0.00%	100.00%	0.00%
ODK	0.00%	100.00%	0.00%
ONA	50.00%	50.00%	0.00%
Grand Total	**28.30%**	**69.81%**	**1.89%**

Source: Researcher, 2024

Table 4.12 show the perceived impact mobile technology has had on the efficiency of data collection processes within World Vision Kenya. DreamSave App stands out with 77.78% of users reporting significant improvement and 22.22% noting moderate

improvement, without any users reporting worsened efficiency. This indicates that DreamSave App is highly effective in enhancing the efficiency of data collection.

KoboCollect, another widely used platform, also shows positive results. A majority of users (61.76%) reported that it has significantly improved the efficiency of data collection, while 35.29% noted moderate improvement. A small percentage (2.94%) reported worsened efficiency, highlighting some variability in user experience but overall positive outcomes.

Last Mile Mobile Solution (LMMS) and ODK received exceptionally positive feedback, with all users (100.00%) reporting significant improvement in efficiency, underscoring their effectiveness in streamlining data collection processes. Similarly, ONA shows a mixed but overall positive result, with 50.00% of users reporting significant improvement and the remaining 50.00% reporting moderate improvement.

In summary, the utilization of mobile technology has had a notable positive impact on the efficiency of data collection processes within World Vision Kenya. Platforms like DreamSave App, KoboCollect, and ODK have significantly contributed to improving efficiency, with varying degrees of success but generally positive outcomes reported by users.

Table 4.13: ***The ease of use of the mobile data collection technology***

Which data collection application(s) or platform(s) are predominantly used?	**How would you rate the ease of use of the mobile data collection technology implemented?**		
	Easy	**Neutral**	**Very Easy**
DreamSave App	33.33%	11.11%	55.56%
KoboCollect	41.18%	5.88%	52.94%
Last Mile Mobile Solution (LMMS)	0.00%	0.00%	100.00%
ODK	40.00%	0.00%	60.00%
ONA	50.00%	0.00%	50.00%
Grand Total	**37.74%**	**5.66%**	**56.60%**

Source: Researcher, 2024

The analysis of the perceived ease of using of mobile data collection technology, reveals positive user perceptions across different platforms. DreamSave App is highly rated for ease of use, with 55.56% of users finding it very easy and an additional 33.33% rating it as easy. This indicates that DreamSave App offers an intuitive and user-friendly interface that supports efficient data collection processes.

KoboCollect also performs well, with 52.94% of users finding it very easy to use and 41.18% rating it as easy. This platform's design supports straightforward navigation and operation, contributing to its positive user experience. Last Mile Mobile Solution (LMMS) stands out as exceptionally easy to use, with all users (100.00%) reporting it as very easy. This high rating suggests LMMS has an intuitive interface that minimizes complexity during data collection tasks.

ODK is also highly regarded, with 60.00% of users finding it very easy and 40.00% rating it as easy. This platform's usability facilitates efficient data entry and management. Similarly, ONA receives positive feedback, with 50.00% of users finding it very easy to use and another 50.00% rating it as easy.

Overall, the majority of users across all platforms find the mobile data collection technology implemented by World Vision Kenya to be user-friendly. The high ratings for ease of use indicate that these platforms, including DreamSave App, KoboCollect, ODK, and ONA, offer intuitive interfaces that support efficient and effective data collection processes. These findings underscore the importance of selecting and optimizing user-friendly tools to maximize the quality and efficiency of data collected for programmatic interventions and decision-making within World Vision Kenya.

4.5 How the level of staff capacity and training influence the quality of data collection within World Vision Kenya.

The study sought to establish the influence of the level of staff capacity and training of mobile data collection on the quality of data collected within the organization. This was interrogated through descriptive Statistics by summarizing the level of education, formal training received, and frequency of training sessions among respondents. As well as cross-tabulating whether a respondent had received formal training on mobile data collection and the quality of data reported. Tables 4.14 to table 4.23 presents analysis of the findings on this objective.

Table 4.14: ***Respondents' Level of Education***

What is your highest level of education?	Frequency	Percentage
Bachelor	21	39.62%
Master	12	22.64%
Secondary	10	18.87%
Tertiary college	8	15.09%
Diploma	2	3.77%
Grand Total	**53**	**100.00%**

Source: Researcher, 2024

Table 4.14 shows that out of 53 respondents, 21 (40%) had achieved a Bachelor's degree level of education, 12 (23%) had attained a Master's degree, 80 (18.87%) were secondary school level, 8 (15%) had tertiary college education and 2 (4%) were diploma holders. This implies that, the respondents were knowledgeable and understood the questions presented hence these findings are good to make a conclusion.

Table 4.15: ***Respondents training on Data collection***

Have you received formal training on using mobile technology for data collection?	Frequency	percentage
No	16	30.19%
Yes	37	69.81%

Source: Researcher, 2024

The above table 4.15 looks at whether respondents have received formal training on usage of mobile technology for data collection within World Vision Kenya reveals a predominantly positive response. Out of the total respondents, 69.81% (37 individuals) reported having received formal training, while 30.19% (16 individuals) indicated they had not received such training. This high percentage of trained personnel suggests a strong emphasis on capacity building and preparedness for utilizing mobile technology in data collection, which is likely to contribute positively to the efficiency and accuracy of the data collection processes. However, the 30.19% who have not received formal training highlight an area for potential improvement, ensuring that all staff involved in data collection are adequately trained to optimize the use of mobile technology.

Table 4.16: ***Respondents rating of training effectiveness***

If yes, please rate the effectiveness of the training in preparing you for data collection activities using mobile technology.	**Frequency**	**Percentage**
Very Effective	31	83.78%
Somewhat effective	4	10.81%
Neither effective nor ineffective	1	2.70%
Somewhat ineffective	1	2.70%

Source: Researcher, 2024

The effectiveness of formal training on using mobile technology for data collection within World Vision Kenya is overwhelmingly positive as shown in table 4.16. Among those who received training, 83.78% (31 respondents) rated the trainings as very effective, indicating that the training significantly prepared them for data collection activities. An additional 10.81% (4 respondents) found the training somewhat effective, suggesting a generally positive impact with some room for improvement. Only 2.70% (1 respondent) rated the training as neither effective nor ineffective, and another 2.70% (1 respondent) found it somewhat ineffective. These results demonstrate that the majority of trained staff

feel well-prepared by the training programs, which likely enhances the overall quality and efficiency of mobile data collection within the organization.

Table 4.17: ***Frequency of training***

How frequently are training sessions conducted to update skills and knowledge on mobile data collection methods?	Percentage
Occasionally (e.g., Annually)	43.24%
Regularly (e.g., Quarterly)	35.14%
Rarely	21.62%

Source: Researcher, 2024

The frequency of training sessions to update skills and knowledge on mobile data collection methods within World Vision Kenya varies as shown in table 4.17. A significant portion of respondents, 43.24%, reported that training sessions are conducted occasionally, such as annually. Regular training sessions, such as quarterly updates, are attended by 35.14% of respondents, indicating a consistent effort to maintain and enhance data collection skills. However, 21.62% of respondents indicated that training is conducted rarely. This distribution suggests that while a majority of staff receive periodic training to stay updated, there is a notable proportion that may benefit from more frequent training opportunities to ensure consistent proficiency and effectiveness in mobile data collection methods.

Table 4.18: ***The influence of training on data quality (Accuracy)***

Have you received formal training on using mobile technology for data collection?	Accuracy			
	Poor	**Fair**	**Good**	**Excellent**
No	0.00%	6.25%	62.50%	31.25%
Yes	40.54%	13.51%	29.73%	16.22%
Grand Total	**28.30%**	**11.32%**	**39.62%**	**20.75%**

Source: Researcher, 2024

The analysis of the impact of formal training on the accuracy of data collection using mobile technology within World Vision Kenya reveals notable differences between those who received training and those who did not. Among respondents who have not received formal training, none rated the accuracy as poor, with 6.25% rating it as fair, 62.50% as good, and 31.25% as excellent. This indicates that even without formal training, a majority of respondents perceive the accuracy of their data collection as good or excellent.

In contrast, respondents who received formal training showed a more varied distribution: 40.54% rated the accuracy as poor, 13.51% as fair, 29.73% as good, and 16.22% as excellent. This suggests that while training provides a structured approach to data collection, there may be challenges or higher expectations among trained respondents, leading to a more critical assessment of data accuracy.

Overall, the grand total combining both groups shows that 28.30% of respondents rate accuracy as poor, 11.32% as fair, 39.62% as good, and 20.75% as excellent. These findings highlight the need for ongoing training and support to ensure high accuracy in data collection.

Table 4.19: ***The influence of training on data quality (Completeness)***

Have you received formal training on using mobile technology for data collection?	**Completeness**			
	1	**2**	**3**	**4**
No	0.00%	6.25%	62.50%	31.25%
Yes	43.24%	10.81%	32.43%	13.51%
Grand Total	**30.19%**	**9.43%**	**41.51%**	**18.87%**

Source: Researcher, 2024

The analysis of the impact of formal training on the completeness of data collection using mobile technology within World Vision Kenya shown in table 4.20 reveals a stark contrast between those who have received training and those who have not. Among respondents who have not received formal training, 62.50% rate the completeness of data

as good (3), and 31.25% as excellent (4), with no respondents rating it as poor (1). This suggests that a majority of untrained respondents still feel confident about the completeness of their data.

Conversely, respondents who have received formal training show a more critical perspective. In this group, 43.24% rate completeness as poor (1), 10.81% as fair (2), 32.43% as good (3), and 13.51% as excellent (4). This distribution indicates a higher level of scrutiny and possibly higher standards or expectations among trained individuals, resulting in a broader range of ratings and more critical assessments.

When combining both groups, the overall results show that 30.19% of respondents rate completeness as poor, 9.43% as fair, 41.51% as good, and 18.87% as excellent.

Table 4.20: ***The influence of training on data quality (Consistency)***

Have you received formal training on using mobile technology for data collection?	**Consistency**			
	1	**2**	**3**	**4**
No	0.00%	18.75%	56.25%	25.00%
Yes	40.54%	13.51%	27.03%	18.92%
Grand Total	**28.30%**	**15.09%**	**35.85%**	**20.75%**

Source: Researcher, 2024

The analysis of the impact of formal training on the consistency of data collection using mobile technology within World Vision Kenya shows distinct differences between those who have received training and those who have not. Among respondents who have not received formal training, 56.25% rate the consistency of their data as good (3), 25.00% as excellent (4), and 18.75% as fair (2), with none rating it as poor (1). This suggests that untrained respondents generally perceive their data consistency positively.

In contrast, respondents who have received formal training exhibit a broader range of ratings: 40.54% rate consistency as poor (1), 13.51% as fair (2), 27.03% as good (3), and

18.92% as excellent (4). This variation indicates that trained individuals might have higher expectations or encounter more challenges, leading to more critical evaluations of data consistency.

Overall, combining the responses from both groups, 28.30% of respondents rate consistency as poor, 15.09% as fair, 35.85% as good, and 20.75% as excellent. These results highlight the necessity for continuous training and support to enhance data consistency, especially for trained staff who might face higher scrutiny and expectations in their data collection practices.

Table 4.21: ***The influence of training on data quality (Timeliness)***

Have you received formal training on using mobile technology for data collection?	**Timeliness**			
	1	**2**	**3**	**4**
No	0.00%	6.25%	50.00%	43.75%
Yes	40.54%	10.81%	27.03%	21.62%
Grand Total	**28.30%**	**9.43%**	**33.96%**	**28.30%**

Source: Researcher, 2024

The analysis of the impact of formal training on the timeliness of data collection using mobile technology within World Vision Kenya reveals contrasting perceptions between those who have received training and those who have not. Among respondents who have not received formal training, 50.00% rate the timeliness of their data collection as good (3) and 43.75% as excellent (4), with only 6.25% rating it as fair (2). None rated it as poor (1), indicating a generally positive perception of timeliness among untrained respondents.

Conversely, respondents who have received formal training display a wider distribution in their ratings: 40.54% rate timeliness as poor (1), 10.81% as fair (2), 27.03% as good (3), and 21.62% as excellent (4). This suggests that trained individuals may have

higher standards or encounter more stringent expectations, leading to a more critical assessment of timeliness.

Overall, when combining both groups, 28.30% of respondents rate timeliness as poor, 9.43% as fair, 33.96% as good, and 28.30% as excellent. These findings indicate the need for ongoing training and support to improve timeliness in data collection, particularly for trained staff who seem to face greater challenges or have higher expectations regarding timely data collection.

Table 4.22: ***The influence of training on data quality (Reliability)***

Have you received formal training on using mobile technology for data collection?	**Reliability**			
	1	**2**	**3**	**4**
No	0.00%	6.25%	56.25%	37.50%
Yes	40.54%	10.81%	27.03%	21.62%
Grand Total	**28.30%**	**9.43%**	**35.85%**	**26.42%**

Source: Researcher, 2024

The analysis of the impact of formal training on the reliability of data collection using mobile technology within World Vision Kenya shows distinct differences between those who have received training and those who have not. Among respondents who have not received formal training, 56.25% rate the reliability of their data collection as good (3), and 37.50% as excellent (4), with only 6.25% rating it as fair (2). None rated it as poor (1), suggesting a high level of confidence in data reliability among untrained respondents.

In contrast, respondents who have received formal training show a broader range of ratings: 40.54% rate reliability as poor (1), 10.81% as fair (2), 27.03% as good (3), and 21.62% as excellent (4). This distribution indicates that trained individuals might have higher expectations or encounter more challenges, leading to a more critical evaluation of data reliability.

Overall, combining the responses from both groups, 28.30% of respondents rate reliability as poor, 9.43% as fair, 35.85% as good, and 26.42% as excellent. These results underscore the importance of continuous training and support to enhance data reliability, especially for trained staff who might face higher scrutiny and expectations in their data collection practices.

Table 4.23: ***The influence of Staff Education level data Accuracy***

	Data quality Rating - Accuracy			
Highest level of education?	**Poor**	**Fair**	**Good**	**Excellent**
Bachelor	9.52%	19.05%	47.62%	23.81%
Diploma	100.00%	0.00%	0.00%	0.00%
Master	8.33%	8.33%	58.33%	25.00%
Secondary	80.00%	0.00%	10.00%	10.00%
Tertiary college	25.00%	12.50%	37.50%	25.00%
Grand Total	**28.30%**	**11.32%**	**39.62%**	**20.75%**

Source: Researcher, 2024

Table 4.23 shows that all respondents with a Diploma rated their accuracy as Poor. This could indicate a lack of confidence or a critical self-assessment among this group. Those with only Secondary education predominantly rated themselves as Poor (80%) in accuracy, with very few considering their accuracy as Good (10%) or Excellent (10%). Respondents with Bachelor's and Master's degrees showed a more balanced distribution across all accuracy levels, with the majority rating themselves as Good. These results suggest that higher education levels are associated with higher data quality. Therefore, educational qualifications play a crucial role in ensuring accurate data within the organization.

Table 4.24: ***The influence of staff education on Data Quality-Completeness***

Highest level of education?	**Data Quality Rating (Completeness)**			
	Poor	**Fair**	**Good**	**Excellent**
Bachelor	14.29%	9.52%	52.38%	23.81%
Diploma	100.00%	0.00%	0.00%	0.00%
Master	8.33%	16.67%	50.00%	25.00%
Secondary	80.00%	0.00%	20.00%	0.00%
Tertiary college	25.00%	12.50%	37.50%	25.00%
Grand Total	**30.19%**	**9.43%**	**41.51%**	**18.87%**

Source: Researcher, 2024

Table 4.24 shows that staff with higher education levels, such as Bachelor's and Master's degrees, tend to rate data of good and excellent completeness. This is evident from the high percentages of "Good" and "Excellent" completeness among these groups. Staff with lower education levels, such as Diplomas and Secondary education, predominantly produce data of poor completeness. This is particularly stark for Diploma holders, where 100% produce data of poor completeness. Staff with tertiary college education show a balanced distribution, with notable portions producing "Good" and "Excellent" completeness data, but also a significant portion producing "Poor" and "Fair" completeness data.

Table 4.25: Influence of Education level on Data quality - Consistency

Highest level of education	**Data quality rating (Consistency)**			
	Poor	**Fair**	**Good**	**Excellent**
Bachelor	9.52%	19.05%	47.62%	23.81%
Diploma	100.00%	0.00%	0.00%	0.00%
Master	8.33%	8.33%	58.33%	25.00%
Secondary	80.00%	0.00%	10.00%	10.00%
Tertiary college	25.00%	37.50%	12.50%	25.00%
Grand Total	**28.30%**	**15.09%**	**35.85%**	**20.75%**

Table 4.25 above reveals that the majority of staff with a Bachelor's degree produce/rate data of good (47.62%) and excellent (23.81%) consistency. A smaller percentage produce data of poor (9.52%) and fair (19.05%) consistency. All staff with a diploma (100%) produce data of poor consistency. A significant portion of staff with a Master's degree produce data of good (58.33%) and excellent (25.00%) consistency. A very high percentage of staff with only secondary education had data of poor consistency (80%). A notable portion of staff with tertiary college education produce data of good (12.50%) and excellent (25.00%) consistency. A smaller portion produce data of poor (25.00%) and fair (37.50%) consistency.

In general, similar pattern is observed in the analysis of staff educational level on data timeliness and reliability indicative that higher education levels are associated with higher data quality.

4.6 The influence of organizational policies on mobile technology implementation on data quality within World Vision Kenya.

Finally, the study also looked at investigating the influence that organizational policies on Data collection have on the quality of data collected within World Vision Kenya. To analyze data on this aspect of the study, the researcher used descriptive Statistics; Summarizing responses related to organizational policies and guidelines (e.g., presence of clear policies, level of support provided by these policies). As well as Cross-tabulated the presence of clear organizational policies and the level of support with the rated quality of data. Tables 4.26 to table 4.32 highlights this analysis.

Table 4.26: ***The presence of organizational policies on Mobile data collection***

Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?	Frequency	Percentage
Don't Know	12	22.64%
No	6	11.32%
Yes	35	66.04%

Source: Researcher, 2024

The analysis regarding the presence of clear organizational policies and guidelines for data collection using mobile technology within World Vision Kenya reveals that a majority of respondents, 66.04% (35 individuals), affirm the existence of such policies. However, 22.64% (12 individuals) are unaware of these policies, indicating a gap in communication or awareness. Additionally, 11.32% (6 individuals) believe there are no clear policies in place. These findings suggest that while a significant portion of the staff recognizes the existence of organizational guidelines, there is still a need to improve awareness and dissemination of these policies to ensure all staff are informed and aligned with the established procedures.

Table 4.27: ***The presence of organizational policies on Mobile data collection***

How well do these policies support the quality of data collected through mobile technology?	Frequency	Percentage
Moderately support	5	14.29%
Strongly support	30	85.71%

Source: Researcher, 2024

The analysis of how well the organizational policies support the quality of data collected through mobile technology within World Vision Kenya shows strong positive feedback. A significant majority, 85.71% (30 individuals), believe that these policies strongly support data quality. Meanwhile, 14.29% (5 individuals) feel that the policies moderately support data quality. These results indicate that the existing policies are largely

effective in enhancing the quality of data collection, though there may be some room for improvement to achieve universal strong support.

Table 4.28: ***The influence organizational policies on Data quality (Accuracy)***

Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?	**Accuracy of Data collected**			
	Poor	**Fair**	**Good**	**Excellent**
Don't Know	16.67%	16.67%	41.67%	25.00%
No	16.67%	0.00%	66.67%	16.67%
Yes	34.29%	11.43%	34.29%	20.00%
Grand Total	**28.30%**	**11.32%**	**39.62%**	**20.75%**

Source: Researcher, 2024

The analysis of the accuracy of data collected using mobile technology, in relation to the awareness of clear organizational policies and guidelines, provides insightful distinctions among respondents. Among those who are unaware of the policies ("Don't Know"), 41.67% rate the data accuracy as good, 25.00% as excellent, 16.67% as fair, and another 16.67% as poor. This suggests a mixed perception of data accuracy among those not informed about the policies.

For respondents who believe there are no clear policies in place, 66.67% rate data accuracy as good, 16.67% as excellent, and another 16.67% as poor, with none rating it as fair. This group generally perceives the accuracy of data positively despite the perceived lack of policies.

On the other hand, respondents who acknowledge the presence of clear policies show a more critical perspective: 34.29% rate accuracy as poor, 11.43% as fair, 34.29% as good, and 20.00% as excellent. This distribution suggests that even with clear policies, there might be challenges or higher standards affecting the perception of data accuracy.

Overall, combining all responses, 28.30% rate data accuracy as poor, 11.32% as fair, 39.62% as good, and 20.75% as excellent. These findings highlight the importance of

not only having clear policies in place but also ensuring that all staff are aware of and understand these policies to consistently achieve high data accuracy.

Table 4.29: The influence organizational policies on Data quality (Completeness)

Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?	Completeness			
	1	2	3	4
Don't Know	25.00%	8.33%	41.67%	25.00%
No	16.67%	16.67%	50.00%	16.67%
Yes	34.29%	8.57%	40.00%	17.14%
Grand Total	**30.19%**	**9.43%**	**41.51%**	**18.87%**

Source: Researcher, 2024

The analysis of the completeness of data collected using mobile technology, in relation to the awareness of clear organizational policies and guidelines, presents varied perspectives. Among respondents who are unaware of the policies ("Don't Know"), 41.67% rate the completeness of their data as good (3), 25.00% as excellent (4), another 25.00% as poor (1), and 8.33% as fair (2). This indicates mixed perceptions regarding data completeness among those not informed about the policies.

For respondents who believe there are no clear policies in place, 50.00% rate data completeness as good (3), 16.67% as excellent (4), 16.67% as poor (1), and another 16.67% as fair (2). This group generally perceives the completeness of data positively, though a small portion feels there are significant gaps.

Respondents who acknowledge the presence of clear policies show a broader distribution: 34.29% rate completeness as poor (1), 8.57% as fair (2), 40.00% as good (3), and 17.14% as excellent (4). This suggests that even with clear policies, some respondents experience challenges in achieving data completeness.

Overall, 30.19% rate data completeness as poor (1), 9.43% as fair (2), 41.51% as good (3), and 18.87% as excellent (4). These findings highlight the importance of not only

having clear policies in place but also ensuring effective communication and implementation of these policies to enhance the completeness of data collected across all respondents.

Table 4.30: ***The influence organizational policies on Data quality (Consistency)***

Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?	**Consistency**			
	1	**2**	**3**	**4**
Don't Know	16.67%	16.67%	50.00%	16.67%
No	16.67%	33.33%	33.33%	16.67%
Yes	34.29%	11.43%	31.43%	22.86%
Grand Total	**28.30%**	**15.09%**	**35.85%**	**20.75%**

Source: Researcher, 2024

The analysis of the consistency of data collected using mobile technology, in relation to the awareness of clear organizational policies and guidelines, reveals differing perceptions among respondents. Among those who are unaware of the policies ("Don't Know"), 50.00% rate the consistency of their data as good (3), 16.67% as excellent (4), 16.67% as fair (2), and another 16.67% as poor (1). This suggests a varied perception of data consistency among those not informed about the policies.

For respondents who believe there are no clear policies in place, 33.33% rate data consistency as fair (2), another 33.33% as good (3), and both 16.67% as excellent (4) and poor (1). This group exhibits a broader range of perceptions, indicating some level of inconsistency in their data quality experiences.

In contrast, respondents who acknowledge the presence of clear policies show a slightly different distribution: 34.29% rate consistency as poor (1), 11.43% as fair (2), 31.43% as good (3), and 22.86% as excellent (4). This indicates that even with clear policies, there are challenges in maintaining consistent data quality, though the presence of

policies seems to support higher consistency ratings compared to those unaware of the policies.

Overall, combining all responses, 28.30% rate data consistency as poor (1), 15.09% as fair (2), 35.85% as good (3), and 20.75% as excellent (4). These results underscore the importance of clear organizational policies and guidelines to improve and maintain the consistency of data collected, while also highlighting the need for better communication and understanding of these policies among all staff members.

Table 4.31: ***The influence organizational policies on Data quality (Timeliness)***

Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?	**Timeliness**			
	1	**2**	**3**	**4**
Don't Know	16.67%	0.00%	41.67%	41.67%
No	16.67%	16.67%	50.00%	16.67%
Yes	34.29%	11.43%	28.57%	25.71%
Grand Total	**28.30%**	**9.43%**	**33.96%**	**28.30%**

Source: Researcher, 2024

The analysis of the timeliness of data collected using mobile technology, in relation to the awareness of clear organizational policies and guidelines, reveals significant differences in perception among respondents. Among those who are unaware of the policies ("Don't Know"), 41.67% rate the timeliness of their data as excellent (4), another 41.67% as good (3), and 16.67% as poor (1), with no ratings for fair (2). This suggests a generally positive perception of data timeliness among those not informed about the policies.

For respondents who believe there are no clear policies in place, 50.00% rate timeliness as good (3), 16.67% as excellent (4), 16.67% as fair (2), and another 16.67% as poor (1). This group exhibits a positive outlook on timeliness but with some indication of gaps or delays.

In contrast, respondents who acknowledge the presence of clear policies show a broader distribution: 34.29% rate timeliness as poor (1), 11.43% as fair (2), 28.57% as good (3), and 25.71% as excellent (4). This indicates that even with clear policies, there are significant challenges in achieving timely data collection, though the presence of policies seems to support a higher proportion of excellent ratings compared to those unaware of the policies.

Overall, combining all responses, 28.30% rate data timeliness as poor (1), 9.43% as fair (2), 33.96% as good (3), and 28.30% as excellent (4). These results highlight the critical role of clear organizational policies and guidelines in improving the timeliness of data collected, while also emphasizing the need for better communication and implementation of these policies to ensure timely data collection across all staff members.

Table 4.32: ***The influence organizational policies on Data quality (Reliability)***

Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?	**Reliability**			
	1	**2**	**3**	**4**
Don't Know	16.67%	8.33%	58.33%	16.67%
No	16.67%	16.67%	50.00%	16.67%
Yes	34.29%	8.57%	25.71%	31.43%
Grand Total	**28.30%**	**9.43%**	**35.85%**	**26.42%**

Source: Researcher, 2024

The analysis of the reliability of data collected using mobile technology, in relation to the awareness of clear organizational policies and guidelines, reveals distinct perceptions among respondents. Among those who are unaware of the policies ("Don't Know"), 58.33% rate the reliability of their data as good (3), 16.67% as excellent (4), 16.67% as poor (1), and 8.33% as fair (2). This indicates a generally positive perception of data reliability, though some respondents still perceive issues.

For respondents who believe there are no clear policies in place, 50.00% rate reliability as good (3), 16.67% as excellent (4), another 16.67% as poor (1), and 16.67% as fair (2). This group shows a generally positive view of data reliability, similar to those unaware of the policies, but with a notable proportion indicating some challenges.

In contrast, respondents who acknowledge the presence of clear policies show a broader range of responses: 34.29% rate reliability as poor (1), 8.57% as fair (2), 25.71% as good (3), and 31.43% as excellent (4). This suggests that while clear policies might contribute to higher ratings of data reliability, they also highlight areas where improvements are necessary.

Overall, combining all responses, 28.30% rate data reliability as poor (1), 9.43% as fair (2), 35.85% as good (3), and 26.42% as excellent (4). These results underscore the importance of clear organizational policies and guidelines in enhancing the reliability of data collected, while also emphasizing the need for continuous improvement and better implementation of these policies to ensure consistently high data reliability across all respondents.

Based on the analysis of various aspects of data quality—accuracy, completeness, consistency, timeliness, and reliability—in relation to the awareness of clear organizational policies and guidelines on data collection using mobile technology, it is evident that clear policies have a positive impact on data quality. Respondents who are aware of these policies generally report higher data quality across all metrics. This indicates that standardized practices and clear guidelines help ensure more accurate, complete, consistent, timely, and reliable data collection.

However, there are mixed perceptions among those who are not aware of the policies. While some report positive experiences, there is a significant portion that rates data quality as "poor" or "fair," suggesting variability in practices and a lack of standardized

procedures. This underscores the importance of effectively communicating these policies to all staff members to ensure uniformity in data collection practices.

The presence of clear organizational policies is particularly effective in ensuring data consistency, timeliness, and reliability. Respondents who acknowledge these policies report better performance in these areas, with higher percentages indicating "good" or "excellent" ratings. Nonetheless, the existence of "poor" and "fair" ratings among this group suggests that further refinement and consistent implementation of these policies are needed to fully realize their benefits.

4.7 Suggested ways for organizational policy improvement towards mobile data collection.

To enhance the effectiveness of organizational policies related to mobile data collection, several key improvements and additional support measures were suggested. A significant number of respondents emphasized the need for ongoing capacity building and training. They suggested regular training sessions, on-the-job training, refresher courses, and awareness creation to enhance staff proficiency in using mobile data collection tools. Additionally, the need for clear, regularly updated organizational policies and procedures was evident. Emphasizing these policies, socializing them among staff, and regularly reviewing and updating them were seen as crucial for maintaining data quality and consistency.

There is a strong demand for the provision of additional data collection tools, such as tablets, smartphones, and power banks. Respondents highlighted the challenges of using personal devices and suggested that organizational devices would better protect data and improve efficiency. Ensuring the security of data collected was a recurring theme, with suggestions including implementing clear data protection laws, having prompts before accessing or sharing data, and enhancing overall security measures for the data collected.

Respondents recommended integrating mobile data collection systems with existing information management systems to allow for seamless data flow and analysis. A centralized system for data collection tools was also suggested to avoid duplication and streamline processes. Practical support, such as providing data bundles and simplifying the acquisition of necessary permits (e.g., NACOSTI), was highlighted as important for facilitating efficient data collection. Addressing these areas could significantly improve the efficiency and quality of mobile data collection processes within World Vision Kenya.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

5.1. Introduction

Chapter 5 presents the aspects of discussions, conclusions, and recommendations of this study. The following research objectives are what guided the study. 1) To examine how using different mobile technologies and applications influences data quality within World Vision Kenya. 2). To establish the influence between how staff capacity and training and the quality of data collection within World Vision Kenya. 3) To establish how organizational support for mobile technology use influences data quality within World Vision Kenya.

5.2. Discussion

This study's purpose was to comprehensively investigate and understand what and how the utilization of mobile technology for data collection influences the quality of data collected in the context of NGOs and more specifically in the context of World Vision Kenya.

5.2.1. The influence of using various types of mobile technologies on the quality of data collected within World Vision Kenya.

As per this objective, the research within World Vision Kenya revealed significant insights into how different mobile technologies use influence data quality. This discussion delves into several critical dimensions of data quality, including accuracy, completeness, consistency, timeliness, reliability as well as efficiency, and ease of use of these technologies. By understanding these aspects, World Vision Kenya can optimize its data

collection processes and improve the overall effectiveness of its programs. Marylyn Ochieng (2022) states that " Evaluation of data quality (DQA) processes are critical components of program implementation since they help identify weaknesses hence informing the type of correctional intervention needed to produce quality data, reports, and evidence for strengthening program implementation, future programming, policy recommendation and further research where needed."

Data accuracy is crucial for ensuring that the information collected reflects the true values and conditions of the subjects studied. Scholars like Wang et al. (2018) have emphasized the importance of accuracy in data collected through mobile technology, highlighting its role in ensuring that resources are directed where they are most needed. From the study, the DreamSave App and ODK are highly rated for their accuracy. This suggests that these platforms provide accurate data that users can trust. However, KoboCollect, despite being the most used application, has mixed reviews but largely positive. Though KoboCollect is widely accessible and user-friendly, there are significant concerns regarding the precision of the data it collects. The polarized views on LMMS and the negative feedback on ONA highlight critical challenges that these platforms face in ensuring data accuracy.

Completeness of data is another essential dimension, as it ensures all necessary information is captured during the data collection process. The DreamSave App and ODK are again positively received. This high level of satisfaction suggests that these apps are effective in capturing comprehensive data sets. Conversely, KoboCollect has mixed results, with two thirds rating data completeness as good or excellent but about a third finding it poor. The significant dissatisfaction with LMMS and ONA indicates that these platforms may miss crucial data points, which can hinder comprehensive analysis and decision-making. Lauer and Beck (2019), stress the significance of complete data in humanitarian

contexts, particularly when utilizing mobile technology for data collection as an important consideration in data quality.

Data consistency ensures that data is collected uniformly across different respondents and over time. Consistency is critical for comparative analysis and maintaining data integrity. Li et al. (2020) highlights the importance of consistent data for effective analysis and decision-making in the humanitarian sector. Within World Vision Kenya, the DreamSave App and ODK are well-regarded for their data consistency. However, KoboCollect still shows mixed but better reviews, but generally positive feedback. This suggests that while KoboCollect is generally reliable, there may be variations in how data is collected or recorded. LMMS and ONA again receive predominantly negative feedback, pointing to significant inconsistencies in the data collected through these platforms.

Timeliness of data collection is essential for ensuring that information is current and relevant, allowing for timely decision-making and interventions. Rajabion et al. (2017) underscores the role of timely data in humanitarian settings, emphasizing how mobile technology can facilitate real-time data collection to enhance responsiveness. According to this study, ODK excels in this area, with over three quarters of users rating its timeliness as good or excellent. DreamSave App and KoboCollect also perform well. However, about a third of KoboCollect users rate its timeliness as poor, indicating that delays in data collection or processing are a concern. LMMS and ONA receive polarized or predominantly negative ratings, suggesting that these platforms may not be meeting users' expectations for timely data collection. One of the respondents from the DMEAL team commented that "*The use of mobile technologies has reduced time and cost used for data entry and also made data available real time which makes it easier to track performance on activities and participants reached*."

Cheng et al. (2016) stress the significance of reliable data. Reliability of data is fundamental for ensuring that the information collected can be depended upon for making decisions. The DreamSave App and ODK are highly rated for reliability. KoboCollect, despite its widespread use, shows mixed results, though over two thirds rated its reliability as good or excellent. This indicates that while many users find KoboCollect reliable, a significant portion do not. The negative feedback on LMMS and ONA underscores the need for improvements in these platforms to enhance user confidence in the reliability of the data collected.

The impact of mobile technology on the efficiency of data collection processes is overwhelmingly positive within World Vision Kenya. All users of LMMS and ODK report significant improvements in efficiency, highlighting the effectiveness of these platforms in streamlining data collection. The DreamSave App also performs exceptionally well, with more than three quarters of users reporting significant improvements and less than a quarter noting moderate improvements. KoboCollect, while generally positive, has a small percentage of users reporting worsened efficiency, indicating some variability in user experience. Overall, these findings suggest that mobile technologies have significantly enhanced the efficiency of data collection processes within World Vision Kenya, reducing the time and resources required for these activities. Patrick Loola (2019) in his paper looking at the use of ODK in the humanitarian space for data collection, concluded that "Mobile data collection using Open Data Kit (ODK) has become popular due to the increasing availability and affordability of mobile devices. And that the use of ODK allows for efficient and reliable data collection, enabling organizations to gather information in a timely manner." From the study, one DMEAL staff said "*Realtime remote data collection and submission has significantly reduced time and cost of data collection and submission. This has also led to timely data analysis for real time programmatic decision making."*

The findings on the ease of use of mobile technologies affirms *The Technological Acceptance Model Theory* (TAM) stated above. TAM posits that perceived ease of use (PEOU) and perceived usefulness (PU) significantly influence an individual's intention to use technology, ultimately impacting its actual usage. Mobile apps ease of use is a critical factor that influences the adoption and effectiveness of mobile data collection technologies. The overall positive feedback from the study across all platforms indicates that the technologies are user-friendly and that user-friendly design is a strong determinant of successful technology implementation. The study reveals that LMMS stands out as exceptionally easy to use, with all users all its users reporting it as very easy to use. This high rating suggests that LMMS has an intuitive interface that minimizes complexity during data collection tasks. ODK and DreamSave App are also highly regarded, as was KoboCollect which was a key factor in the adoption of these mobile technologies for data collection.

5.2.2. The influence of staff capacity and training on the quality of data collected within World Vision Kenya.

This objective investigated how the level of staff capacity and training influences the quality of data collection within World Vision Kenya also. The study analysed various aspects of staff education levels, formal training received, frequency of training sessions, and their impacts on data quality dimensions such as accuracy, completeness, consistency, timeliness, and reliability. The findings revealed that World Vision Kenya staff possess varied educational backgrounds, with the majority holding higher education degrees. This diverse educational makeup implies that the staff is generally knowledgeable and capable of understanding the requirements and methodologies of data collection. The high level of education among the staff is a positive indicator, as it suggests a solid foundational capacity for effectively engaging in data collection activities. A significant portion of the staff had

also received formal training on mobile data collection. The high percentage underscores World Vision Kenya's commitment to capacity building and equipping its staff with the necessary skills for efficient data collection using mobile technology. Furthermore, the positive reception of the training programs is evident, with over two thirds of trained staff rating the trainings as very effective. These findings suggest that the training programs are generally successful in preparing staff for data collection tasks. One respondent said that "*Pre-survey training is very effective and has made data collection much more efficient, faster and reduced data entry mistakes*."

The frequency of training sessions was also highlighted that there is always a need for more consistent and frequent training sessions to ensure that staff continuously update their skills and knowledge. Regular training is crucial for maintaining high standards of data collection, especially with the evolving nature of mobile data collection technologies.

The impact of formal training on data accuracy showed contrasting perceptions. Among those who had not received formal training, a majority rated data accuracy as good or excellent. Conversely, trained respondents exhibited a more critical view, with lesser numbers rating accuracy as poor and even fewer giving a score of excellent. This suggests that trained staff might have higher standards or encounter more rigorous expectations, leading to a more stringent assessment of the data that is collected. Overall, majority rate data accuracy as good, or as excellent, indicating that while there is room for improvement, the general perception of data accuracy is positive. Oyedeji (2013) in his study "Does Pre-Survey Training Impact Knowledge of Survey Administrators and Survey Outcomes in Developing Countries". Conclude that comparison between the pre-test and post-test scores at the 5-day training showed a significant gain in knowledge of participants. And that the survey training contributed positively to the preparation and building of knowledge needed for the conduct of the 2012 NARHS-plus.

Regarding data completeness, untrained respondents were notably confident, with more that two thirds of them rating completeness as good and a third as excellent. Trained respondents were more critical, with fewer of them rating data completeness as poor and or as excellent. This trend of more critical assessments among trained staff suggests that training raises awareness and standards, which might lead to a more meticulous evaluation of data quality. Combining both groups, seven in ten rated completeness as good, or as excellent, indicating a generally positive but cautious outlook on data completeness.

Data consistency also showed a similar pattern. Untrained respondents had a positive perception, with more than three quarters of them rating consistency as good and as excellent. Trained respondents were again more critical, with fewer number rating consistency as poor and or (though more than two thirds) as good. This variation highlights the importance of continuous training and support to maintain high consistency levels, as trained staff might offer higher scrutiny in their data collection practices. "*With effective and regular training, enumerator and their supervisors and in a position to assess data quality at the field level even before data is submitted in the cloud servers*," said one staff member.

Timeliness of data collection saw a positive perception among untrained respondents, with nine in every ten of them rating it as good or as excellent. Trained respondents showed a broader range of ratings. Suggesting that trained staff might be having higher expectations regarding timely data submission, leading to more critical evaluations. Overall, more than two thirds of the respondents rated timeliness as good, or as excellent, indicating that while there are challenges, the timeliness of data collection is generally viewed positively. The perception of data reliability also followed the established trend, with untrained respondents rating reliability positively while trained respondents were more critical, with their rating of reliability of data. This indicates that while training

enhances awareness and possibly introduces higher standards, it also brings to light the challenges faced in ensuring data reliability and the overall data quality.

5.2.3. The influence of organizational policy support on the quality of data collected within World Vision Kenya.

World Bank through its data protection and privacy laws (2016) note that it is critically important for humanitarian organizations to have in place policies that address data management issues, ranging from, Data privacy and security, data breaches and transfer, technology adoption and acceptance, data quality and reliability, capacity building and training, Data integration and monitoring and evaluation of data systems.

The findings on how organizational policies influence the quality of data collection within World Vision Kenya reveals that clear organizational policies and guidelines have a notable impact on various dimensions of data quality, including accuracy, completeness, consistency, timeliness, and reliability. The study also looked at the staff awareness of these policies.

As per this objective, the majority of respondents affirm the existence of clear organizational policies for data collection using mobile technology. However, a significant proportion of just less than a quarter were unaware of these policies, and one in ten believe there were no clear policies in place. This gap in awareness suggests a need for better communication and dissemination of policies to ensure all staff members are informed and aligned with the established procedures. Effective communication of these policies is thus crucial for uniform data collection practices across the organization. One respondent staff posits that "*Enumerators and staff involved need to be socialized with data protection policies on a regular basis, and that some key provisions of such policies should be integrated within the electronic data collection tools such consent form*." The UN report

(2016) on “Mobile Technology for Humanitarian Action” identifies that organizational support for mobile data collection efforts within humanitarian contexts necessitates a comprehensive approach that prioritizes data protection and privacy. This support entails developing and implementing clear policies and guidelines that align with international standards, emphasizing principles such as purpose limitation, proportionality, and accountability. As well as prioritize training and capacity-building initiatives to educate staff on data protection principles and best practices for secure data handling on mobile platforms, fostering awareness of potential privacy risks.

As per the findings in this study, a significant majority of respondents believed that the existing organizational policies strongly support the quality of data collected. This positive feedback indicates that the policies in place are largely effective in enhancing data quality. Even though a few respondents felt that the support provided by these policies is only moderate, indicating room for improvement to achieve universal strong policy support.

With regards to organizational policies influencing data accuracy; we see that awareness of organizational policies is associated with higher standards and more critical evaluations of data accuracy. Among those who are unaware of the policies, perceptions of data accuracy are mixed. This suggests that while clear policies might contribute to higher data accuracy, there might be challenges or higher expectations among informed respondents.

Similar patterns are observed in the analysis of data completeness, consistency, timeliness and reliability with regards to policy support. Those unaware of the policies have mixed perceptions. Respondents who believe there are no clear policies also generally perceive data quality positively. However, those acknowledging clear policies exhibit a broader range of responses, indicating challenges even with clear guidelines. Overall, a

third rated data quality as poor, highlighting the importance of effective policy communication and implementation.

5.3. Summary of Main Findings

In general, the study reveals that the use of mobile technology has positive influenced the quality of data collected within World Vision Kenya. These technologies according to the findings have streamlined data collection processes, improved efficiency, and provided more timely and reliable data. However, the variability in user satisfaction across different platforms indicates areas where further improvements are necessary and or potential areas of performance differences between the platforms.

In particular, Platforms like DreamSave App and ODK consistently seem to deliver high-quality data across multiple dimensions, making them valuable tools for the organization. KoboCollect, despite its widespread use, reveals areas for potential enhancement, particularly in accuracy, completeness, and timeliness but generally performed above average. The challenges faced by LMMS and ONA highlight the need to enhance their performance and user satisfaction.

World Vision Kenya staff capacity and training and its influence on data quality shows a diverse educational background with a majority holding higher education degrees, indicating a strong foundational capacity for data collection. A significant number of the staff have received formal training on mobile data collection, reflecting the organization's commitment to capacity building. The frequency of training sessions varies, with a call for more consistent and frequent sessions to keep up with evolving mobile data collection technologies which is indicative of the need for continuous training of staff. The impact of formal training on data quality showed contrasting perceptions between trained and untrained staff. Trained staff tend to be more critical, possibly due to higher standards or expectations. While there is room for improvement, the general perception of data

accuracy, completeness, consistency, timeliness, and reliability is positive. This underscores the need for ongoing training and support to enhance data quality.

The study also revealed that clear organizational policies significantly influence the quality of data collection. A majority affirm the existence of these policies, but a significant proportion are unaware of them, indicating a need for better communication and dissemination of policies. Most respondents believe that the existing policies strongly support data quality. However, fourteen percent felt that the support is only moderate, suggesting room for improvement. Awareness of policies was associated with higher standards and more critical evaluations of data accuracy, completeness, consistency, timeliness, and reliability. Those unaware of the policies generally had a positive perception of these aspects, while those acknowledging clear policies were more critical, indicating that while policies enhance data quality, there might be challenges or higher expectations among informed respondents. Overall, the findings underscore the need for clear policies, better communication, and awareness creation on organizational policies related data collection in order to enhance data quality within the organization.

5.4. Conclusion

In conclusion, the study highlights the significant positive influence of mobile technologies on data quality within World Vision Kenya. Most of the mobile data collection platforms save for ONA consistently receive high marks across various dimensions of data quality, suggesting they are well-suited for the organization’s needs. KoboCollect, despite being the most widely used, shows mixed results, indicating areas for potential improvement.

The overall positive perception of mobile data collection technologies in terms of efficiency and ease of use suggests that these tools are largely effective in streamlining data

collection processes. However, to maximize their potential, there is a need to address the few gaps identified gaps in data accuracy, completeness, consistency, timeliness, and reliability. By focusing on these areas, World Vision Kenya can further enhance the quality of its data collection efforts, leading to more informed decision-making and improved program outcomes. These findings underscore the importance of selecting and optimizing user-friendly tools to maximize the quality and efficiency of data collected for programmatic interventions and decision-making within World Vision Kenya. The overall positive influence of mobile technology underscores its crucial role in modern data management and the ongoing need for technological advancements and user-centric designs to maximize data quality.

Further, the finding on staff capacity highlight the critical role of staff capacity and training in influencing the quality of data collection within World Vision Kenya. While the organization has made significant strides in training its staff and ensuring high educational standards, there are areas for improvement. More frequent and comprehensive training sessions are necessary to cover all staff members and address the evolving challenges and updates in mobile data collection. Continuous support and evaluation are essential to maintain and enhance the quality dimensions of data accuracy, completeness, consistency, timeliness, and reliability. One key finding was that trained respondents exhibited a more critical view/ assessment of data quality compared to the untrained respondents, suggesting that trained staff might have higher standards, better understanding of what data quality entails or put more rigorous expectations, leading to a more stringent assessment of the data that is collected.

The study also underscores the critical role of clear organizational policies in enhancing the quality of data collection within World Vision Kenya. While clear policies positively impact data quality, effective communication, ongoing training, and continuous

policy improvement are essential to fully realize their benefits. Addressing gaps in awareness and implementation can lead to significant improvements in data accuracy, completeness, consistency, timeliness, and reliability, ultimately contributing to better program outcomes and impact.

5.5 Recommendations

Based on the above findings, several recommendations can be made. These recommendations aim to address areas needing improvement and build on existing strengths to ensure high data quality in terms of accuracy, timeliness, consistency, reliability, and completeness.

Regular training sessions should be scheduled regularly for all staff involved in data collection. These sessions will ensure continuous skill enhancement and keep staff updated with the latest tools and methodologies. One respondent said that "*Hands-on workshops where staff can practice using mobile data collection tools in a controlled environment should be conducted, allowing them to troubleshoot and learn in real-time*." Additionally, experts in mobile data collection and data quality management should be invited to lead workshops and provide insights into advanced techniques and emerging trends. Introduce regular refresher courses and advanced training sessions to keep staff updated on new features, best practices, and troubleshooting techniques for the mobile apps they use.

Training programs should be tailored to specific roles, ensuring that field data collectors, data managers, and analysts receive training relevant to their responsibilities. Initial assessments can determine current skill levels, allowing for training programs to address specific gaps and build on existing knowledge. Continuous learning opportunities can be provided through access to e-learning platforms offering courses and certifications in mobile data collection and data management. Regular knowledge-sharing sessions where

staff can share their experiences, challenges, and solutions related to data collection was also mentioned as a possible action point.

Clear communication channels are essential for the effective dissemination of policies. Regular updates should be sent out via email, newsletters, and intranet postings about any changes or reminders related to data collection policies. Concise policy briefs that summarize key policies and guidelines should be developed and distributed to all staff members. Interactive workshops where staff can discuss policies, ask questions, and provide feedback on their implementation should be conducted. A centralized digital repository accessible via the intranet or a mobile app, where all policies and guidelines are stored and easily retrievable, should be created. Visual aids that simplify complex policies and highlight key points should also be developed, making them easier to understand and remember. Important critical policy statements should be incorporated in the electronic questionnaires such as consent form etc.

Additionally, efforts should be made to integrate mobile data collection systems with existing information management systems to facilitate real-time data flow and analysis. Ensuring data collected via mobile tools can be easily integrated with other organizational databases and analytics platforms will improve efficiency. A unified platform for managing all data collection tools and processes should be developed, reducing redundancy and improving coordination. Standardizing data collection procedures across all projects will ensure consistency and comparability of data.

Conduct periodic data quality audits to identify and address discrepancies in data collection processes. Use audit findings to inform targeted training and process improvements. Additionally, create a feedback loop where users can report issues and suggest improvements for mobile data collection tools and or processes. This can help developers address usability issues and enhance the accuracy and reliability of the tools

where practical. The DMEAL teams should always configure mobile data collection applications to include mandatory fields that must be filled before submission. This will help ensure all necessary data is collected. They also provide checklists and automated reminders within mobile apps to prompt data collectors to verify completeness before final submission.

Creating multiple channels for staff to provide feedback on training programs and policy implementation is essential. Feedback channels such as surveys, suggestion boxes, and regular meetings should be established, and responsive action should be taken on the feedback received. Leadership training should be provided to ensure leaders at all levels understand the importance of data quality and support staff in adhering to organizational policies. Leaders should act as role models in following and promoting data collection policies and emphasizing their importance to the organization's mission. Establish communities of practice where staff can share experiences, challenges, and solutions related to mobile data collection is also important. This can foster peer learning and continuous improvement.

5.6 Suggestions for further studies

This study looked at the influence of utilization Mobile technologies for data collection has on Data quality. However, the following further studies could build on the existing findings and explore new dimensions to enhance data collection processes and outcomes. 1) *Longitudinal Study on Data Quality Improvements*: Conduct a longitudinal study to track changes in data quality over time as new technologies and training programs are implemented. *Objective*: To measure the long-term impact of continuous training and technology updates on data accuracy, timeliness, consistency, reliability, and completeness. 2) *Comparative Analysis of Mobile Data Collection Tools*: Perform a comparative analysis

of different mobile data collection tools used within World Vision Kenya and other similar organizations. *Objective*: To identify the strengths and weaknesses of each tool and provide recommendations for the most effective tools based on specific data quality criteria.

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QUESTIONNAIRE

Section 1: Respondent Information

Email Address:

Age:

1. What is your role within World Vision Kenya?
   - Project Manager
   - DMEAL staff
   - Data Collector/Enumerator
   - Project Officer
   - Community mobilizer
   - IT Support Staff
   - Other (Please specify): _____

2. How many years have you been involved in data collection activities within World Vision Kenya?.....

3. What is your level of education?
   - Primary
   - High School Diploma
   - Bachelor's Degree
   - Master's Degree or higher

Section 2: Mobile Technology Utilization

4. Which type(s) of mobile devices are used / do you use for data collection in your World Vision Kenya work?
   - Smartphones
   - Tablets
   - Laptop Computers
   - Other (Please specify): _____

5. Which data collection application(s) or platform(s) are predominantly used?
   - KoboCollect
   - DreamSave App

- ONA
- Last Mile Mobile Solutions® (LMMS)
- Other (Please specify): _____

6. How would you rate the ease of use of the mobile data collection technology implemented?

- Very easy
- Easy
- Neutral
- Difficult
- Very difficult

7. To what extent has the utilization of mobile technology improved the efficiency of data collection processes in World Vision Kenya?

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Section 3: Staff Training and Capacity Building

8. Have you received formal training on using mobile technology for data collection?

- Yes
- No

9. If yes, please rate the effectiveness of the training in preparing you for data collection activities using mobile technology.

- Highly effective
- Moderately effective
- Slightly effective
- Not effective at all

10. How frequently are training sessions conducted to update skills and knowledge on mobile data collection methods?

- Regularly (e.g., quarterly)
- Occasionally (e.g., annually)

- Rarely

Section 4: Organizational Policy Support

11. Are there clear organizational policies and guidelines in place regarding data collection using mobile technology?

- Yes
- No

12. How well do these policies support the quality of data collected through mobile technology?

- Strongly support
- Moderately support
- Slightly support
- Do not support

13. In your opinion, what improvements or additional support would enhance the effectiveness of organizational policies related to mobile data collection?

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Section 5: Overall Assessment of Data Quality

14. How would you rate the overall quality of data collected through mobile technology in World Vision Kenya? [1=poor; 2=Fair; 3= Good; 4= excellent]

	1	**2**	**3**	**4**
Accuracy				
Completeness				
Consistency				
Timeliness				
Reliability				

Accuracy: The precision and correctness of the data collected

Completeness: The extent to which all relevant information is captured, avoiding gaps or missing elements in the data.

Consistency: The uniformity and coherence of data across various sources and periods, minimize discrepancies.

Timeliness: The speed at which data is collected and made available, directly impacting its relevance for decision-making and timely intervention within the organization.

Reliability: The trustworthiness and dependability of the collected data.

15. What are the key challenges faced in ensuring data quality when using mobile technology for data collection?

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16. What recommendations would you suggest to further improve data quality through mobile data collection initiatives?

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University Research Authorization Letter

AFRICA NAZARENE UNIVERSITY

May 9, 2024

E-mail: researchwriting.mba.anu@gmail.com/ monitoringandevaluation@anu.ac.ke
NACOSTI: registry@nacosti.go.ke Tel. 0202711213

Our Ref: **11061677**
The Director,
National Commission for Science,
Technology and Innovation (NACOSTI),
P. O. Box 30623, 00100
Nairobi. Kenya

Dear Sir/Madam:
RE: RESEARCH AUTHORIZATION FOR: MIGOLO BENJAMIN NO. **11061677**

MIGOLO BENJAMIN is a postgraduate student of Africa Nazarene University in the Master ARTS IN MONITORING AND EVALUATION (MME) program.
In order to complete his program, Benjamin is conducting a research entitled: UTILIZATION OF MOBILE TECHNOLOGY FOR DATA COLLECTION AND ENHANCEMENT OF DATA QUALITY AMONG HUMANITARIAN NON-GOVERNMENTAL ORGANIZATIONS: A CASE OF WORLD VISION KENYA

Any assistance offered to him will be highly appreciated.

Yours Faithfully,



Dr. Wanjiru Nderitu

MME, Coordinator,

School of Business,

World Vision Leadership Authorization Email

FW: Don't miss it! Questionnaire: The Impact of mobile Data collection on Data quality in World Vision

Job Wanjala Wafula <Job_Wafula@wvi.org>

Mon 5/27/2024 9:38 AM

To:Paul Titomet <Paul_Titomet@wvi.org>;Pius Akumu <pius_akumu@wvi.org>;Dickson Kobong <dickson_kobong@wvi.org>;Titus P. Kaprom <titus_kaprom@wvi.org>;John Mutisya <John_Mutisya@wvi.org>;Nicole Keya <nicole_keya@wvi.org>
Cc:Migolo Benjamin <migolo_benjamin@wvi.org>

Dear Colleagues'

Below is a request from Benjamin Migolo, who is collecting data for his Master's project. Please support him by completing the questionnaire. Forward it to other M&E officers or coordinators in your region.

Regards

Job Wafula |

DMEAL Manager | World Vision Kenya |

Mobile: +254706 758136**| skype:** job.wafula1 **| email:** job_wafula@wvi.org **|** GMT +3 EAT **|**

[Mailing: **|** Location: Karen Nairobi, Kenya]**|** **wvi.org**

