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Master Thesis

# From Workaround to Institutionalization

## An Interpretive Case Study of WhatsApp Use for Educational Management in the Gambia

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Informatics: Programming and System Architecture

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Malin Sofie Adrienne A. Hultin

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## Abstract

Workarounds have been extensively researched in different contexts in the developed world, but the same type of focus has not been invested on the phenomenon in developing countries. In these contexts, WhatsApp has emerged as a prominent workaround, particularly in the public health and educational sectors, albeit the former have been more extensively researched. However, there is a lack of understanding regarding the institutionalization of the application in such contexts.

This thesis aims to address the gap by exploring how WhatsApp has emerged as a workaround and evolved into a standard tool for educational management at the Ministry of Basic and Secondary Education (MoBSE) in the Gambia, and examining its implications for existing processes. The research adopts an interpretive case study approach, conducting empirical data collection on field trips in 2022 and 2023 with relevant stakeholders at the central, regional, and school levels. The analysis reveals that WhatsApp has become institutionalized within the work system of the organization, influencing both the organizational structure and workflows. As a workaround for teacher management, it utilizes dedicated group-chats for specific stakeholder needs, such as attendance monitoring, communication, information sharing, and decision-making. The research uncovered challenges with this usage itself, concerning privacy and security, including the risk of losing and misusing data. Additional hindrances were associated with the lower levels having substandard infrastructure, such as unstable Wi-Fi and mobile data connections, and the higher levels lacking control of data circulation, creating uncertainty regarding data recipients. Despite these concerns, removing WhatsApp from the organization is likely to cause problems, making it currently the most viable solution. Thus, the study recommends the development of guidelines and policies to ensure the appropriate use of WhatsApp for educational management while mitigating potential risks.

This thesis provides insights into the institutionalization of WhatsApp as an integral part of educational management in low resource settings. It enhances understanding of the challenges and opportunities faced by developing countries, particularly in the education sector. The outcomes of this research provide guidance for MoBSE and other policymakers when determining policies and guidelines on workaround usage for educational management. Moreover, it lays the groundwork for future research on optimizing Educational Management Information Systems (EMIS) in low resource countries, with implications for the broader field of educational management.

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# Acronyms

| | |
|---|---|
| **DHIS2** | District Health Information System 2 |
| **DoRaP** | Directorate of Research and Planning |
| **ECD** | Early Childhood Development |
| **ECE** | Early Childhood Education |
| **EMIS** | Educational Management Information Systems |
| **GABEC** | Gambia Basic Education Certificate |
| **GTTI** | Gambia Technical Training Institute |
| **GTU** | Gambia Teachers Union |
| **HCP** | Healthcare Provider |
| **HIS** | Health Information Systems |
| **HISP** | Health Information Systems Programme |
| **HR** | Human Resources |
| **HRD** | HR Directorate Group |
| **HRFP** | HR Focal Point |
| **HRM** | HR Management |
| **IM** | Instant Messaging |
| **IS** | Information Systems |
| **LBE** | Lower Basic Education |
| **MoBSE** | Ministry of Basic and Secondary Education |
| **PEO** | Principal Educational Office |
| **PTC** | Primary Teacher Certificate |
| **PTC** | Primary Teacher Certificate |
| **RED** | Regional Education Directorate |
| **SDG4** | Sustainable Development Goal 4 |
| **SSE** | Senior Secondary Education |
| **TA** | Thematic Analysis |
| **TCU** | Teachers Credit Union |
| **TIN** | Tax Identification Number |
| **TOW** | Theory of Workarounds |
| **UBE** | Upper Basic Education |

| | |
|---|---|
| **UiO** | University of Oslo |
| **UQT** | Unqualified Teacher |
| **UTG** | University of Gambia |
| **VoIP** | Voice-over-IP |
| **WASSC** | West African Senior Secondary Certificate |
| **WSF** | Work System Framework |
| **WSLC** | Work System Life Cycle Model |
| **WST** | Work System Theory |

# Chapter 1

# Introduction

## 1.1 Research Background

In the fall of 2021, I was introduced to the project, *improving teacher posting in the Gambia by using a lightweight human resource App based on the District Health Information System (DHIS2) platform*. The project is related to an ongoing development project led by the Health Information Systems Programme (HISP) at the University of Oslo (UiO). The project was conducted in collaboration with two other master students, creating a *research team* with individual focus areas. This team would travel to the Gambia together, on two field trips in 2022 and 2023. The data collection and subsequent analysis from the first field trip was performed as a team. Contact was also established with the Ministry of Basic and Secondary Education (MoBSE), who gave access to resources from the Directorate of Research and Planning (DoRaP). This included relevant documents related to teacher posting processes and education in the Gambia in general.

Through guidance with my supervisor, the findings from the research data accumulated on the first field trip were used to scope in on a narrower problem area, which were further researched on a second two-week field trip. The findings identified were related to challenges in the information flow during teacher posting processes, which involve assigning teachers to different schools throughout the country.

The government has established standardized procedures for communication, data transfer, and data storage. These procedures involve utilizing email and telephone communication channels, as well as transferring data through email and storing data in physical paper format. According to research subjects, these procedures are time consuming, impractical, and susceptible to security risks. As a result, many employees have resorted to using alternative means, either in addition to the standard procedures or as alternatives to them. These forms of behaviors can be classified as *workarounds* (Alter, 2014). WhatsApp is a significant example of a workaround in this context, where it is utilized as an organizational tool for communication, data sharing, and data storing among stakeholders involved in teacher management practices. Essentially, it can be suggested that the application has become institutionalized in the organization.

This phenomenon has been extensively researched in different organizational contexts; however, there is minimal literature that explores the phenomenon in low resource settings. Additionally, there is limited research that investigates workarounds that evolve into standard tools, which can be referred to as *institutionalized workarounds* (Azad & King, 2012). There is a notable lack of focus on the WhatsApp application going from temporary measure to becoming a standard tool for procedures. Further is a lack of knowledge on the experiences and perceptions of the teacher posting information flow in the Gambia. Therefore, my thesis aims to determine the reasoning behind the emergence of this type of workaround and its compatibility with existing established practices. The overarching goal of the ongoing development project led by HISP is to develop a solution to problems related to the Education Management Information System (EMIS). Due to time constraints, it was decided that I would not contribute to the project through software development. Despite this, the findings presented in this thesis serve to expand the existing knowledge base and draw attention to a problem that has received comparatively less exploration.

## 1.2 Personal Motivation

I found the project highly compelling due to its dedicated focus on facilitating inclusive education for *all* children, regardless of their health conditions, socioeconomic status, residential locations, nationalities, or other determining factors.

This area of concentration resonated strongly with my personal concerns and values. Moreover, I perceived the project as an exceptional opportunity to gain a profound understanding of another country's culture. The improvement of the teacher posting process holds immense significance, as it directly affects various aspects such as teacher satisfaction, management and relocation of resources, and overall operational efficiency. Ultimately, such enhancements profoundly impact the quality of education provided to the students in the Gambia.

Throughout my educational journey, I have attended several courses at the University of Oslo (UiO), encompassing subjects related to information systems (IS), sociology, and interaction design. Motivated by this broad foundation of knowledge and guided by my passion for societal development, human-computer interaction, and IS research, the inspiration driving my master's thesis was to provide fresh insights into the Gambia's education system. My desire is that the knowledge and insights presented in this thesis will serve as a valuable contribution towards empowering the community and effecting positive change.

## 1.3 Research Question and Objectives

The focus of the thesis is the emergence of WhatsApp as a workaround in the public educational sector in the Gambia, and how it has evolved into a formal tool that has become embedded in the *work system* for teacher management at MoBSE (Alter, 2013). I will make an effort to identify the reasoning behind the emergence of the workaround, and how it fits in with the existing information sharing and communication practices in such a context.

The thesis will give an overview of WhatsApp usage in practice, as well as why, when, and how it became appropriated by the organization. Further, I will attempt to exhibit how behaviors related to the usage feed into the existing workflows during teacher management practices. Lastly, I will explore how WhatsApp has become a standard tool in its own right, and how this might affect future research on developing potential alternative solutions to persistent information sharing, coordination, and communication gaps.

I aim to answer the following question,

> ***RQ**: How has WhatsApp influenced the organizational structure and workflows within the educational sector in the Gambia?*

The question itself encompasses several ideas; it will therefore be divided into two sub-questions to further explore these aspects,

> ***SQ1**: What is the process in which WhatsApp emerged as a workaround for teacher management?*

> ***SQ2**: How has WhatsApp become institutionalized in the work system?*

Each of the questions will assist with specifying and narrowing down the research objectives for the project.

## 1.4 Thesis Layout

**Chapter 2** presents background literature relevant to the case and gives a description of the themes found related to the concept of workarounds and its usage in practice.

**Chapter 3** describes the theoretical framework with relevant theories based on IS literature, which will be used to guide the discussion.

**Chapter 4** focuses on the background of the case as well as relevant context information about the Gambia, teacher management at MoBSE, and WhatsApp use in general.

**Chapter 5** describes the methodology chosen to conduct the research process, including the methods used for data collection and analysis.

**Chapter 6** presents the empirical findings discovered after analysis of data from both field trips related to WhatsApp usage through structure, workflow, and practice.

**Chapter 7** presents a discussion related to the research process and the findings that were uncovered, and relates them to the theoretical framework in order to answer the research question.

**Chapter 8** concludes the thesis by summarizing the findings and presenting potential directions for future research.

# Chapter 2

# Literature Review

This chapter will give an overview of the existing literature on workarounds in IS literature, particularly shadow IT, one of which is WhatsApp. Notably, there is a lack of research on shadow IT use in the public educational sector in a low resource context. Therefore, the literature presented will be drawn from other research fields and will broadly examine the phenomena in low resource contexts, as well as educational and public sectors. WhatsApp usage in the public healthcare sector was found to be the most prominent, hence, the thesis will also include some relevant research from that field.

## 2.1 Workarounds

The term ’work-around’ has been defined by the Merriam-Webster dictionary as “a plan or method to circumvent a problem without eliminating it” ("Work-around", n.d). In organizational contexts, it is commonly explained and understood as a phenomenon that occurs when existing methods of performing a task are not viable or sustainable for the user. This can arise for several reasons, typically only known to the user themselves. Alter (2014) defines a workaround as,

> A goal-driven adaption, improvisation, or other change to one or more aspects of an existing work system in order to overcome, bypass, or minimize the impact of obstacles, exceptions, anomalies, mishaps, (**continues next page**),

> established practices, management expectations, or structural constraints that are perceived as preventing that work system or its participants from achieving a desired level of efficiency, effectiveness, or other organizational or personal goals. (p. 1044).

Alter argues that this definition is broader and more inclusive than other definitions, meaning that only certain conditions are needed for a phenomenon to be defined as a workaround. He presents the following preconditions,

- A specific process, policy, or set of practices within an existing work system.
- Organizational and/or personal goals related to that situation.
- An obstacle, exception, anomaly, mishap, established practice, management expectation, or structural constraint that might be perceived as something to bypass or overcome.
- An ability to imagine and execute a workaround. (Alter, 2014, p. 1044).

According to this explanation, workarounds occur when a person within an organization has (1) issues with doing their tasks using the official procedures, (2) imagines an alternative procedure not set forth by the organization to circumvent those issues, and (3) has personal goals associated with using the alternative procedure. Building on this, Debono et al. (2013) explains workarounds as observable behaviors that differ from organizational procedures, that exist to avoid or temporarily 'fix' a workflow block, with the intention being meeting a goal or achieving the procedure more easily (p. 2). Both Debono et al., and Alter agree on the temporal nature of workarounds, as their existence depends on troubles with the standard system, and if those are solved, the workaround should theoretically no longer be needed. While Alter gives a thorough explanation and overview of the phenomena, some literature offers distinctly positive or negative approaches to workarounds in general. Regarding nursing, Debono et al. (2013) argue that while workarounds can enable patient care and safety it can also compromise it, by both hiding and providing information about clinicians' work. Lalley and Malloch (2010) agrees with this sentiment, but elaborates by recognizing and addressing workarounds, they can present an opportunity to learn from the situation to create more effective processes in the future.

### 2.1.1 Shadow IT

The definitions presented in the earlier section are more broadly focused and do not consider only *technological* workarounds. Meaning general workarounds can include everything from using post-it notes, making Excel sheets, and using third-party applications. Technological workarounds in the IS literature have commonly been referred to as shadow systems, feral systems, or *shadow IT*. The latter is the type of workaround that will be the focus of this thesis. There is some disagreement whether shadow IT can be defined as a workaround or not, although it is agreed that both are caused by a misfit in the system. To how the literature relates to the research question, this thesis will define shadow IT as a workaround. Rentrop and Zimmermann (2012) define shadow IT as "a collection of systems developed by business departments without support of the official IT department" (p. 100). In accordance with this definition, shadow IT are unofficial and hidden processes, which are created and run in parallel with the official procedures and structures. This type of workaround establishes its own processes and structures, and as argued by the authors, shadow IT emerges because of the lack of needs of the employees being met in these official structures. Examples of shadow IT are hardware such as smartphones, printers, and pc, and software such as social media and Excel, as well as databases and cloud services.

The emergence of shadow IT does not seem to have been focused on much in IS literature; therefore, the findings are limited. Most of what exists is based around security issues, with identifying the shadow IT present in an organization and evaluating the risks they pose compared to the needs they fill. Positive sides of shadow IT workarounds are that they, such as web-based technologies, can offer easy access to information and communication with a low initial cost, as well as being familiar to the end users (Rentrop & Zimmermann, 2012, p. 98). However, maintaining these systems costs resources, which the department who uses the workaround might not have access to, such as quality assurance and monitoring. In addition, there is often a lack of central control of shadow IT systems in an organization. According to Fürstenau & Rothe (2014, June), the central IT department is often unaware of the degree to which shadow IT systems are used within the organization, and in instances where the use is more transparent, it will end up burdening the budget of the unit where the systems are used.

The authors argue further that the users of the shadow IT can be emotionally attached to the solution and might therefore not be eager to "relinquish control of it" (p. 3). Finally, they argue that shadow IT systems affect the evolution of the IS architecture within an organization, where "shadow IT systems become embedded in the work routines" and become as much part of the organizations as the standard procedures (p. 3). This conflicts with the general idea of a workaround, whereas it is 'supposed' to be temporary, shadow IT workarounds are often not. Alter (2014) acknowledges that while some workarounds only last until the obstacle disappears, others "become institutionalized within organizational routines that endure for many years" (p. 1050).

## 2.2 Workarounds in Practice

The most relevant literature for this project would be at the intersection of exploring WhatsApp as a workaround in an organizational setting, a focus on education sector management, and a sensitivity to low resource settings. There are not many studies that integrate all these dimensions. Hence, related research that covers different aspects are reviewed and subsequently integrated to produce a relevant analytical perspective.

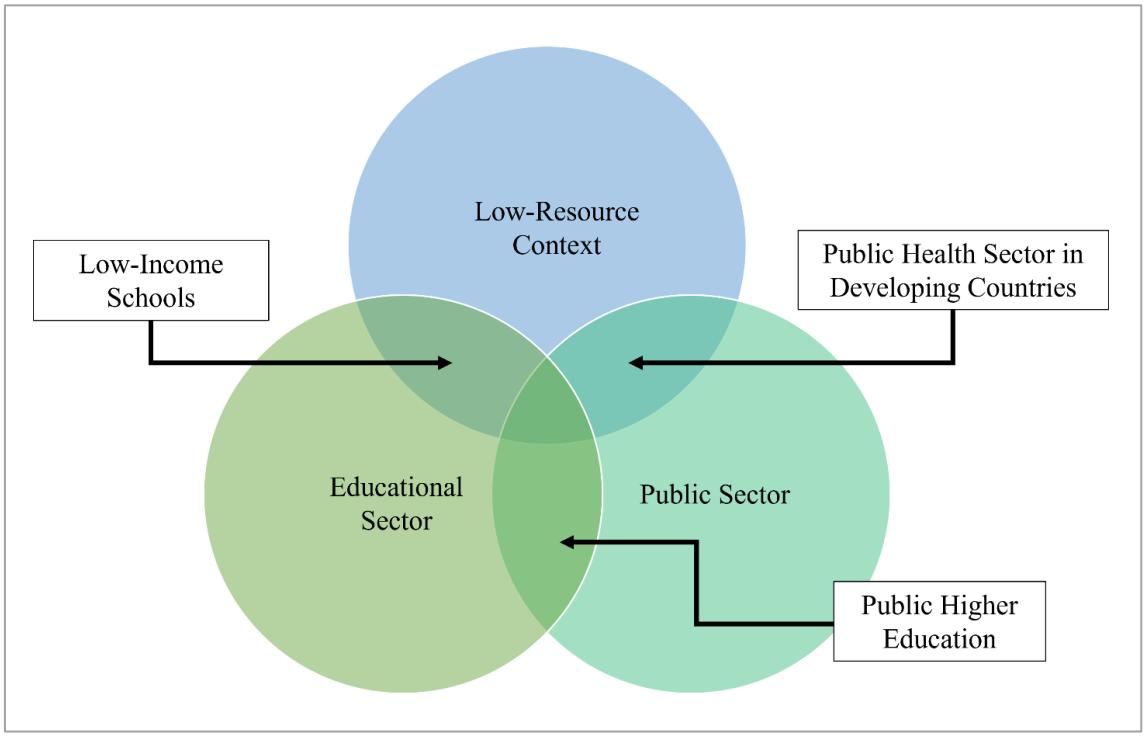



Figure 2.1: Venn diagram of the literature review

The literature examined focused either on shadow IT as a workaround or WhatsApp usage in general in the public health sector, the educational sector, or in a low resource context. The diagram presented in Figure 2.1, highlights the focus areas of the literature review and where they overlapped.

### 2.2.1 Shadow IT in the Public Health Sector

Most of the research offered in the existing literature regarding shadow IT as a workaround in a low resource context, refers to the phenomena in healthcare contexts. Kapepo, Van Belle, and Weimann (2022) performed a case study of three public hospitals in South Africa and Namibia about the usage of workarounds to the Vula mobile referral application. Vula is specifically created for Healthcare Providers (HCP) and provides a "secure, safe platform to receive advice on patient treatment plans and refer patients to specialist services and departments" (Vula Mobile, n.d.). Findings reported were workflow issues related to lack of integration of the public health system, where the workers used the Vula application to overcome constraints. Using Vula provided healthcare workers with "instantaneous access to clinical information and patient medical history" (Kapepo, et al., 2022, p. 536). However, the study noted that the user's experience with the application was not only positive and had its challenges, mostly related to lack of technical training of the application, which had prompted the stakeholders to develop multiple workarounds to Vula itself.

One of these workarounds was WhatsApp, which was already widely used and understood by the stakeholders in private settings, and "compatible with their phone specifications" (p. 538). Building on this, many HCPs were part of WhatsApp groups dedicated to different departments at the hospitals, which were used to communicate about patient care, or about problems in the respective department.

Additional literature examined showed that this use case for WhatsApp was not uncommon, and particularly prominent as an organizational tool in public healthcare settings. For instance, Boulos, Giustini, & Wheeler (2016) reviewed the use of Instagram and WhatsApp in healthcare settings and found that WhatsApp "facilitates and improves communication for healthcare teams, providing good ways for physicians to monitor work performed by clinical staff" (p. 7).

Moreover, the authors mentioned that many studies concluded that since Instagram and WhatsApp are free to use, they are suitable for low resource settings.

Building on this, Mars and Scott (2016) found that most of the use of WhatsApp in clinical settings was in the developing world. The perspective of the users was that it is simple, cheap, and effective for communication in clinical practice. The authors argue that the usage will grow, without the user's paying attention to confidentiality, consent, and data security. In a later review, the authors noted that it was clear that "clinicians are failing to meet many legal, ethical, and good practice requirements" (Morris, Scott, & Mars, 2021, p. 8). Their argument for this was that despite the ease of use of WhatsApp, there were no clear comprehensive and consistent guidelines in the existing literature on what is its *acceptable* usage. Based on my own literature review, there is still much more research needed to get a broad understanding of WhatsApp usage in the health sector.

### 2.2.2 WhatsApp for Educational Management

The focus of this project revolves around the educational sector, therefore literature set around the usage of workarounds, shadow IT or WhatsApp specifically in this sector were deemed interesting. However, as previously mentioned, there were truly little studies done on this subject that focused explicitly on HR operations within the educational sector in a low resource setting.

Therefore, the relevant literature is taken from other research fields such as pedagogy, and management, which is centered around the use of WhatsApp for educational management in public higher education, and for organizational communication in both low-income and high-income schools. Balasundran, Yunus, Pandian, and Pandi (2021) studied the use of WhatsApp in public universities by staff and lecturers in Malaysia in a conceptual paper. They found that WhatsApp was used in organizations "to ensure that communication can take place smoothly and help the organization carry out its tasks" (Mariana & Putri, 2017, as cited in Balasundran et al., p. 123). WhatsApp was used by lecturers and administrators within the universities to, for example, pass on data, examine, give directions, and facilitate work.

It was also identified that WhatsApp had emerged as a tool for managers to convey information and instructions to their employees, compared to traditional forms of communication such as letters, media, and email (Balasundran et al., 2021, p. 132).

Other researchers in the literature focused on WhatsApp usage in primary and secondary schools. Doğan (2019) analyzed the usage of WhatsApp groups for organizational communication in low resource and high-resource schools in Sivas in Turkey. The author found that School WhatsApp groups had become one of the "indispensable communication tools of the school organization" (p. 241). The groups researched were teacher-parent groups, and data were collected from teachers and administrators at the schools, with the focus being on the participants' opinions of WhatsApp usage. The findings of the author were that teachers used the WhatsApp groups to communicate with parents in the terms of announcements and newsletters and sharing of photos and videos of activities done in the classroom. The opinions expressed by both teachers and administrators were that the benefits of this type of communication were "instant communication, saving stationery and time, quick decision making and implementation, improving internal relations", while disadvantages were "misuse, conflicts due to misunderstandings, engaging on out-of-hours, harming the school climate and culture and minimizing face-to-face communication" (Doğan, 2019, p. 231).

Building on this, Varanasi, Vashistha, and Dell (2021) conducted a qualitative study of the use of WhatsApp groups by teachers, school administrators and staff in low-income schools in India. They researched three types of groups; the first two being managed and administered by third-party vendors, while the third type were groups administered by the schools' higher management. The latter form of group was most interesting for the case described in this thesis. The stakeholders in what they called S*chool WhatsApp Groups* were found to be government teachers and higher management consisting of Cluster Officers and Block Officers. The groups were administered by cluster resource officers who ranked above the principals of the schools. The groups were large and included actors from multiple schools, and the Cluster and Block Officers would use the group to share information with the teachers in the form of announcements and reminders (p. 4).

The findings showed that the groups worked as a platform that could be used by the higher management to better manage the school administration, with the purpose of providing everyday support to the teachers. For the higher management, WhatsApp made the bureaucratic procedures more efficient by distributing and requesting information from teachers in various locations, instead of having to use the standard form of paper. Examples of usage were that higher management would take a picture of paper-based information and send it to the group, which the teachers would write down themselves, take a picture of and send it back (p. 8). According to the authors, the findings reported that in addition to the benefits of WhatsApp, there were also disadvantages in the form of security, where the groups could be used to circulate "polarizing and malicious information", or instances where private and work life would blend into each other, such as teachers posting achievements records of both themselves and students, which were unrelated to the groups purpose (Varanasi, Vashistha, & Dell, 2021, p. 1).

**Summary**

To summarize, the literature review has given an overview of workarounds in general, presenting both positive and negative views on the phenomena from IS literature. Specifically, it has explored WhatsApp's role as shadow IT both within the public health sector and the public educational sector, in which it has been identified as a significant communication tool with both advantages and challenges.

However, it is evident that there exists a significant research gap in understanding the application's usage within the public educational sector in low resource contexts. This deficiency in the literature underlines the necessity of the research presented in this thesis, which aims to bridge the gap and contribute to a more comprehensive understanding of the subject.

# Chapter 3

# Theoretical Framework

This chapter will introduce the theoretical framework, which serves as a basis for the discussion presented in Chapter 7. The theoretical framework is based around existing theories within IS research: the Theory of Workarounds (TOW), and Work System Theory (WST) including the Work System Framework (WSF) and Work System Life Cycle Model (WSLC), each developed by Steven Alter (2013, 2014). As well as a framework for institutionalized workarounds proposed by Bijan Azad and Nelson King (2012) based on institutional theory. These theories are included in this thesis to explain the organizational structure and workflows within MoBSE and how WhatsApp usage has emerged as a workaround within it, affecting both the structure and procedures present. This both to understand the process from an idea to a workaround, why the usage originated in the first place, and its eventual institutionalization into the work system. Each theory will be explained in the next sections.

## 3.1 Work System Theory

WST was developed by Steven Alter (2013) and is framed around what he describes as "work system thinking", which involves examining systems that exist in organizations as work systems by default. The theory entails three components: the definition and concept of a work system, the Work System Framework (WSF), and the Work System Life Cycle Model (WSLC).

A work system is defined as where human participants and/or machines use information, technology, and other resources to perform processes and activities to produce products and/or services (Alter, 2013, p. 75).

Work systems is a general idea of systems in organizations, however, there are also special cases such as information systems, supply chains, projects, self-service work systems, and automated work systems. The most relevant for this thesis being information systems, or IS, which are work systems that revolves around activities related to information processing, such as capturing, transmitting, storing, retrieving, deleting, manipulating, and displaying of information (Alter, 2008, as cited in Alter, 2013, p. 77). In order to explain such a work system, the WSF offers a static perspective of work systems when they are relatively stable, while WSLC gives a representation of the iterative process where work systems evolve over time. Both the framework and model will be explained in the next sections.

### 3.1.1 Work System Framework

According to Alter (2013), the WSF is useful for describing and analyzing IT-reliant work systems in organizations. The framework uses nine elements in order to give a basic understanding of the work system, these are: (1) processes and activities, (2) participants, (3) information, (4) technology, (5) customers, (6) product/services, (7) environment, (8) infrastructure, and (9) strategies.

*Processes and activities* are what occurs to produce products/services for customers, *participants* are people who perform work within the work system (both users and non-users of IT), *information* are "informational entities" used for processing such as orders, invoices, and schedules, and *technology* are the technological tools used by participants as well as automated hardware/software configurations (p. 80). As shown in Figure 3.1, these first four elements are viewed as completely within the work system. *Products/services* are things produced by the work system to the benefit of *customers*, which are the recipients of those products/services. These two elements can be partially inside and outside because customers "often participate in the processes and activities within the work system," and products/services "take shape in the work system" (Alter, 2013, p. 79).

The environment, infrastructure and strategies are outside of the work system, but do also have direct effects on the elements inside of the system. *Environment* comprises relevant environments that are organizational, cultural, competitive, technical, regulatory, and/or demographic that affect the efficiency and effectiveness of the work system. For this project, the organizational environment is the most interesting one, encompassing stakeholders, policies and procedures, and organizational history and politics. *Infrastructure* is the relevant resources that are "used by the work system but are managed outside of it," these can be human, informational and/or technical. Lastly, *strategies* include strategies for enterprise, department, and the work system itself (p. 81).

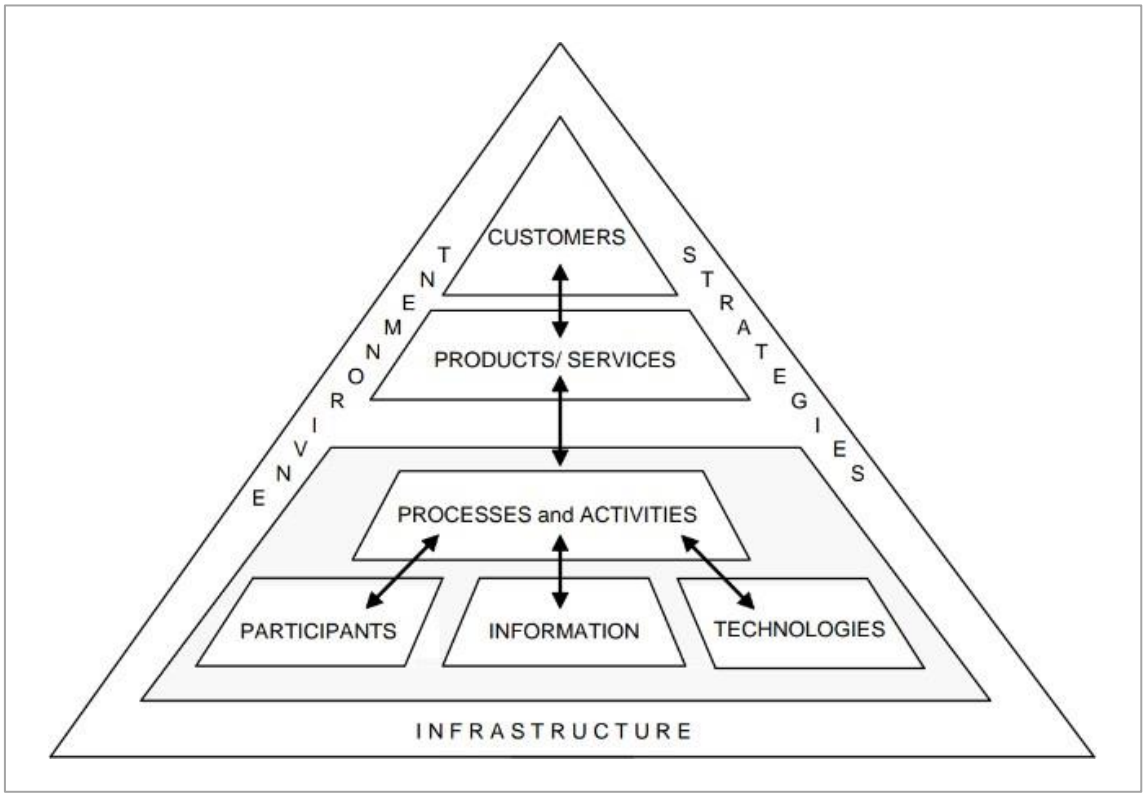



Figure 3.1: The Work System Framework (Alter, 2013, p. 78)

The framework is more focused on business rather than IT work as it shows that work systems exist to produce products and services. The arrows between the elements are meant to show that they should be in alignment with each other. According to Alter, alignment means that the attributes of the elements within the work system should support each other.

For instance, the participant's underlying goals and motivations should fit with the processes and activities performed, which then must be aligned with the products/services produced, which again must support the customers' wants and goals. The main relationships and main needs for alignment are in the WSF between processes and activities and the other three elements within the work system: participants, information, and technology. According to Alter, the alignment between participants, information, and technology is not prioritized as a main need, as other alignments can be adequate for "broad brush work system thinking in most business professionals in most situations" (Alter, 2013, p. 79).

### 3.1.2 Work System Life Cycle Model

WSLC (Figure 3.2) is an iterative model that represents a dynamic view on the assumption that work systems evolve over time, through unplanned and planned changes.

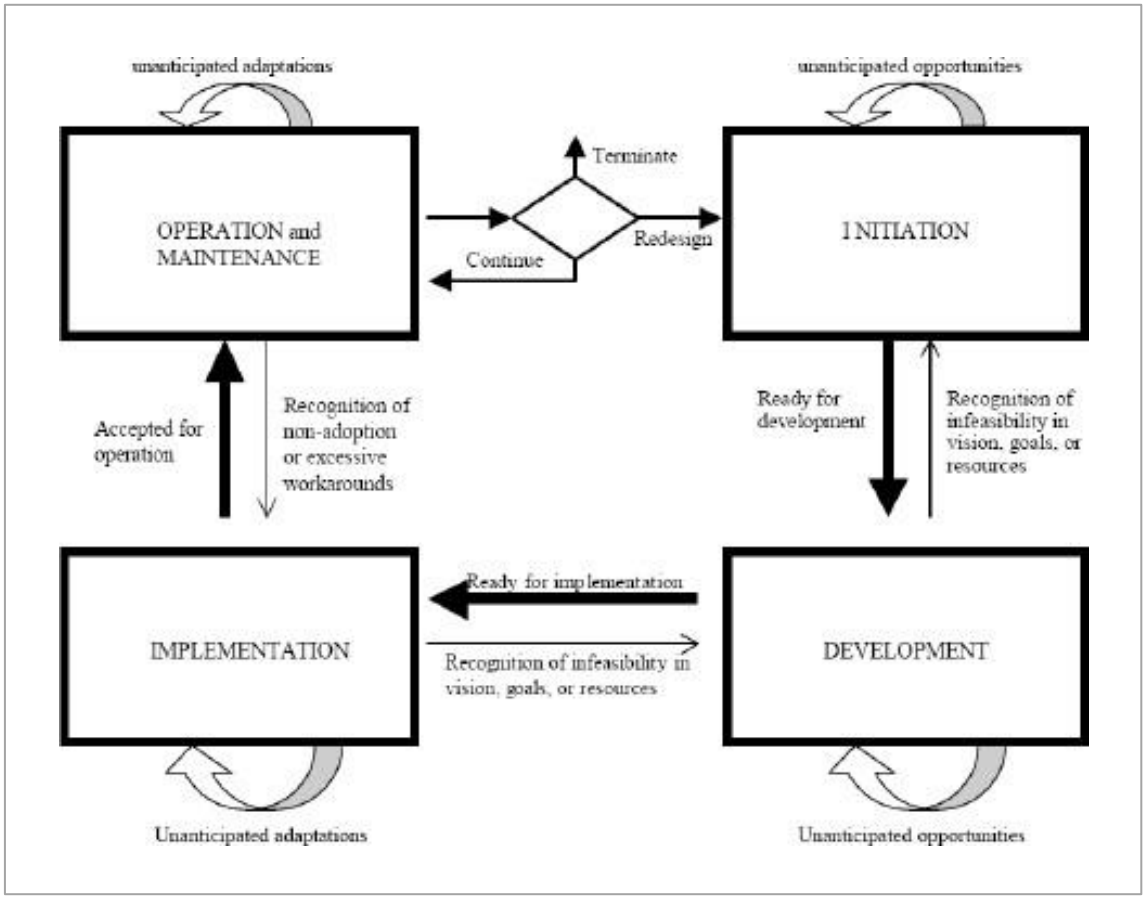



Figure 3.2: Work System Life Cycle Model (Alter 2008a, 2008b, as cited in Alter, 2013, p. 78)

Planned changes are formal projects consisting of three phases: initiation, development, and implementation. This may for example include software development, creation of new procedures, and creation of documentation and training materials. Unplanned changes can be ongoing adaptations, experimentations and workarounds that change the work system without performing formal projects (Alter, 2013, p. 82).

The model emphasizes that the evolution of the work system happens through both planned and unplanned change, with the phases of planned change working together with a fourth phase: operation and maintenance, where recognition of unplanned changes occurs. This means, according to Alter, that the evolution is natural and the WSLC can show this evolution in detail.

## 3.2 Theory of Workarounds

Steven Alter proposed the TOW in 2014 as a means for understanding what he argued was a widely known, but understudied phenomenon. He presents a process theory that involves explaining *how* and *why* workarounds are created. The theory explains it as in a process that follows seven steps: (1) Intentions, goals and interests, (2) structure, (3) perceived need for a workaround, (4) identification of possible workarounds, (5) selection of a workaround to pursue, (6) development and execution of the workaround, and finally, (7) consequences (Alter, 2014).

Additionally, TOW includes a time perspective of workarounds, whether they are temporary or end up being long-term. This, as well as each of the steps in the theory will be described in the next sections.

### 3.2.1 Steps in TOW

The first two steps are what constitutes the context surrounding the workaround, which is crucial in order to explain how and why it occurs. The stakeholders have *intentions, goals, and interests*, which influence the *structure* they are part of. The illustration of the phenomena in the theory deals primarily with it occurring in work contexts, or more specifically, in a ‘work system,’ as mentioned in section 3.1.

In TOW, the workarounds must be defined in relation to such work systems, rather than separate processes and technologies, which will "afford a broader and more comprehensive view of the changes that can be included in workarounds" (Alter, 2014, p. 1046). The intentions, goals, interests, and structure can thus, for the purpose of this paper, be combined as the context. The steps influence each other in chronological order (Figure 3.3) through a problem-solving process that goes as follows: *context* ➔ *need* ➔ *identification* ➔ *selection* ➔ *development/execution* ➔ *consequences*.

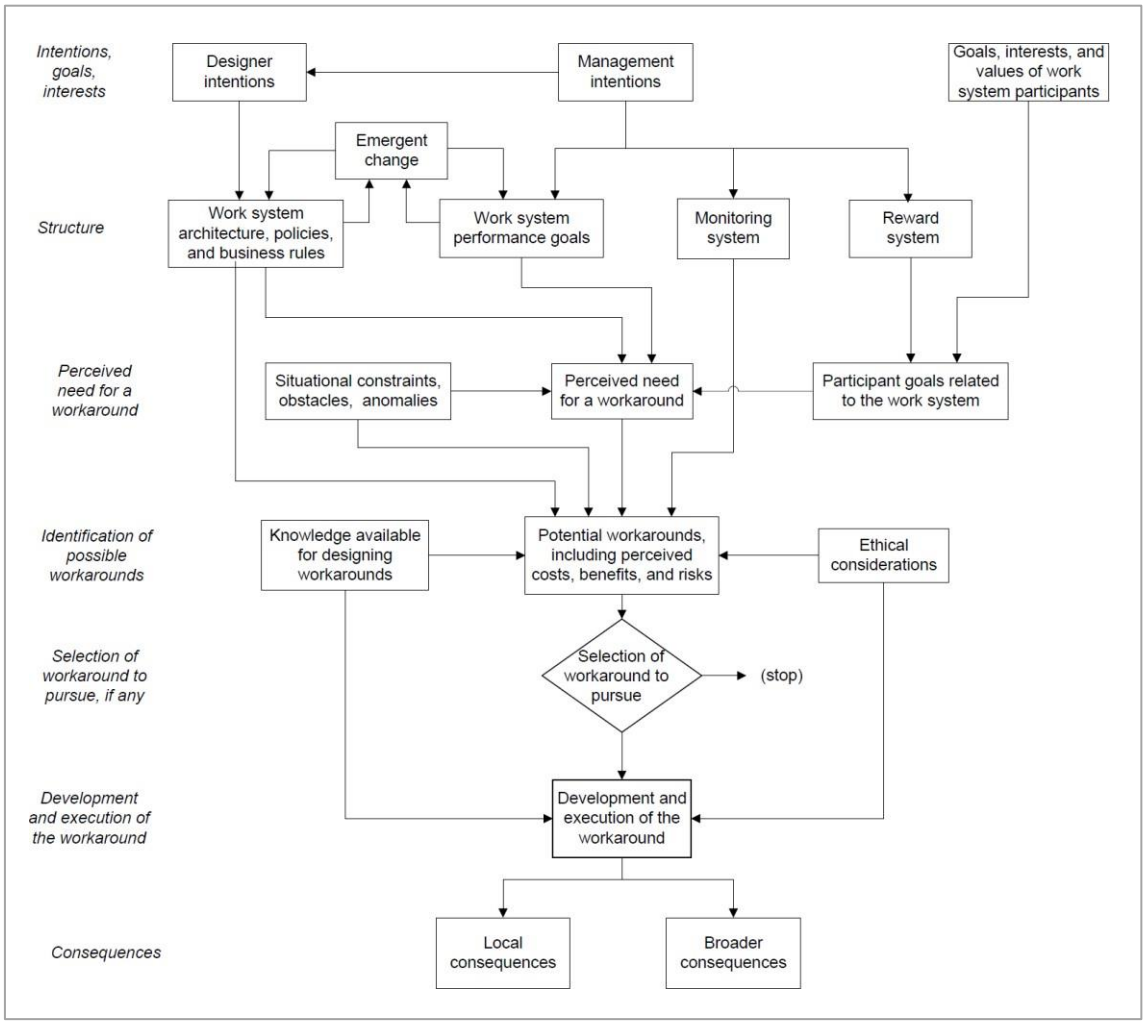



Figure 3.3: Theory of Workarounds (Alter, 2014, p. 1056)

TOW divides the stakeholders of a workaround into three main groups: management, designer, and system participant. The intentions, goals, and interests vary between these groups.

For managers and designers, communication between them has the potential of being flawed and incomplete, where "whatever work system is designed may be misaligned with both sets of intentions" (Alter, 2014, p. 1057). This can end up with a burdensome system, which the system participants have no control over, which can make this group develop their own set of intentions, goals, and interests that may conflict with the ones held by managers and designers.

Further, the structure of the work system entails its (1) architecture and characteristics, (2) work system performance goals, (3) monitoring system, and (4) reward system. The third step, which is the *perceived need for a workaround***,** is influenced by the surrounding context, and entails situational constraints, obstacles, anomalies, and participant goals. As seen in Figure 3.3, *identification* of possible workarounds and their perceived costs, benefits, and risks is based on factors related to the perceived need plus other factors such as knowledge available for designing workarounds, the monitoring system that might detect workarounds, and ethical considerations. Further, identification also means eliminating obstacles and long-term consequences for the workarounds to be possible, which then leads to the *selection* of a workaround to pursue**,** if any are appropriate (Alter, 2014).

When it is decided to pursue the selection, the next step is *the development and execution* of the workaround. This can take anything from a couple of minutes where the case is simple, to several months, depending on if software must be designed and implemented. The last step is the consequences of the workaround implemented. This can be divided into *local* and *broader* consequences. Eliminating temporary obstacles, or creating improved workflows are some local advantages that can occur, while failure of the workaround or creation of other problems are examples of local disadvantages. Lastly, are broader consequences, which are instances where the workaround can end up impacting other work systems (Alter, 2014).

### 3.2.2 Temporality of Workarounds

Related to TOW is whether a workaround is temporary or long-term. Alter (2014) presents Figure 3.4 to show how workarounds can be a "springboard for longer term changes" (p. 1058).

The figure presents *improvisation*, *bricolage*, *planned change*, and *emergent change*, the latter two which have been discussed in relation to the WSLC as planned and unplanned changes. Alter explains improvisation as occurring between seconds and minutes, which brings forth bricolage (making do with whatever is available), which depending on the results leads to planned and unplanned changes.

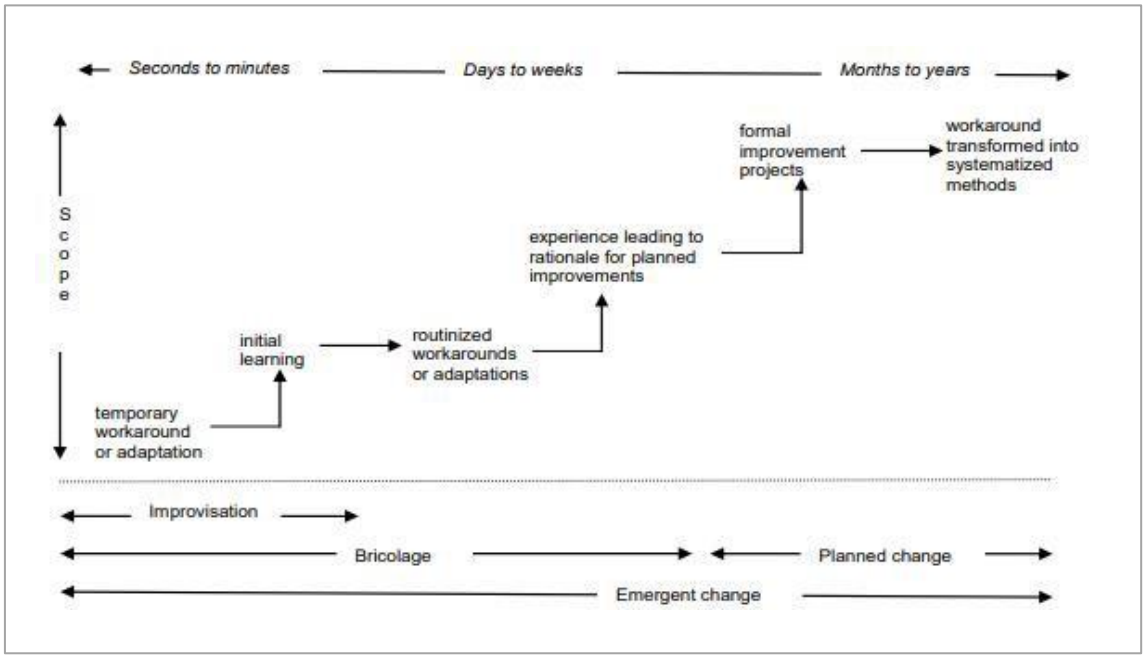



Figure 3.4: Temporality of Workarounds (Alter, 2014, p. 1058)

## 3.3 Framework for Institutionalized Workarounds

Azad and King (2012) argue in an exploratory research paper that workarounds may be "institutionalized and persistent" (p. 371). These institutional workarounds are referred to as "essential" in the sense that the system is worked around to accomplish the task at hand (Ferneley & Sobreperez, 2006, as cited in Azad & King, 2012, p. 360). Building on institutional theory, in an effort to explain *why* some workarounds are essential and demonstrate "persistence and resilience," the authors propose a framework for institutionalized workarounds (p. 359). The framework (Figure 3.5) presents the persistence as a dependency on the interaction of two main conditions. The first condition, (1) *top-down extra-organizational* pressures (standards) from the external environment, include policy-based systems which are based on policy-directives (rules).

The second condition, (2) *bottom-up* constraints from *day-to-day operational work*, include material constraints (e.g., resources, work-efficiency), work ethos (e.g., ethical considerations of those affected by operation work), and discretion to decouple *(*caution around decision-making based on the role of the decision maker*)*. These aspects are challenges with the work system that enables the persistence of a workaround, supporting its essentiality.

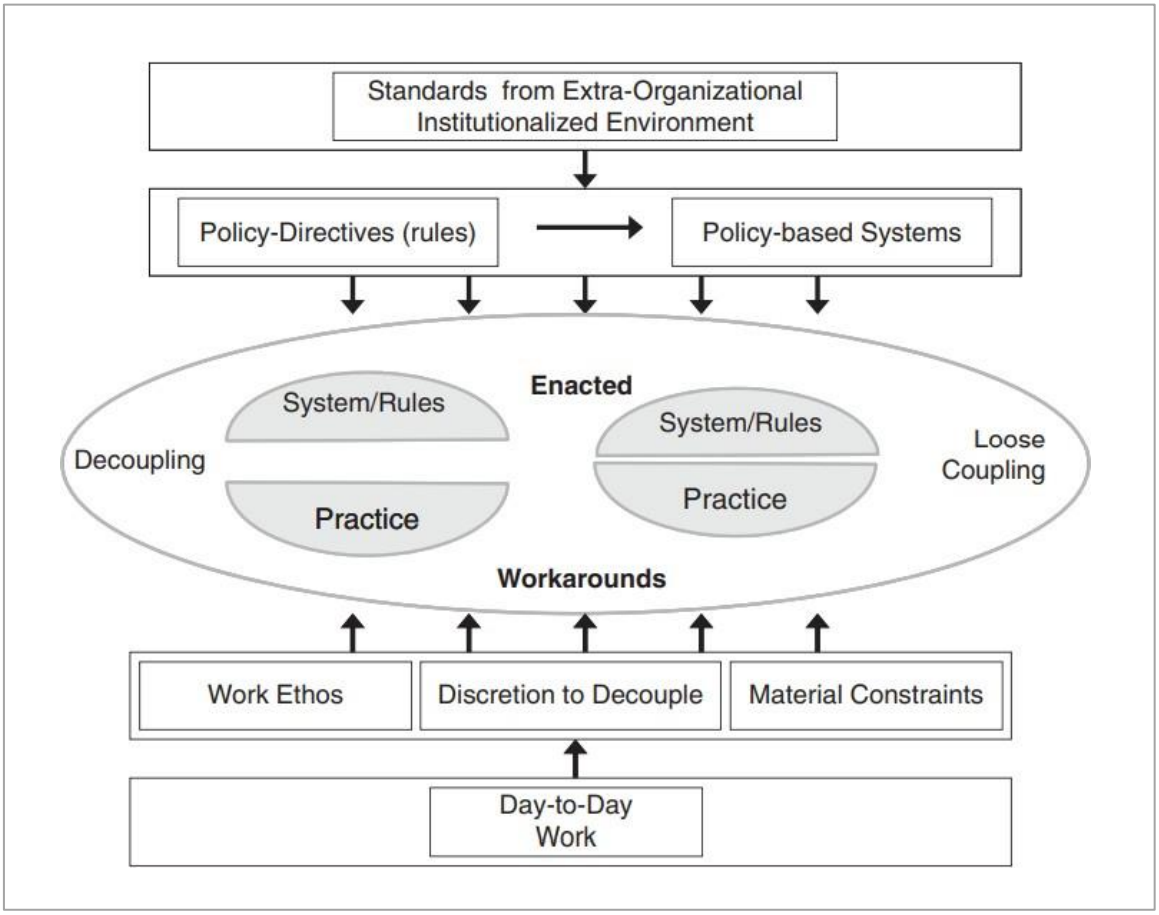



Figure 3.5: Framework for institutionalized workarounds (Azad & King, 2012, p. 369)

**Summary**

The theories presented in the theoretical framework are instrumental for understanding the organizational structure within MoBSE and the emergence of WhatsApp in teacher management. WST provides insight into the concept of work systems within organizations, including their static and dynamic aspects, with WSF and WSLC offering valuable insights into work system analysis and evolution.

TOW provides a process-oriented perspective on workarounds, outlining the seven-step journey from context to consequences, and the framework for institutionalized workarounds will help give an overview of the conditions within the MoBSE work system that enables persistent workaround usage.

This chapter serves as a foundation for the subsequent chapters, enabling an understanding of MoBSE's use of WhatsApp as a workaround and the implications followed by it.

# Chapter 4

# Case Context

This chapter presents the case and the context around it that is relevant. This includes information about the Gambia, such as the educational system, demographics, and geography, as well as teacher management and teacher posting. Further, it will give an overview of the main stakeholders within human resources for education management, and present information related to the use of the WhatsApp application, both in general, and in the Gambian context.

## 4.1 The Gambia

The Gambia, officially The Republic of The Gambia, is the smallest country in mainland Africa, and occupies a small strip of land that surrounds the river known as the Gambia River. It shares a border with the country of Senegal as an enclave, as well as the North Atlantic Ocean.

The Gambia river has historically been a popular trade location between both African and European countries. From the mid-15$^{th}$ until the late 19$^{th}$ century, the British and the French were competing over control of trading in the area. Britain declared the Gambia River as a British Protectorate in 1820, and later took ownership of the area around the river, while France ruled the neighboring colony of Senegal.

Figure 4.1: Location of the Gambia (Central Intelligence Agency, 2023)


Figure 4.2: Map of the Gambia (Central Intelligence Agency, 2023)

The Gambia was recognized as a crown colony until the 18th of February 1965, when they gained political independence from Britain, with Queen Elizabeth II remaining as titular head of state. Five years later, following a majority-approved referendum, the Gambia officially became a republic (Access Gambia, n.d.).

Due to the country's long history with the British, the official language is English, but languages from various ethnic groups within the country, the most popular being Mandinka and Wolof, are spoken in both work and personal contexts.

The government is multi-party with one legislative house called the National Assembly, and executive power is vested in the President of State and Commander-in-Chief of the armed forces. The country is formally divided into six administrative divisions, encompassing five regions and one city: Banjul, Western, North Bank, Lower River, Central River, and Upper River (Access Gambia, n.d.).

### 4.1.1 Demographics

The land size of present-day Gambia only reaches 25 to 50 km but is still densely populated with the approximate current population of 2.91 million people (Gailey, Forde, & Clark, 2023). The country has one of the highest population growth rates in West-Africa, with the most recent value estimated to be 2.23% in 2023.

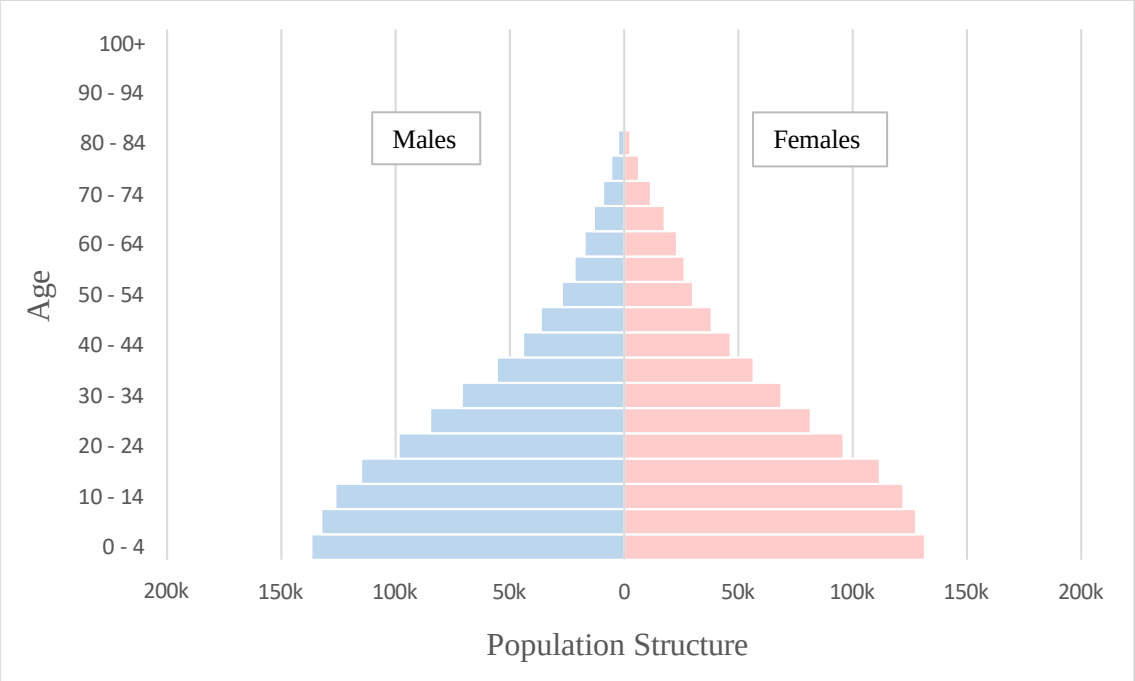



Figure 4.3: Population structure in the Gambia 2023, adapted from (U.S. Census Bureau, n.d.)

However, it is also one of the countries with the highest infant mortality rates at 36.44% per 1,000 live births and has an average life expectancy at almost 68 years old.

Consequently, most of the population are young. As illustrated in Figure 4.3, the age groups 0-14, 15-64 and 65 years and over corresponded in 2023 to 38.86%, 57.57% and 3.57% (U.S. Census Bureau, n.d.).Furthermore, despite the high infant mortality rate, the total fertility rate is measured at almost 4 children per woman, and use of contraceptives was estimated in 2019/2020 to only 18.9% (Central Intelligence Agency, 2023). Therefore, it is likely that the country's youthful population structure will persist.

In recent years, multiple efforts have been made to increase the involvement of women in both education and the workforce. The total literacy rate for those over the age of 15 was measured at 58.1% in 2021, meaning 65.2% of men and 51.2% of women (Central Intelligence Agency, 2023). In 2022, females in the labor force were measured at 57.3% against 65.8% for males, while the number of females that complete lower secondary school measured higher at 67% against 52.8% for males (World Bank, 2022).

### 4.1.2 Education

The Gambia Constitution, (Human Rights Library: Gambia, 1997), Act 30 of 1994, pronounces that all persons shall have the right to equal educational opportunities and facilities and with a view to achieving the full realization of that right. This includes that,

- Basic education shall be free, compulsory and available to all;
- Secondary education, including technical and vocational education, shall be made generally available and accessible to all by every appropriate means, and in particular, by progressive introduction of free education;
- Higher education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular, by progressive introduction of free education;
- Functional literacy shall be encouraged or intensified as far as possible;
- The development of a system of schools with adequate facilities at all levels shall be actively pursued.

To meet these constitutional rights, the Gambian government aims to align their efforts in the education sector with the UN's Sustainable Development Goal 4 (SDG4), which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (UN DESA, 2022). As the education sector in the country has expanded annually, the fulfillment of SDG4 has become more challenging for the government. While more and more students are enrolling, the Gambia struggles with meeting the proper requirements for funding them in terms of classrooms, learning materials and teachers.

However, despite this growing number of students, there are still many children excluded from formal education because of factors such as disability, access, and social and cultural norms (UNICEF, n.d.). Further, a large part of the population lives under the national poverty line. Even though public basic education is free, students must pay for their own uniforms, books, and other supplies themselves. As education becomes more advanced, increased costs follow, which has led to many children dropping out to help their families financially. This issue affects mainly school-aged males, as there are several education programs that provide scholarships to female students to encourage a higher number of girls to enroll into secondary education (Cowan, 2007, p. 11).

To address these concerns, The Gambia Education Policy (2016- 2030) states the prioritization of access to education by enhancing access to Early Childhood Development (ECD) centers and literacy programs, gender equity initiatives, special education, life skills education, adult and non-formal education and literacy programs, and school and classroom construction and rehabilitation (MoBSE & MoHERST, 2016).

### 4.1.3 Education Structure

There are up to 15 years of education available in the Gambia. They use a 3-6-3-3 system as shown Table 4.1, which consists of Early Childhood Education (ECE), Lower Basic Education (LBE), Upper Basic Education (UBE) and Senior Secondary Education (SSE). Children usually begin to receive nursery education at the age of 3 and stay for three years. The years are split into levels starting from Level 1 (age 3) to Level 3 (age 6).

Basic education comprises LBE from Grades 1 to 6 (age 7-12) and UBE from Grades 7 to 9 (age 13-15). This also includes Basic Cycle Schools (BCS), from Grades 1 to 9 (age 7-15), which are a combination of LBE and UBE. After graduation from basic education, pupils receive the Gambia Basic Education Certificate (GABEC). Secondary education lasts for three years and includes academic training in SSE, or technical and vocational training. SSE ranges from Grades 10 to 12 (age 16-18), and entrance is dependent on examination results from Grade 9. Students receive the West African Senior Secondary Certificate (WASSC) after graduating SSE (Akseer, 2021). Lastly, students can choose to enroll for university education which lasts for 4 years.

Table 4.1: Educational structure in the Gambia, adapted from (Akseer, 2021, p. 11)

| **Education Level** | **School Type** | **Ages** | **Grades** |
|---|---|---|---|
| *Early Childhood Education* | Nursery | 3-6 | 1-3 |
| *Basic Education* | Lower Basic School | 7-12 | 1-6 |
| | Upper Basic School | 13-15 | 7-9 |
| *Secondary Education* | Senior Secondary School | 16-18 | 10-12 |
| | Technical and Vocational Training | | |

The Gambian Constitution highlights that ECE is important for childhood development in the early formative years. However, these institutions are mostly privately managed and associated with an excessive cost, which becomes an issue for many families. This particularly concerns low-income families, and those settled in the rural regions where the family structure often requires children to contribute to the family's income by for instance, helping with farm-work, or they are left in the care of older relatives (Access Gambia, n.d.). This has led to many children not beginning their education until the age of 7, when schooling is both compulsory and publicly funded.

However, despite the gross enrolment rate for primary education being at an all-time high, there are significant disparities between regions of those who receive their GABEC.

Region 1, which includes the capital Banjul, had in 2016 the highest enrolment rate of 113%, compared to the most rural region 5 of 68.5%. In addition, SSE has a low enrolment rate across the country, caused by economic challenges, poor exam results from LBE, and drop-outs (Akseer, 2021).

## 4.2 Teacher Management

Teacher management is a key component of Human Resources Management (HRM), involving the management of employees, processes, and resources to meet organizational requirements. Teacher management functions include recruitment, training, motivation, and deployment of personnel, establishment of staffing norms, wage negotiations, pay organization, performance evaluation, future needs planning, development of communication systems, and providing opportunities for personal and professional growth (Best, Tournier, & Chimier, 2018). In the Gambian education sector, they use a decentralized system of management, divided into three levels: central, regional, and school. **MoBSE** is the most important stakeholder at the central level, and is responsible for managing pre-primary, primary, and secondary education (Akseer, 2021, p. 34).

Figure 4.4: MoBSE context picture

MoBSE is partially decentralized into its six regions, who each have a *Regional Education Directorate* (RED), who is responsible for the planning and implementation of the education programs in their respective schools. This includes teacher distribution, training, and overseeing needs such as teacher and learning materials (Cowan, 2007, p. 24). The REDs are headed by **Regional Directors**, and work as a middleman between the central and school level by overseeing and collecting key indicators at the school level and delivering them to the central level.


Figure 4.5: HR Office at RED(B)

To have more control over the schools, the RED have divided them into what they call a *cluster,* where each cluster is 'assigned' to a **Cluster Monitor**. The number of schools and the distance between them in each cluster varies and depends on the size and infrastructure of the region. Cluster Monitors were introduced in 2005 and are responsible for "monitoring and supervising a cluster of between eight and thirteen schools within each region" and must visit each of these schools at least once a month (Cowan, 2007, p. 24).

The goal of teacher management is qualified and motivated teachers that are assigned to places they are most needed, and a low turnover and attrition rate. Poor management of teachers can lead to overcrowded classrooms, impossible workloads, and thus, unmotivated teachers. This can lead to problems of absenteeism, and voluntary departures, which greatly impacts the education quality.

Successful teacher management can be achieved by encouraging commitment and professionalism from the teachers through actions such as adequate planning of staffing needs, viable recruitment, training, and policies and procedures (UNESCO, n.d.). This leads to the improvement of education overall, with satisfied parents, and thriving students. For developing countries, it will help improve the literacy rate which can better the country in many ways from the economy to the well-being of the population.

### 4.2.1 Teacher Posting

One of the most important aspects of teacher management in the Gambia is what is known as teacher posting. This refers to the distribution of teachers across schools and regions, to where they are most needed. This is a key factor in ensuring quality education for all. Most of the processes involved in teacher posting are conducted and managed on the regional level, except for *national postings* that are conducted on an annual basis by MoBSE at the central level. In addition, there is a continuous information flow between all three levels that affects the outcome of all types of postings.

Teacher posting processes are conducted within the Human Resources (HR) department by the *HR Directorate Group* (HRD) consisting of **Educational Officers** at the central level, who interact with sub-HR departments in each of the six regions, specifically with an **HR Focal Point (HRFP)**. Lastly, the HRFP either directly, or through Cluster Monitors (stationed at the RED), interact with **Head Teachers** (or Principals) at schools located in their area, which thus interact with their *teachers.* Currently, MoBSE is 'officially' represented with only the three levels previously mentioned. However, several stakeholders at the regional level have emphasized that they want a separate 'cluster' level for the Cluster Monitors, which could lead to specified procedures that states that the information flow must go through this *cluster* level before arriving at the schools. Most of the regions already prefer that the schools take up issues with their Cluster Monitor, and not with the HRFP directly, and many of the REDs have their own *Focal Point of Cluster Monitors* who are responsible for all the Cluster Monitors in the region.


Figure 4.6: Context picture for BCS

To have an effective and organized workflow during teacher posting processes, teachers have been categorized based on their education and work status. They are labeled as either a *Pre-Service Teacher*, *Unqualified Teacher* (UQT), or *In-Service Teacher,* which helps identify which level is responsible for their posting. UQTs and Pre-Service Teachers are appointed by the regions, while In-Service Teachers are posted by the central level. The Gambia Education Policy (2016-2030) states in Chapter 7, section 7.8: Teacher Training (Pre-Service and In-Service) that,

> In order to ensure that the delivery of both pre-service and in-service training is devoid of duplication and inefficiencies, the education sector will work towards the harmonization of teacher training programmes with special attention paid to recognition of prior learning within and across programmes. (MoBSE & MoHERST, 2016, p. 20).

There are a multitude of different processes and actors involved for the postings of the three types of teachers, therefore this paper will mostly focus on In-Service teacher posting, where both the central and regional level have a crucial role to play. However, despite being a little outside of the scope, to make a clear distinction between them, a brief explanation of Pre-Service teachers and UQTs will be given in the next sections.

### Pre-Service Teachers

Pre-Service teachers in the Gambia are students that will graduate from training institutions in the academic year the postings will take place. There are three training institutions that conduct teacher training: the Gambia College, the Gambia Technical Training Institute (GTTI), and the University of Gambia (UTG). Pre-Service training is provided at the Gambia College and offers the completion of the Primary Teacher Certificate (PTC), to qualify to teach within the Basic Education System. The GTTI trains teachers for technical subjects at the UBE level, and UTG provides training targeted at the SSE level (MoBSE & MoHERST, 2016). These types of teachers have either completed their PTC, or higher, and have usually never been posted before.

The posting process for Pre-Service teachers is mainly managed by the REDs, as the teachers themselves are required to apply for a position at schools within regions where they would like to be placed. Each year, the training institutions supply the central level at MoBSE with the number of teachers that are graduating the current academic year, and their qualifications. Based on the needs of the schools in the regions, central will give each RED a maximum number of teachers they are able to hire. Therefore, if a region has reached their limit, the teacher is required to go to another region. When postings are ready, for the teacher to know where they have been posted, they will have to travel to the regions they applied to and look through a list posted in the RED office to find their name and school.

### Unqualified Teachers

UQTs are defined as teachers who are employed at a school but do not have the necessary certifications that are usually required to be able to teach. They are used as a short-term solution to teacher shortage but are only posted at LBE level. The posting of UQTs can happen anytime during the academic year, depending on the needs of the schools. They must have completed their 12-year basic education, and many usually have a background (e.g., Mathematics or English knowledge) that makes them needed at their school.

The posting process for UQTs includes the teacher applying for a position at a RED. The local HRFP will, based on their needs, either accept or reject the applicant. If accepted, the UQT will need to supply the RED with their Tax Identification Number (TIN) Certificate, their birth certificate, and their highest qualification. The HRFP and the Regional Director will then send a recommendation to upper management at MoBSE, who will discuss together with the HRD group if they will either reject or accept the applicant. When accepted, the information about the teacher will be sent to *Payroll*, who is also under MoBSE, to set up payment. After these processes are done at the central level, the HRD group will send a posting memo back to the Regional Director. If a UQT wants to get their PTC (or higher), they will have to leave the system to do so. When they graduate, they will have to go through the same process as other graduates who have not previously been posted.

The use of UQTs is only happening because of teacher shortage, and the number of them has been steadily decreasing in the last few years. As shown in Figure 4.7, there were drastic improvements in the amount of UQTs in LBE from 2010 to 2019 in all regions. This concerns especially the more rural regions such as region 6, where the percentage of UQTs went down from 41% in 2010 to 14% in 2019 (MoBSE, n.d.).

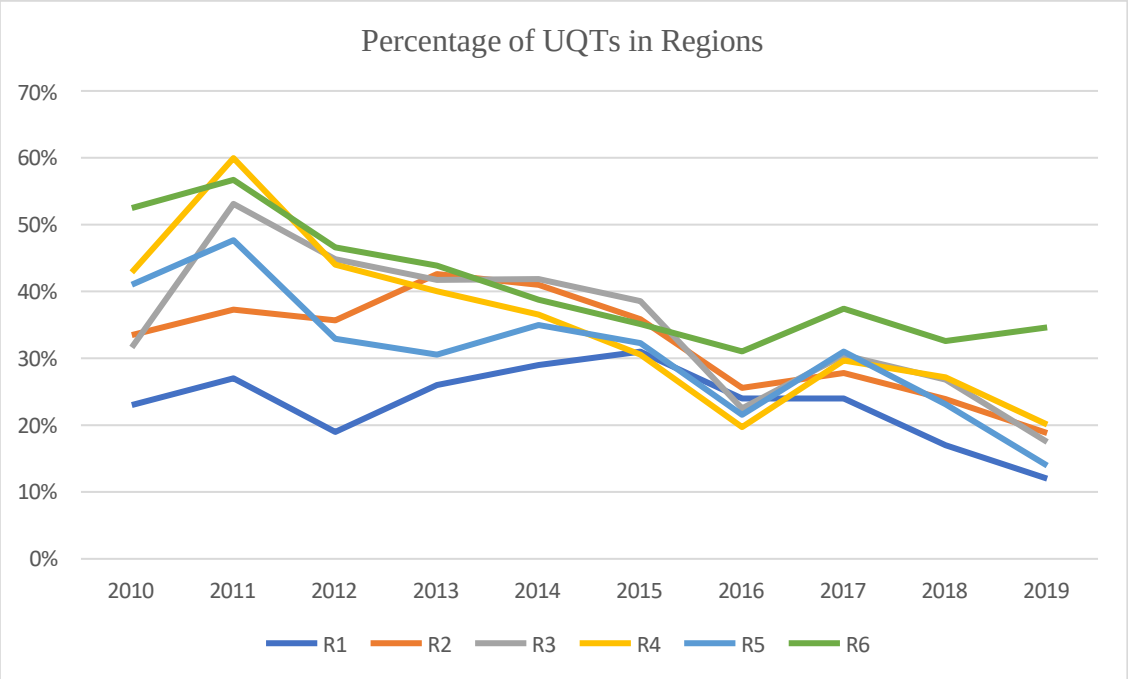



Figure 4.7: UQTs in government schools in the regions from 2010 to 2019, adapted from (MoBSE, n.d.)

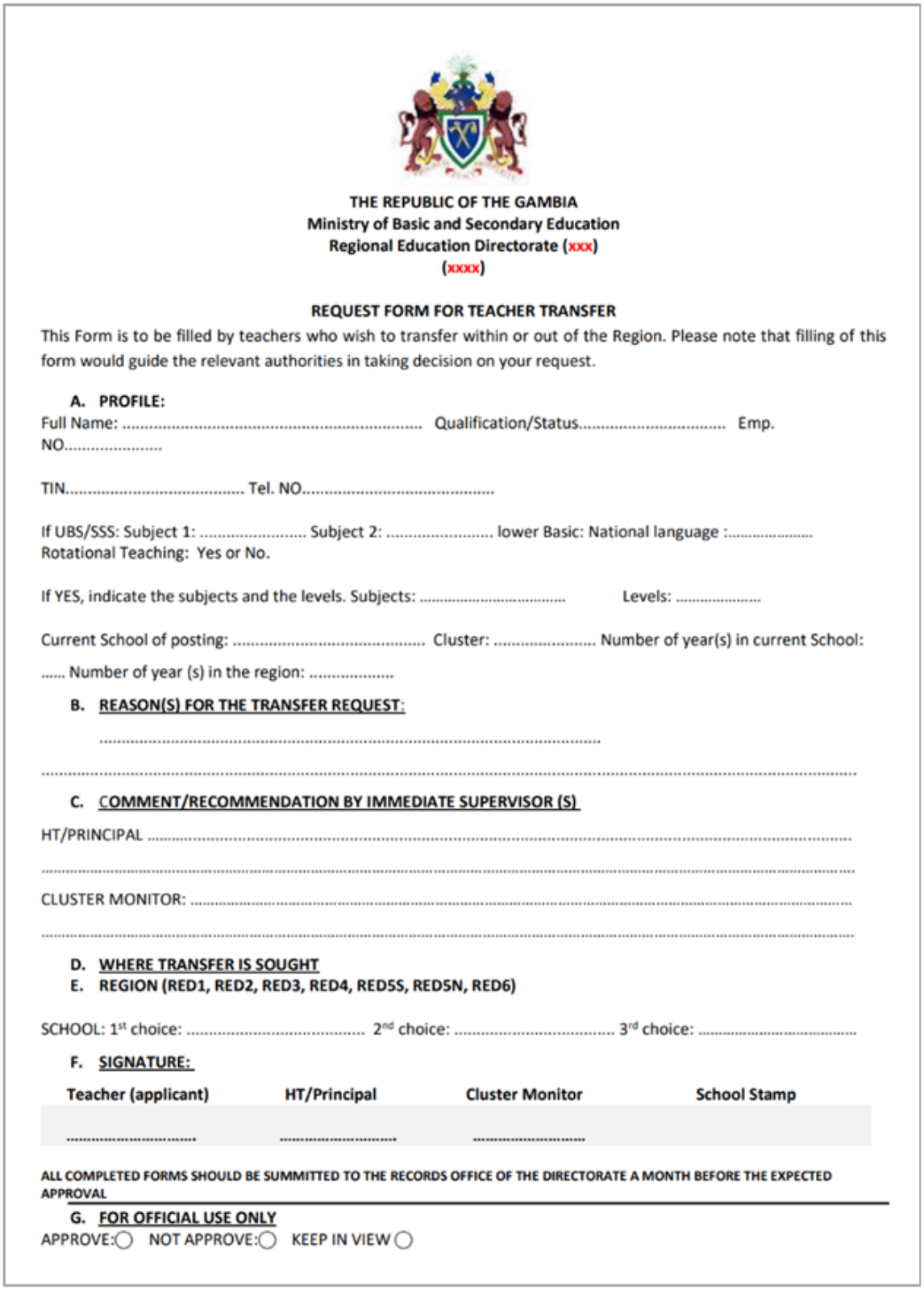
### In-Service Teachers

In-Service teachers are teachers who have received their teacher certification and/or have experience teaching in a classroom environment. In the Gambia, they are (1) teachers who want to transfer, either *intra-regional* (to another school in the region), or *inter-regional* (to another region), (2) teachers who are needed elsewhere, (3) teachers that have previously been posted with a PTC or higher, and have received study leave in order to get higher qualifications, (4) teachers who have left the system and want to come back, and (5) teachers who graduated in a previous year, but never took up posting.

These types of teachers are posted during the national postings that happen annually at the end of the school term, around June. National postings are agreed between the HRD and the REDs to ensure that the teacher distribution is fair across the regions and is based on needs instead of the teachers' wishes.

At the end of each academic year, teachers can transfer to another school or region by completing a form provided by their Head Teacher (Figure 4.8). The form is the same regardless of whether it is an inter-regional or intra-regional transfer. It includes personal details, such as their qualifications and the number of years they have been posted at their current school, as well as the reason for the transfer and the region they would like to be posted in. In addition, teachers must provide three choices of schools in the region. The Head Teacher must submit all transfer forms to the local RED by mail, travel, or via the Cluster Monitor during their monthly visit.

After the submission of transfer forms, REDs are responsible for decision-making processes for intra-regional transfers. The school will be notified of the decision through a memo. Inter-regional transfers are processed during the national postings, where the HRFP and Regional Director are responsible for presenting the requests. They will then send an inter-regional release memo to the region responsible for posting the teacher to a school.



**THE REPUBLIC OF THE GAMBIA**
**Ministry of Basic and Secondary Education**
**Regional Education Directorate (xxx)**
**(xxxx)**

**REQUEST FORM FOR TEACHER TRANSFER**

This Form is to be filled by teachers who wish to transfer within or out of the Region. Please note that filling of this form would guide the relevant authorities in taking decision on your request.

**A. PROFILE:**

Full Name: ..... Qualification/Status..... Emp. NO.....

TIN..... Tel. NO.....

If UBS/SSS: Subject 1: ..... Subject 2: ..... lower Basic: National language :.....
Rotational Teaching: Yes or No.

If YES, indicate the subjects and the levels. Subjects: ..... Levels: .....

Current School of posting: ..... Cluster: ..... Number of year(s) in current School: ..... Number of year (s) in the region: .....

**B. REASON(S) FOR THE TRANSFER REQUEST:**

.....

.....

**C. COMMENT/RECOMMENDATION BY IMMEDIATE SUPERVISOR (S)**

HT/PRINCIPAL .....

.....

CLUSTER MONITOR: .....

.....

**D. WHERE TRANSFER IS SOUGHT**
**E. REGION (RED1, RED2, RED3, RED4, RED5S, RED5N, RED6)**

SCHOOL: 1st choice: ..... 2nd choice: ..... 3rd choice: .....

**F. SIGNATURE:**

| Teacher (applicant) | HT/Principal | Cluster Monitor | School Stamp |
|---|---|---|---|
| ..... | ..... | ..... | |

**ALL COMPLETED FORMS SHOULD BE SUMMITTED TO THE RECORDS OFFICE OF THE DIRECTORATE A MONTH BEFORE THE EXPECTED APPROVAL**

**G. FOR OFFICIAL USE ONLY**

APPROVE:◯ NOT APPROVE:◯ KEEP IN VIEW ◯

Figure 4.8: Template transfer form

**National Postings**

The national postings for the next academic year begin in May and finish at the start of August, and the main activities include what is called (1) the *bilateral* with regions, (2) the *multilateral*, and (3) a *convergent* with the National posting committee. Before the bilateral, preparations for the posting are conducted through a planning meeting and training exercises. The planning meeting is usually held early in May and is conducted centrally at MoBSE by the HR Director and a Posting Coordinator. The objective is to review and preview the existing posting processes, and highlight successes and challenges from the previous year, to improve practices going forward. Basic data management training is held at MoBSE for all the HRFPs, where they learn how to standardize and manage data.

After preparations are completed, the bilateral begins, which is centered around analyzing the teacher demand and supply, establishing teacher requirement gaps for each region, reviewing the placement of those with status (i.e., In-Service teachers), and distributing the number of graduates according to the proportion of regions' requirements. A HRD Posting committee at the central level has meetings with HRFPs in each of the six regions to verify the current teacher postings for the schools located in the region. The HRFPs must present their transfer requests and submit a comprehensive regional seniority list. Together with this information, the central level requests a list of prospective graduates from the training institutions and distributes a teacher quota per region. After this step is complete, the multilateral begins. The stakeholders involved are the HRD Posting committee at central, Regional Directors and HRFPs from the regions, and the HR Director.

The main objective is to establish the number of teachers who will be released from each region and the number of those who will be inserted into the regions. Lastly, the convergent with the National posting committee is conducted by only the central level, which includes the HR Director, the Posting coordinator and the HRD Posting committee. The meetings are dedicated to presenting the posting process and any matters that were raised during, as well as making any necessary adjustments to the final posting. The goal is to share knowledge and experience in order to reach the best possible outcome for all.

## 4.3 WhatsApp

WhatsApp Messenger, commonly referred to as WhatsApp, is an internationally available freeware, cross-platform, centralized instant messaging (IM) and voice-over-IP (VolP) service owned by US tech conglomerate Meta. It was originally developed as an alternative to SMS and has since grown to support media such as text, photos, videos, documents, location, and voice calls. It supports multiple OS's such as Android, iOS, MacOS and Windows on both mobile and desktop devices.

To be able to use the app, all that is needed is the user's phone number, which then enables the viewing of any mobile contacts who also use WhatsApp within the application. Chats can be created between two users or as a group with up to 1024 participants. Messages sent in these groups are end-to-end encrypted, which is a secure communication standard where only the people who are messaging can read the messages (WhatsApp, n.d.).

The ability to create group conversations is a popular feature of the application. They have use cases such as announcements, and of sharing information with the other group members. A group can be created using the application on a mobile or desktop device by selecting 'new chat,' and then selecting contacts to add to the group. As a group administrator, a user can add new people to the group either by selecting from their contact list or by sharing a link provided in the group info. There is also the ability to change group permissions, either by adding more administrators or managing who has permission to add people to the group. Administrators can remove group members and delete the entire group, and every member can also exit it on their own account.

In a direct or group chat, it is possible to send up to one hundred videos or photos at once. There is also the functionality of sending documents, with the maximum document size being 2 GB. The media files can be downloaded onto the user's device, or it can be found in the chat media section within the chat. Messages can be forwarded to another individual or group chat, and it can be shared with up to five chats at one time (WhatsApp, 2023).

### 4.3.1 WhatsApp in the Gambia

WhatsApp is used by more than 2 billion people in over 180 countries, being widely used in West Africa due to its “simple and accessible functions, low data usage and the privacy it offers through its end-to-end encryption of messages” (Hassan & Hitchen, 2022, p. 2). Over the last 10-20 years, big technological advancements have happened in many African countries. According to Deloitte's report, The Sub-Saharan Africa Mobile Observatory, mobile phone usage in Africa has increased from 1% to 54% between 2000 and 2012 (Sambira, 2013).

In the Gambia, specifically, there were 4.02 million mobile connections in January 2021, which is equivalent to 164.1% of the total population, meaning that many people have more than one mobile phone (Kemp, 2021). While this means that most people in the country have access to a mobile phone, the GDP of the country represented less than 0.01 percent of the world economy at 2.08 US Billion Dollars in 2021 (World Bank, n.d.). Because of this, for many people in the country it is too expensive to call and text using mobile services. When WhatsApp emerged as an alternative, they could get these services essentially for 'free' in the sense that they could use Wi-Fi networks that are public or associated with their workplace.

According to the World Population Review (2023), the number of WhatsApp users in the Gambia is estimated to be 897 thousand as of 2023, and this number continues to increase. Hassan and Hitchen (2022) found that “phone-sharing” was a common occurrence in many towns and cities across West Africa. This involved groups of people gathering around one’s individual phone to listen to voice notes or watch videos, often involving the use of WhatsApp to do so (p. 3). The authors argued that because of this occurrence where many people access the content indirectly, the actual number of WhatsApp downloads or actual users are severely underestimated.

It has not been identified any clear data on how and when WhatsApp became as popular as it is today, but it has been made clear that it is used widely across the country, both in private and public sectors. One of these public sectors is the U.S. Embassy in Banjul who in 2016 launched a WhatsApp group open for all civilian Gambians to discuss different matters.

They announced the group ‘U.S. Embassy Banjul’ on their Facebook with the following statement,

> We are pleased to welcome all Gambians who would like to take part in meaningful, productive, and constructive civil discourse on various issues, from women and youth empowerment, democracy and human rights, and civic responsibility, to opportunities for young Gambians […]. Please contact us via the U.S. Embassy Banjul Facebook page if you would like to be added to this discussion group. (U.S. Embassy Banjul, 2016).

This is just one example of the culture around WhatsApp in the Gambia and shows how open the use of the application is both for private consumers and public institutions around the country.

# Chapter 5

# Methodology

This chapter presents the research methodology for the project by explaining the research methods used and the reasoning behind choosing them. This is followed by a project summary describing the process of data collection, including collection methods and participants. Further, it will give a thorough overview of the data analysis process and the chosen analysis method. Lastly, is a reflection on the overall methodology, and ethical considerations.

## 5.1 Research Methodology

The research methodology chosen for this project was selected from the IS research framework presented by Braa and Vidgen (1999), which presents an overview of the main research methods used in IS research. The purpose of the framework is to help guide researchers in the IS field in the choice of methodology when conducting in-context research.

The framework bases itself on three ‘dynamics;’ positivism, interpretivism, and intervention. *Positivist* research assumes that reality can be observed objectively, where the researcher acts as an outsider without affecting the context, while *interpretivist* research is based on understanding the viewpoint of the people within the context, where the researcher participates to different extents.

The third dynamic, *intervention*, is based on Braa and Vidgen's argument that in both positivist and interpretive approaches, the researcher intervenes in the context whether the method is subjective or objective, which leads to "unexpected outcomes" (p. 2). This last approach is also referred to as critical research (Myers, 2022).

The framework, presented in Figure 5.1, is represented by a triangle where each corner illustrates the intended outcomes of the research, which is prediction, understanding and change. The figure in turn demonstrates how suitable methods for in-context research fit with each of these outcomes.

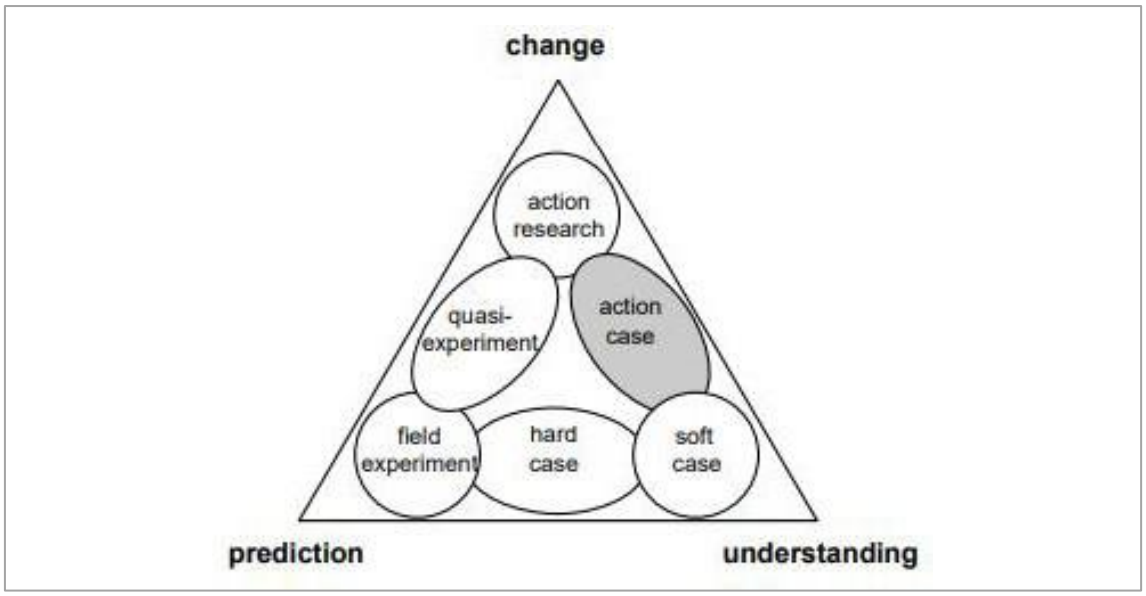



Figure 5.1: IS framework with research methods (Braa & Vidgen, 1999, p. 32)

Prediction is aligned with a positivist approach, understanding with an interpretive approach, and change with an interventionary approach. Each of the research methods fit somewhere inside the triangle and can be hybrid in nature.

For instance, field experiments can be a suitable method for when the goal of the research is to predict an outcome, while action research is a good choice for when the aim is to inflict change. Case studies can be suitable both for understanding and predicting a research question, which translates into hard (positivist) case study, and soft (interpretivist) case study (Braa & Vidgen, 1999, p. 3).

### 5.1.1 Philosophical Foundation

The goal of the research described in this thesis was to understand how WhatsApp usage effects or impacts the standard workflows or information flows within teacher management in the Gambia. Therefore, the approach, or philosophical foundation, of the project is interpretive. As mentioned in Chapter 2, WhatsApp usage is in this context defined as a workaround. Workarounds are observable occurrences of something that happens outside of the predefined workflows, which Alter (2014) refers to as a phenomenon. Interpretive research attempts to "understand phenomena through meanings that people assign to them," and methods that follows this paradigm in IS research aims to produce an "understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context" (Myers, 2022). Therefore, it was decided that an interpretive, or in Braa and Vidgen (1999)'s terms, a soft case study was chosen as the research method. A case study is a qualitative research method and is the most used within IS research. Yin (2009) describes a case study as an empirical inquiry that,

- Investigates a contemporary phenomenon in depth and within its real-life context, especially when
- the boundaries between phenomenon and context are not clearly evident. (p. 18).

Further, case studies are applicable when the research question aims to understand 'why' or 'how' something occurs, as well as in instances where the reality needs to be captured in detail (Yin, 1994, as cited in Braa & Vidgen, 1999, p. 4) to understand the context surrounding the event or phenomena. Interpretive case studies are focused on gaining an understanding, which aligns with the goals of the research presented in this thesis.

### 5.1.2 Research Phases

The research team was introduced to the project at the end of 2021 and would prepare for the research until September 2022, when we traveled to the Gambia for the first field trip.

Following this trip, each member of the team decided on a case of interest, which would guide the data collection for the second field trip in April 2023. The data were then analyzed, and the results were finalized in late 2023. The project can be divided into five phases which focus on: (1) researching the topic, (2) deciding on a case, (3) understanding the case, (4) identifying main problems, and finally (5) analyzing and interpreting the results.

Each of these phases involved proposing and changing the research question, which went through three iterations. The phases are detailed in Figure 5.2 and will be described thoroughly in the next sections.

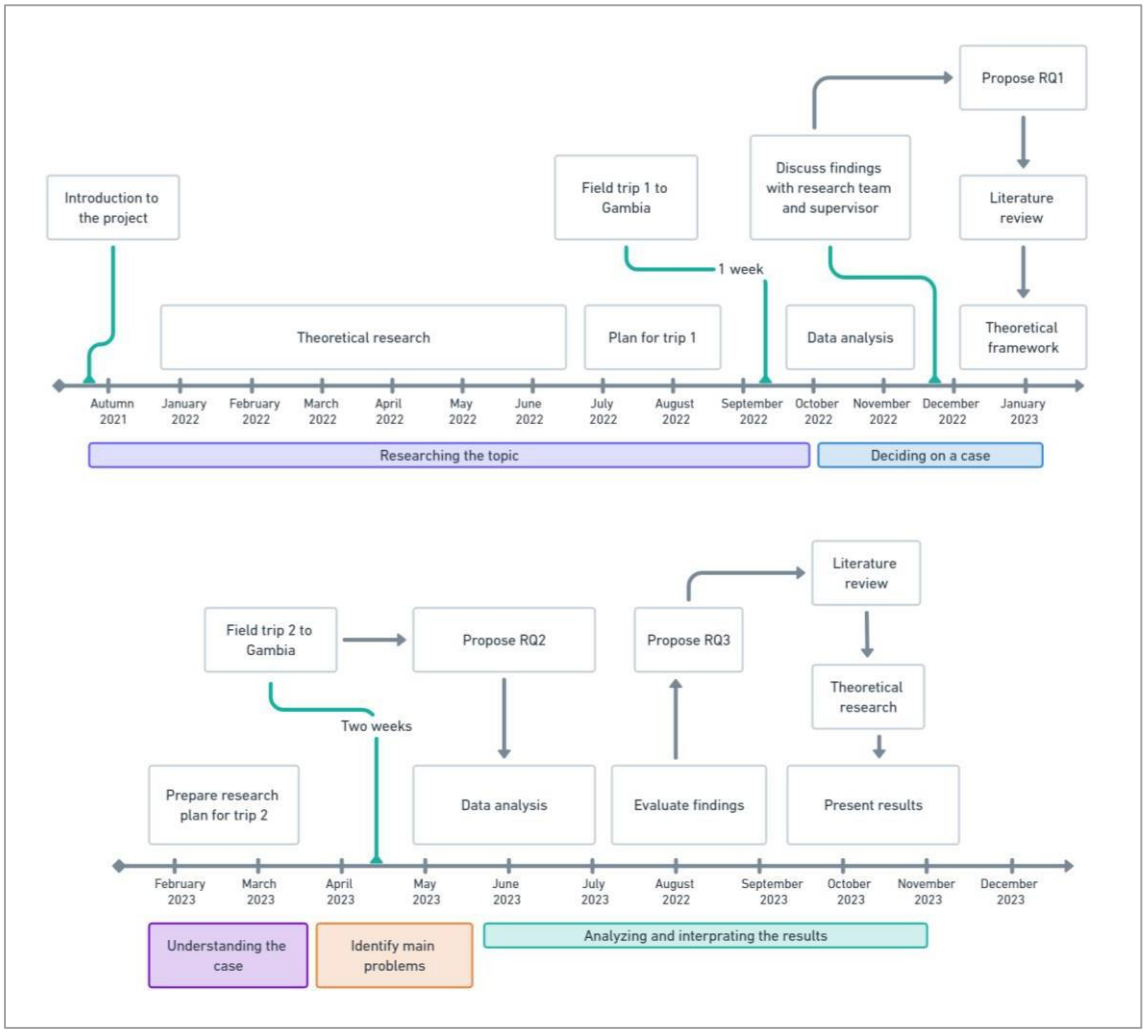



Figure 5.2: Timeline of the project by each phase

## Researching the Topic

*Autumn 2021 – September 2022*

The first step in the project was both theoretical and practical research of relevant context information. The theoretical part consisted of researching the education system in the Gambia. This included teacher posting processes, and research on teacher attendance and motivation among teachers. In addition, it involved research on the Gambia in general, such as information related to culture, demographics, and education structure. Moreover, contact was established with MoBSE in Gambia through an introductory remote meeting with the research team who was based in Oslo. The stakeholders gave access to some context information relevant to the project. The initial plan was to decide on a case related to the topic only based on theoretical research, however, it proved difficult due to limitations of information available about teacher posting in the Gambia. Therefore, it was decided to travel to the Gambia for the first time, and preparations for the trip were conducted in collaboration with the research team and our supervisor.

The practical research involved a 1-week field trip to the Gambia in September of 2022. The goal was to collect context information not found in literature, and that would further help gain an understanding of the processes involved in the education sector. Another goal was to get a sense of the culture, understand where and how the work was done, and get access to subjective experiences from the stakeholders. During our stay, we were able to visit the MoBSE central office, RED offices in regions, and travel to a rural school. I kept a *diary* for the entire trip, which was detailed thoroughly to use later to come back to the context, and for analysis of the data.

## Deciding on a Case

*October 2022 – January 2023*

Through guidance from my supervisor, it was determined that I would choose a case to research further based on analysis of the data gathered from the first trip. The research team collaborated on organizing and analyzing the data through examination of audio files, notes, and other data materials.

From this data, it was discovered that the use of WhatsApp as a workaround in HR management for teacher posting was extremely prevalent. Other workarounds identified were the use of Excel sheets to store data or having employees do work outside of their scope. I chose to focus on workarounds in general in teacher posting as the case for the project. The first research question to guide the research was produced,

> ***RQ1****: How does workarounds shape information flows related to teacher posting in the Gambia?*

Further, I performed a literature review, which was conducted using this question as a guideline. The scope was still broad, and, as mentioned in Chapter 2, most of the related research did not focus on the specific selected case. Based on the literature review, the theoretical framework presented in Chapter 3 was developed. The theories included were selected from literature focusing on workarounds in general, as the theories used in other case studies had been mostly outside of the IS research scope, and therefore not as relevant for the project.

**Understanding the Case**

*February 2023 – March 2023*

As the first field trip had been focused on understanding the context, the research team agreed to travel on a second field trip, in order to collect information related to each of the member's selected cases. This phase was dedicated to preparing for this upcoming trip, and included deciding on data collection methods, and a research plan based on RQ1. Interviews were selected as the main data collection method, and the research plan suggested relevant interview subjects, themes in which I was interested in exploring, and main objectives established for the research. The subjects included stakeholders from central, regional, and school level, with an emphasis on those directly involved with HR operations at the central and regional level. The main objectives for the research were,

1. The usage, perspective, and actual implementation of workarounds on all levels of the teacher posting process, with an emphasis on WhatsApp.

2. How the usage of workarounds has impacted the information flow between the levels, e.g., paper-based communication, email, or informal communication.

**Identifying Main Problems**

*April 2023 – May 2023*

This phase was focused on data collection based around the objectives established in the research plan and consisted of a 2-week field trip to the Gambia in April of 2023. The interviews were conducted in collaboration with the research team, and questions were derived from the themes in the research plan. We had the opportunity to revisit MoBSE headquarters, where most of the research were conducted, as well as revisit one region, and travel to a rural RED office and two urban schools. Like on the first trip, I chose to keep a *diary* during the trip, although it was not as detailed. As the context was already understood, it was deemed more important to keep track of dates, locations, and stakeholders.

Experiences from both data collection during the first field trip, and the subsequent analysis of the data, allowed for the research team to inflict changes to how the interviews for the second field trip would be performed. The interviews conducted during the first field trip consisted of voice recordings and notes. The analysis of the data collected revealed that the notes taken were too complex and unclear, making it challenging to extract relevant information. Additionally, the method for analyzing the audio files was deemed as time consuming and not effective. Therefore, for the second trip, the research team opted to perform interviews by mostly recording and not focus too extensively on note taking, and then transcribe the audio files during the analysis phase. This enabled the team as researchers to be more present with the subjects, and the opportunity to get more in-depth by, for instance, asking follow-up questions.

Most of the interviews were conducted following the same questions for each level, as the stakeholders would be in similar roles and positions. There was a regular occurrence of some amount of time between each interview, which in some cases prompted changes to some of the questions.

Among other things, it was discovered that WhatsApp was the most prominent workaround compared to the other types. To reflect this, the research question was changed for the first time, as follows,

> ***RQ2:*** *How does WhatsApp usage shape information flows related to teacher posting in the Gambia?*

The proceeding interviews were thus conducted following this new research question. The questions did not change drastically as only broad questions about workarounds were omitted, and more specific questions about WhatsApp, such as the usage of chat groups, were added.

**Analyzing and Interpreting the Results**

*June 2023 – November 2023*

This phase focused on analyzing the data collected during the previous phase. The analysis gave insight into information not previously understood while collecting data, which ended up prompting another change to the research question. This time it was uncovered interesting findings about the organizational structure and how it fit together with WhatsApp, the new question therefore became,

> ***RQ3****: How has WhatsApp influenced the organizational structure and workflows within the educational sector in the Gambia?*

This change in the research question gave the need to refine and change parts of the literature review. It was also discovered that more contextual information had to be gathered, which was done through theoretical research. After doing these tasks, the findings were clearly identified to be used together with the literature review and theoretical framework as a groundwork for the discussion.

Additionally, the research was presented and discussed together with ethical considerations as part of an essay delivered in a core course at UiO. The essay worked as a starting point for the thesis, which means that many of the discussion statements from it will be presented in this paper as well. The final results were organized and examined.

## 5.2 Data Collection

The data collection involved theoretical research and an introduction to the project while in Oslo, and two field trips to the Gambia, in 2022 and 2023. The data collection was conducted together with the research team. The research involved mostly primary research, with a little bit of secondary data collected because of limitations with documentation and other literature discussing teacher posting.

On both field trips we did data collection on the central, regional, and school level. The first trip focused on understanding the context, collecting data from as many participants from various levels as possible, while the second trip relied more on collecting in-depth knowledge from human resources, management, and administration. As shown in Table 5.1, both trips relied mostly on the same types of data collection methods, and were conducted at the MoBSE headquarters offices, REDs, and schools.

Table 5.1: Data collection methods

| **Method** | **Frequency** | **Location** |
|---|---|---|
| Diary | 3 weeks | MoBSE/RED/School |
| Document analysis | Throughout the project | Oslo |
| Informal meeting | 1 | Oslo |
| Observation | 1 | RED |
| Semi-structured interview | 21 | MoBSE/RED/School |
| Unstructured interview | 4 | MoBSE/RED |

### 5.2.1 Data Collection Methods

The interviews, meetings and tours provided at both field trips were organized by the EMIS group, while the preparation for and actual research during the data collection were conducted by the research team.

The research methods utilized were unstructured and semi-structured interviews, document analysis, informal meeting, observation, and diary studies.

**Document Analysis and Informal Meeting**

One informal meeting was conducted through *Google Meet* together with HISP UiO, and relevant stakeholders at MoBSE, including the planning and HR department. The purpose of the meeting was for the research team to introduce themselves and the stakeholders to give an overview of issues that they were facing in HR and teacher posting in general. *Notes* were written to keep track of the issues and stakeholders. Following the meeting, the stakeholders gave the research team access to documents relating to teacher posting through *Gmail* which were then subsequently moved to a shared *OneDrive*. This included teacher transfer forms and posting memos, a national posting roadmap from the previous academic year, and examples of posting and verification data. In addition, a multitude of articles on teacher posting, absenteeism and educational management both in low resource countries and in the Gambia, as well as the School Management Manual, was provided by HISP UiO.

These documents were thoroughly examined and interpreted by the research team through document analysis. Document analysis is a qualitative research method used for reviewing and evaluating both printed and electronic material. The data in the documents, such as text and images, have been recorded independently of the researchers' influence. Through interpretation and examination of the documents, the researcher can gain knowledge and elicit meaning from the data (Bowen, 2009). As many documents were made available prior to the first field trip, it enabled the team to gain a broad understanding of the education structure and common issues related to it, as a starting point for the research. The rest of the documents were received after inquiry following the second trip, and the data were analyzed accordingly.

**Unstructured Interviews and Observation**

Both field trips began with unstructured interviews based around an open discussion with the HR and Planning departments at MoBSE, as a starting point for the data collection.

An unstructured interview is one of three categories of interviews: structured, semi-structured, and unstructured. Unstructured interviews do not follow a designated set of questions and are informal and spontaneous in nature. The way it is conducted will be based on the participants' answers, and questions will arise at the moment of the interview (George, 2022a). This type of interview creates a more relaxed scene and can be useful when researching topics where little knowledge exists.

Most of these types of interviews were conducted on the first field trip, with little prior knowledge about the educational system in the Gambia, outside of what was gathered from the document analysis and informal meeting. This type of research method was chosen because neither of the members of the research team had yet found a specific area they were interested in. The first was conducted with a representative of the Planning department who gave a thorough presentation of the structure and processes within MoBSE, and helped brainstorm ideas and questions, as well as suggest relevant stakeholders to interview. Based on this meeting, we performed an unstructured group interview with the rest of the stakeholders from Planning and HR. The participants began by introducing us to the issues they were facing in HR and teacher management, and we would produce questions related to this. *Notes* were written of the answers and whenever a new question was developed.

Additionally, while visiting one of the RED offices on the first trip, we were able to meet with a teacher who was present at the office for personal business. We performed an unstructured interview based around his experience during the teacher posting process, as well as observe the interaction between said teacher and the HRFP they were there to meet. This meeting was spontaneous; therefore, the interview was short and unstructured. The last unstructured interview was performed during the beginning of the second field trip and was based on more background information and knowledge on the educational system.

However, as mentioned in section 5.1, this field trip was more focused on gathering data on the specific topics that each of the members of the research team had selected after the first trip. In a meeting with HR, planning and upper management from MoBSE, we asked questions regarding teacher posting and our individual cases.

The stakeholders clarified some of the context information identified from the first field trip and helped discuss what to research further. This was a starting point for the trip.

**Semi-Structured Interviews**

The most used data collection method was semi-structured interviews, in both the first and second field trip. However, as previously mentioned, data collection was not as thoroughly planned for the first as compared to the second field trip. It was not established objectives for the interviews for the first field trip, and although we did not have any interview guides, we did base ourselves on pre-written questions. The interviews were performed jointly with the research team, with me in the role of notetaker. The most important data collection happened during the second trip, as the preparation was part of the *understanding the case* phase, and actual collection included in the *identifying main problems* phase. Most of the attention will therefore be focused on the semi-structured interviews conducted during the second field trip.

The key difference between the semi-structured and the unstructured interviews was that the research team had an accurate idea of the questions we wanted to ask. The plan for the second field trip was to interview many stakeholders and use both our own and the participants' time in the most effective manner possible. Therefore, the research team chose to do each of the interviews together, where each of us had our own set of questions and objectives. As to not confuse the interview subjects with our differing questions and topic in general, the team tried to collaborate in asking questions from similar topics at the same time and making sure each of us had explored our themes before moving on to the next one. This process was explained to the participants beforehand, in addition to clarifying that each of us were researching a different case but were interested in the same stakeholders and had some overlapping objectives.

As previously mentioned, I planned for the semi-structured interviews with questions derived from my research plan. The objectives (Table 5.2) were similar for each of the three levels and were related to standard workflows, workarounds in general, and WhatsApp. Most of the questions were open-ended, and the order and phrasing of the questions were not predetermined.

This allowed for more flexibility, where I could identify patterns without being too constrained by the structure (George, 2022b).

Table 5.2: Interview objectives for the second field trip

| | |
|---|---|
| **Standard Workflows** | Information flows, communication, data storage, teacher posting processes, management levels, responsibilities, decision-making, monitoring, management, challenges |
| **Workarounds** | Types, prevalence, user experience, reasoning, impact on standard workflows, differences between levels |
| **WhatsApp** | Usage by each level, groups, management, information sharing, communication, participants, feelings and perspectives regarding usage |

The interviews were *voice recorded* and included some individual *note* taking of interesting themes and topics discovered in the sessions. The environment for the interviews differed as they would be performed at the MoBSE headquarters, RED offices, and schools. The environment in the schools had more noise surrounding us than RED and headquarters offices, which impacted some of the quality of the audio recordings. Additionally, the stakeholders at the lower levels had more time constraints than those at the central level, which was reflected in the amount of time the interviews lasted, which were usually around 2 hours at the central level, but rarely over 1 hour at the regional and school level. As a research team, we tried to take these time constraints into account, so as not to disturb the workflow longer than necessary. After each interview, the team discussed the data and wrote down the main findings. These findings were used to add questions and guide the proceeding interviews.

### Other Data Collection Material

**Diaries** were used during both field trips as a tool for keeping track of the data collection process and remembrance of the context.

**Notes** were written during meetings, interviews, as well as the observation to keep track of the data, albeit the usage was more extensive on the first field trip.

**Pictures** were taken on both field trips at schools, RED offices and MoBSE headquarters to get a sense of the context. It was also used to document teacher management processes and the usage of WhatsApp.

**Audio recordings** of most of the interviews were used to analyze the findings.

### 5.2.2 Participants

On both field trips, we visited MoBSE at headquarters frequently, where we conducted six semi-structured interviews and three unstructured interviews (Table 5.3). This included mostly the HR department, as well as the Planning and EMIS departments. Both unstructured interviews were held jointly with all departments mentioned and took place at the beginning of each field trip. The number of participants involved varied, but the same principal informants were present for both meetings, some of which were also present for the introductory remote meeting in Oslo.

Table 5.3: Sources of data collection from the central level

| **Participant(s)** | **Method** | **Frequency** |
|---|---|---|
| *MoBSE: HR and Planning*<br>4-6 employees | Informal meeting<br>Unstructured interview | 3 meetings<br>1 meeting with one |
| *MoBSE: Upper Management*<br>Senior Officer | Semi-structured interview | 2 meetings |
| *MoBSE: HR*<br>3 Educational Officers | Semi-structured interview | 2 meetings with one<br>1 meeting with one<br>1 meeting with all |

Further, we visited three of the regions in the country (Table 5.4), whereby all interviews were semi-structured. To keep stakeholders as anonymous as possible, the regions visited will be referred to as A (urban), B (urban) and C (rural). On the first trip we visited both region A and region B, where we conducted three interviews at RED(A) and two interviews at RED(B).

On the second field trip we visited region C, where we performed three interviews at RED(C), and we also visited RED(A) again where we completed one interview. We did not get the opportunity to visit a third region, referred to as D (rural), however, we were able to interview a representative of RED(D) at the central office.

Table 5.4: Sources of data collection from the regional level

| **Participant(s)** | **Method** | **Frequency** |
|---|---|---|
| *RED(A)*<br>HR Focal Point | Semi-structured interview | 2 meetings |
| *RED(A)*<br>Focal point of Cluster Monitors | Semi-structured interview | 1 meeting |
| *RED(A)*<br>Cluster Monitor | Semi-structured interview | 1 meeting |
| *RED(B)*<br>HR Focal Point<br>Regional Director | Semi-structured interview | 1 meeting |
| *RED(B)*<br>Cluster Monitor | Semi-structured interview | 1 meeting |
| *RED(C)*<br>HR Focal Point | Semi-structured interview | 1 meeting |
| *RED(C)*<br>2 Cluster Monitors | Semi-structured interview | 2 meetings,<br>1 with each |
| *RED(D)*<br>HR Focal Point | Semi-structured interview | 1 meeting |

Lastly, the research group visited three schools across two regions (Table 5.5). The first trip included a visit to one rural school where we conducted three interviews, while on the second field trip we visited two more urban schools where we performed two interviews.

In addition, on the first trip we had an unstructured interview with a teacher who was visiting one RED office, as well as observed the interaction between said teacher and their HRFP.

Table 5.5: Sources of data collection from the school level

| **Participant(s)** | **Method** | **Frequency** |
|---|---|---|
| *Basic Cycle School (rural)*<br>Head Teacher | Semi-structured interview | 1 meeting |
| *Basic Cycle School (rural)*<br>3 teachers | Semi-structured interview | 1 meeting with two<br>1 meeting with one |
| *Lower Basic School A*<br>Head Teacher<br>Deputy Head Teacher | Semi-structured interview | 1 meeting |
| *Lower Basic School B*<br>Head Teacher | Semi-structured interview | 1 meeting |
| *Unknown school*<br>Teacher | Unstructured interview<br>Observation | 1 meeting |

The total number of participants from the central, regional, and school level can be estimated as 25 data sources. An overview of the types and number of each participant is shown in Table 5.6 below.

Table 5.6: Total data sources

| | **Participant** | **Number of Participants** |
|---|---|---|
| **Central** | *Senior Officer* | 1 |
| | *Educational Officer* | 3 |
| **Regional** | *Regional Director* | 1 |
| | *HR Focal Point* | 4 |
| | *Focal Point of Cluster Monitors* | 1 |
| | *Cluster Monitor* | 4 |
| **School** | *Head Teacher* | 3 |
| | *Deputy Head Teacher* | 1 |
| | *Teacher* | 4 |

### 5.2.3 Technologies Used for Data Collection

The research team utilized several different technologies for data collection, both during the first and second field trip. The use cases ranged from information storage and sharing, recording of data, and planning of both interviews and meetings. The tools were selected based on availability and accessibility.

**Gmail** was used for communication and exchange of relevant documents between stakeholders at MoBSE and the research team.

**WhatsApp** was used by the research team to establish contact with our contact person in the Gambia, who helped schedule meetings, tours, and interviews.

**Google Meet** was utilized to conduct the introductory informal meeting held between the research team, HISP UiO, and stakeholders at MoBSE.

The **Apple Voice Memos** application was used for recording the interviews using a smartphone as a tape recorder on both field trips. Before moving the files onto *OneDrive*, they would be stored locally on the individual's phone.

A combination of **Google Docs,** and both the **Apple** and **Samsung Notes** application were utilized for planning, preparing questions, and note taking during interviews. The latter was also used for writing the diaries kept on both field trips.

**OneDrive for Business** was used to store documents retrieved through *Gmail*, relevant articles and theories, audio files, transcriptions of data, and analysis material. The documents were stored in folders and shared between the research team and project stakeholders from HISP UiO.

**Autotekst.uio.no** was used to transcribe the data from the second field trip. It bases itself on the OpenAI Whisper AI, which automatically transcribes audio files into text files while following privacy guidelines set by UiO.

## 5.3 Data Analysis

The data gathered from the second field trip were thoroughly analyzed. After each interview/meeting, the research team discussed the data and wrote down the main findings. These findings were used to add questions and guide the proceeding interviews. The rest of the analysis was performed in Oslo, and based itself on Thematic Analysis (TA), developed by Braun and Clarke (2012). TA is a flexible method of analysis used for "systematically identifying, organizing, and offering insight into patterns of meaning […] across a data set" by following six steps (p. 57). The authors describe the patterns as *themes*, which are derived from *codes* and allow the researcher to make sense of the shared meanings and experiences expressed throughout the data set. There are different approaches to doing TA, such as inductive or deductive. I chose to perform the analysis using an inductive bottom-up approach, which is driven by "what is *in* the data" (p. 58). This means that I, as a researcher, decided to have the content of the data determine my codes and themes. This is contrasted by a deductive top-down approach, where the researcher interprets the data through already established concepts, ideas, and topics (Braun & Clarke, 2012).

As have been previously explained in past chapters, there were limitations on theories and literature related to the specific case presented in this thesis, and an inductive approach was therefore the best choice to interpret the data. The analysis was performed following the six steps of TA, which were (1) familiarization, (2) coding, (3) generating themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. The research question (RQ2) was re-examined before starting the first step. This led to dividing the question into initial sub-questions, where the answers would be the goal of analysis. These were related to how and why WhatsApp was used at all levels within MoBSE, who were using it, and the experiences and attitudes related to the usage.

**Step 1: Familiarization**

The first step involves going through all the data material thoroughly, where the researcher immerses themselves in the data by rereading textual data, listening to audio files, or watching and examining pictures and videos (Braun & Clarke, 2012, p. 60).

In relation to the research project, this began with transcribing data and dividing responsibilities. This included identifying dates, interview subjects, and locations for each of the audio recordings collected from interviews. This process was facilitated by going through the diary written during the trip. Each audio file was categorized into folders named after the date the interview was conducted. Then, to save time and resources, the responsibility of transcribing files was divided between each member of the team.

The actual transcribing was done using UiO's AI transcription tool; however, the tool was not able to distinguish between interviewer and subject dialogue, and there were certain phrases or names it could not identify correctly. Therefore, we divided responsibilities for correcting these 'mistakes' among the research team and set a deadline for when the work was supposed to be finalized, of one week. However, it was soon discovered that we had underestimated how time-consuming the task would be, which made us move the deadline by three days. After everything was transcribed, the research team divided the text files into folders, based on if it was conducted at central, regional, or school level. They were then further categorized based on the regions and schools the interviews were conducted at. By dividing the files based on hierarchy, it became easier to analyze the information flows and stakeholders present. This process was finalized by creating a table consisting of details related to each interview such as date, location, stakeholder, and data collection method. This table was used to keep track of interviews to re-examine, and enabled an effective workflow for going through a large amount of data.

Moreover, the same process of categorization was performed for data material such as pictures, notes and documents retrieved during the field trip. These materials, in addition to the transcriptions, were thoroughly examined to find patterns, themes and interests before going forward with the coding.

**Step 2: Coding**

As previously mentioned, the research team performed data collection together, but had different objectives. This resulted in a substantial amount of data material, some of which was less relevant for the case than others.

To make the process more efficient, I decided to limit the analysis to information related to WhatsApp. I began by going through all transcripts that were organized in the last step and coded each document. Because the research included different types of stakeholders, I decided to create different specific codes for each document. However, this resulted in confusion and created more work than required. This discovery made it necessary to go through all the documents a second time, but in a broader manner. This resulted in common codes for all interviews, which were included in the first 'codebook': (a) WhatsApp groups, (b) management of WhatsApp groups, (c) challenges of WhatsApp, (d) benefits of WhatsApp, (e) standard information sharing, (f) examples of WhatsApp usage, and (g) challenges with the standard information flow.

After constructing these initial codes, I found that it would be easier to combine everything related to WhatsApp from the interviews into one document. I decided to go through this document and code all the text for a second time. This resulted in keeping some of the codes as they were, removing some and adding new ones. The new codebook ended up including 'word' codes and 'highlighted' codes. The word codes specified single words such as *stakeholder*, *data*, and *communication channel*, while the highlighted codes were limited to bigger sentences and paragraphs focused on a specific topic or idea such as *procedures*, *communication/data sharing*, and *opinions.* This system meant that most of the highlighted codes would have word codes within them.

**Step 3-4: Generating and Reviewing Themes**

The third phase in TA revolves around "reviewing the coded data and identify areas of similarity and overlap between codes" (Braun & Clarke, 2012, p. 63). While the fourth step is a "recursive process" where the themes are reviewed in relation to both the coded data, and the rest of the data set (p. 65). The analysis process for the research described in this paper did not follow all the steps chronologically, where the codes and themes were both generated and reviewed in relation to the data set during the same process phase.

I began by combining similar codes together and examining possible themes. At this point it was important to make sure the themes were accurate representations of the data, which involved changing some of the codes whenever it was necessary.

Codes that had very few highlighted phrases were either removed or combined with other codes. I initially had some difficulty with creating themes based on the codes, which prompted a re-examination of the research question (RQ2). This examination resulted in three initial themes: (1) WhatsApp groups, (2) Information flow/workflows, and (3) WhatsApp usage. These themes helped uncover the importance of the organizational structure and workflows related to WhatsApp, as opposed to only information flows. Additionally, it was discovered that while WhatsApp was prevalent in workflows related to teacher posting, the usage was also prominent in other areas in the educational sector such as the Taskforce meetings, and payment of staff on all levels. As mentioned in section 5.1.2, this influenced the changing of the research question.

**Step 5: Defining and Naming Themes**

After conceptualizing the initial themes, they were presented and discussed together with my supervisor. Braa and Vidgen (1999) states that when defining your themes, "you need to be able to clearly state what is unique and specific" about each of them (p. 66). The authors expand on this by stating that a good TA should have themes that are singular in focus, are related but not overlapping, and directly addresses your research question. Through regular revisitation of the research question (RQ3) and guidance from my supervisor, the themes were renamed and defined (Table 5.7).

Table 5.7: Finalized themes using TA.

| | **Codes** | **Definition** | **Exemplary Quote** |
|---|---|---|---|
| **Structure** | Structure, groups, group management | The relationship between the structure in the organization and within WhatsApp. Which groups exist, which stakeholders are part of these groups, and who manages them. | "At the cluster level, we have a cluster group where [school] managers are part of the group. At the school level, some of them have their own [WhatsApp group] and they will even add me and be part of the groups." (Cluster Monitor). |

| | | | |
|---|---|---|---|
| **Workflow** | Procedures, communication between levels, examples of practice | What information is shared and communicated through WhatsApp both within a level and across them. What procedures are in place both for the standard information channels, and for WhatsApp usage. | "[...] most times, the first time [the HR unit at MoBSE] will send [a teacher] to us, they always communicate with us and ask if we have a vacancy for the teacher. […] they communicate through phone call or through WhatsApp." (HRFP). |
| **Practice** | Benefits, challenges, workaround, uncertainty, opinions | The actual practice. Which situations WhatsApp is used, and why. Benefits and challenges, the stakeholders' experiences, and opinions of the usage. | "Normally that is [communicated] through WhatsApp because the ideal situation would have been email. But it is difficult to access email here, we don't even have it. So, we end up using WhatsApp" (HRFP). |

**Step 6: Producing the Report**

When the themes were finalized, the table was used to explain and structure the findings of the project, which is presented in detail in the next chapter. The process involved identification of the most logical and meaningful way of presenting the themes. The themes were expanded with sub-themes based on a combination of the codes, definitions, and reexamining the quotes for each code and/or theme.

Braa and Vidgen (1999) emphasizes that the final step of TA should focus on finding the best way to tell a "coherent story about the data" (p. 69). My own reflection was that I wanted to tell a story about a workaround in the form of WhatsApp. How this workaround evolved from a simple tool used for solving challenges experienced by the stakeholders, to becoming ingrained in the work system itself, which led to the establishment of new procedures that came with their own benefits and challenges. It was determined that the best way of telling this story was to begin 'in medias res,' with examination of the current work system and WhatsApp's part in it.

Thereby explaining the WhatsApp groups identified, the interaction between them, and how they were managed. The story would continue by describing the workflows WhatsApp were a part of, including procedures and communication/data flows. Finally, the story would conclude by illustrating the road from workaround to the standard tool it has become. This consisted of investigating ways WhatsApp had become embedded in the work system, through examining prominent gaps, as well as user experiences with the application itself and in relation to important workflows.

## 5.4 Reflection over Methodology

This section will reflect on the methodology chosen for the project, which was interpretive qualitative research, conducted through a case study. Klein and Myers (1999) introduce seven principles for conducting and evaluating interpretive field studies in IS. To evaluate and reflect on the chosen philosophical foundation post-research, each of these principles will be considered in detail.

The first principle, *Fundamental Principle of the Hermeneutic Circle,* is based on the idea that an understanding of the "whole" is affected by our preconceptions about the meanings of its parts (p. 71). Interpretive research can be unreliable. When performing interviews focused on WhatsApp usage, the preparation of both the questions and interpretation of the answers was dependent on knowledge about the application itself. As mentioned in section 5.2.3, I already had some experience using WhatsApp during the actual research, where we established contact with our contact person in the Gambia. This enabled an understanding of stakeholder's experiences, such as using Wi-Fi to call and text, without relying on mobile subscriptions.

However, in preparation for both field trips, I had not performed enough extensive research on WhatsApp and its functionalities, such as how to manage groups, and limitations on members in the group and the size of data that could be uploaded. Additionally, I lacked knowledge on how long the data could be stored in the groups, or if the data was stored locally on the user's phone or secured on a server. This set limitations on the research as I could have missed interesting findings that might have changed the outcome of the project.

The next principle is the *Principle of Contextualization*, which is a critical reflection of the historical and social background of the research setting (Klein & Myers, 1999, p. 73). For this research project, I made sure to research relevant context about the Gambia, as presented in Chapter 4. This enabled an understanding about the country's status as a former crown colony under Britain, which consequently has led to the official language being English, which is the language used for procedures in the public sector. This gave the advantage of not too strong language barriers between the research team; however, it was quite common for the subjects to have strong accents influenced by their tribe language, which in some cases made it difficult to interpret certain words or phrases during the interviews. This was especially prominent in one of the interviews where the team struggled with understanding much of what the subject was saying and frequently had to ask the individual to repeat themselves, which could have affected how comfortable and understood the subject felt.

Further, to gain a thorough understanding of the case, it was crucial to have sufficient knowledge on the social norms and context in the Gambia related to WhatsApp usage in general. For the first trip, WhatsApp as a focus area was not yet established, and research on the subject was therefore not considered. In preparation for the second field trip, it was prioritized extensive research on the subject. It was discovered that there was a lack of research on this, and there were no regulations or documentation related to the usage in the public sector, or in MoBSE specifically to be found online. There was also not enough time to establish contact with the main stakeholders from the upper management at MoBSE to research if they had any documentation on WhatsApp usage in the organization. This could have implicated the research results and recommendations as there might have been a monitoring system present for usage of the application, but it was not identified.

Building on the second principle, is the *Principle of Interaction Between the Researchers and the Subjects* and the *Principle of Abstraction and Generalization*. The former requires the researcher to place themselves and the subjects into the historical and social perspective. The latter requires relating the interpretations to theoretical and general concepts to describe "the nature of human understanding and social action" (Klein & Myers, 1999, p. 72).

The research conducted was cross-cultural, meaning that the researcher and research context is based in two different cultures. I, as a Norwegian researcher, viewed the context, which is African, through a western lens. This influenced the way I prepared, conducted, and analyzed the research. WhatsApp is not as prominent in Norway as it is in the Gambia, and I realized that I struggled with understanding *why*, as I was not part of the context it was used in. When trying to explore why WhatsApp was the main communication application used, instead of other similar platforms such as Facebook messenger, I found that I had to rely more on theoretical research than on the answers of the participants themselves. This was because it was already so embedded in their culture and they could not explain *why*, just that it "was always there" and "a natural choice." Therefore, to try and understand the emergence, I combined the insights of the participants and the theoretical research and related it to the theories proposed by Steven Alter (2013, 2014) in Chapter 3.

However, the *Principle of Dialogical Reasoning* requires the researcher to "confront their preconceptions (prejudices) that guided the original research design (i.e., the original lenses) with the data that emerge through the research process" (Klein & Myers, 1999, p. 76). Despite the effort of researching relevant context, related research and possible theories to help explain the data (Chapter 2, Chapter 3, Chapter 4), it cannot be denied that my comprehension would still be limited. As inexperienced researchers entering the country for the first time, we encountered an unfamiliar culture, infrastructure, norms, and values. Studying the case from the "outside" could have given the advantage of seeing the phenomenon from a fresh perspective, and discovering findings that would have been overlooked had I already been a part of the culture. However, as outsiders, even by trying to understand the context as much as we did, it is still important to acknowledge that preconceptions will still be present and could have affected the outcome of the research.

This leads to the *Principle of Suspicion* which "requires sensitivity to possible 'biases' and systematic 'distortions' in the narratives collected from the participants" (Klein & Myers, 1999, p. 72). I did not realize until transcribing the interviews, that the way I performed the interviews was not ideal. I noticed that I struggled with explaining my questions, often asking several of them at the same time.

This could have made it confusing for the subjects to know what to answer. Additionally, it was also discovered multiple leading questions, where the subjects ended up answering the questions that I was 'hoping for,' such as "so you like WhatsApp because it is user-friendly?" This could have influenced the data collected and its authenticity.

Moreover, the *Principle of Multiple Interpretations* requires sensitivity to possible differences in the interpretations among the participants (Klein & Myers, 1999, p. 72). Post-research, I discovered that I failed to ask the subjects about relevant information regarding WhatsApp usage. This was related to technical specifications, such as their technical skills, which smartphones they were using, the operating system, or if they used the latest version of the application. Because of this, the data was interpreted without knowing any of this crucial background information. By looking at the experiences of two HRFPs who 'on paper' were based in the same context but had different 'stories' regarding WhatsApp usage, HRFP(A) could have explained that they had no issues with using the application, while HRFP(B) could have mentioned that it was fine, but "slower than calling." As I did not collect enough information, there is no way of knowing why these two stakeholders have different 'stories.' This could be related to several things, where HRFP(B) could have an old version of the application, a phone that is slow in general, or struggle with understanding new technology.

## 5.5 Ethical Considerations

As researchers, when conducting research, we have a responsibility to maintain a set of ethical guidelines for when interacting with participants, collecting, and analyzing their data, and presenting the findings. During this project, both in the research team, and as an individual researcher, I tried to consider all relevant ethical dilemmas that could occur and maintain the dignity of the participants during all phases of the research. Oates, Griffiths, and McLean (2022), states that when conducting research, the rights of participants are to be clearly evaluated. The authors propose rights of participants as the,

- Right not to participate
- Right to withdraw

- Right to give informed consent
- Right to anonymity
- Right to confidentiality. (p. 61).

During the data collection process, the research team made sure to explain to the participants that their involvement in the project was completely voluntary and that they could withdraw from the project at any time without it resulting in any negative consequences for them. Additionally, when recording audio, we made sure to ask the participants for their permission, explaining that the recordings would only be used by the research team to analyze data, and not be shared with anyone else outside of the known stakeholders at HISP. We also emphasized that as soon as the project concluded, any confidential data collected would be permanently deleted.

Moreover, special attention was given to anonymizing the data both during and after data collection. When writing notes during interviews, only the title and department/region/school they were a part of was used to identify participants, while sensitive data such as name and age were omitted. For instance, a Cluster Monitor in region X would be labeled as Cluster Monitor A in RED(X). These identifying labels were maintained during the transcription and analysis, and when storing the data on the UiO OneDrive. This was done to make sure that the data collected by the participants could not be traced back to them, maintaining the right to anonymity and confidentiality.

However, it was observed that some of the participants did not adhere to the same level of data consideration. On occasions, stakeholders would divulge sensitive information that included explicit names, ages, and other related personal data. Additionally, some participants who were aware of the recording process would often present statements like, “so this is off the record,” and keep talking without allowing sufficient time to stop the recording. This posed an ethical dilemma to the research team, as these statements, as well as the sensitive data, would make their way into the recording, and consequently become transcribed by the tool used. This situation required a deliberate effort to exclude information that was sensitive during the analysis process.

Further, there is no guarantee that explicit stories shared by the stakeholders that could not be used in the project did not affect the results, nonetheless. There is a possibility that the information could have influenced my choices and perspective in the project, without my own awareness of it. This could conflict with the right to confidentiality, as even if the research team tried their best to keep all information that was sensitive private, such situations cannot have guaranteed it. I will advise readers to keep these ethical dilemmas in mind when examining the research performed in this thesis, as it could have limited the authenticity of the results.

# Chapter 6

# Empirical Findings

This chapter describes the findings identified through analysis of the data gathered from the field trips. It will provide a description of the structure, workflows, and user experiences of WhatsApp usage, in relation to the organizational structure and established procedures within the organization. This will include an explanation of the communication channels, stakeholders, and administrators involved, as well as the organization's management. Additionally, it will present use cases, examples, and the organization's own views on the usage, and why and how it originated. This chapter aims to provide information about WhatsApp usage at MoBSE that has not been extensively researched before, giving a clear understanding of how it can be identified as a workaround and its impact on daily practices and tasks conducted by stakeholders at various levels across the organization.

## 6.1 Structure

In the initial phase of data collection, it was discovered that WhatsApp groups were utilized by some employees at MoBSE as a tool for information and communication during the teacher posting process. The subsequent round of data collection allowed for a deeper exploration of this topic, gathering information from stakeholders regarding their participation in WhatsApp groups, the content shared within these groups, and the approaches adopted for group management.

Analysis of the collected data revealed the existence of groups at various levels, each catering to distinct stakeholders and serving specific purposes. This section aims to outline the *underlying* structure of these WhatsApp groups and their relationship with the organizational structure.

### 6.1.1 WhatsApp Groups

The stakeholders referred to the WhatsApp groups as either a group, page, or platform. The following will explain the groups that were managed by each level.

**Centrally Managed Groups**

The HR department at MoBSE managed three main groups, each with its own purpose. As shown in Table 6.1, the *HR Staff* group was used only for internal communications, while the remaining two groups were used for information and data sharing with stakeholders at the regional level. The *Taskforce* group concerned only things related to a monthly meeting, also called the Taskforce meeting. These meetings included several stakeholders from both the central office, the regions, and third-party organizations and institutions. Regional Directors and HRFPs were expected to travel to the central office in Banjul to attend the meeting. The main objective was teacher welfare, and agendas were made up beforehand. The WhatsApp group was used to plan and discuss when each meeting would take place and share the agenda. Stakeholders responded to meeting invitations through the group.

Table 6.1: Centrally managed groups

| | **Stakeholder(s)** | **Purpose** | **Manager(s)** | **Creation** |
|---|---|---|---|---|
| **HR Region and Central** | HR Dept. and upper management at MoBSE, HRFPs and Regional Directors from every region. | Communication and data sharing between HR at central and regional level. | HR Dept. at MoBSE | November-December 2021. |

| | | | | |
|---|---|---|---|---|
| **HR Staff Central** | HR Dept. at MoBSE | Announcements within the department, staff attendance. | HR Dept. at MoBSE | Unknown. |
| **Taskforce** | Payroll, HR, and Finance Dept, upper management at MoBSE, HRFPs and Regional Directors from every region, Gambia College, Teachers Credit Union (TCU), Gambia Teachers Union (GTU) | Communication and planning regarding monthly meetings. | HR Dept. at MoBSE, | November 2018 |

*HR Region and Central* were managed by HR at the central level and were used to communicate and share information with the stakeholders at regional level. During an interview, one Educational Officer at the central level said,

> *"The group that concerns HR, we have HR focal persons WhatsApp group. […] every region has HR focal persons. And we have a WhatsApp group of [those] focal points. Yes, and supervisors are also part of that group. We are all there."*

According to the stakeholders at the central level, this group was an open communication channel where HRFPs and Regional Directors could ask questions, and the group was also frequently used to share data. The creation of the group came after discussions during Taskforce meetings, as an alternative to the standard channel of communication and data sharing through memos and email.

> *"It was always just from the beginning, let's create a WhatsApp group." – Educational Officer*

### Regionally Managed Groups

The number of WhatsApp groups present in regions and schools varied, and as it was not possible for the research team to visit every region and school, the data were limited to only three regions. However, one of the Educational Officers we interviewed had previously been an HRFP, which gave us some input for the structures within one more region. These regions were found to have similar groups, although the stakeholders and management could vary. According to stakeholders at the central level, the regions had different WhatsApp groups that they used to facilitate information they have received from the central level, usually through the *HR Region and Central* WhatsApp group. Some groups were managed by the RED office, while others were managed by Cluster Monitors for the schools they were responsible for. An overview of these groups is presented in Table 6.2 below.

Table 6.2: Regionally managed groups

| | **Stakeholder(s)** | **Purpose** | **Manager(s)** |
|---|---|---|---|
| **RED** | The HRFP, the Regional Director, and Cluster Monitors in the RED. Sometimes all Head Teachers in the region. Other departments within the RED as well. | Internal communication within the RED office, and/or the schools in the region. | HRFP and/or the Regional Director |
| **Cluster Monitors** | The HRFP and/or the Regional Director, all the Cluster Monitors in the RED. | Communication and/or data sharing between HR and Cluster Monitors out in the field or in the office. | HRFP and/or the Regional Director |
| **Cluster** | A Cluster Monitor, all Head Teachers in his cluster, sometimes the HRFP and/or Regional Director. | Communication and/or data sharing between the regional level and the school level. | Cluster Monitor |

All the regions in our data set had what they called *Regional Education Directorate* groups, or *RED*, followed by their regional number. These groups were managed by the RED office, usually the HRFP and/or the Regional Director. The general purpose of this type of group was to communicate internally with the staff at the office. One HRFP stated as follows,

> *"We have a group for the regional office and all the Cluster Monitors are allowed to be [there]. Yeah. So, we can always, you know, communicate back and forth. Either from them, to us, or from us."*

The stakeholders in these groups could, however, vary by region. All *RED* groups included the specific region's director, HRFP and Cluster Monitors. While in some instances the group could be used to communicate directly with the schools in the region as well, which would then include Head Teachers as a stakeholder. This seemed to be most apparent for the smallest regions.

Further, most of the regions had what they called *Cluster Monitors* groups, which included all the Cluster Monitors in the RED office. The purpose of these groups was sharing information and communicating about tasks specific for Cluster Monitors, especially since they were often out in the field visiting schools. The management of this type of group would also vary between the regions, sometimes being administered by the Regional Director, and sometimes the HRFP.

Lastly, are what the informants referred to as *Cluster* groups which are groups managed by a Cluster Monitor to communicate and share information with the schools in his cluster. This type of group was used by both Cluster Monitors we interviewed. The HRFPs also confirmed that most of their Cluster Monitors operated such groups. The number of clusters in a region varied, which means that there were usually many *Cluster* groups within the RED office. The stakeholders were always the Cluster Monitor and the Head Teachers in his cluster, but in the case of some regions, the HRFP was also a member of the group. For example, one HRFP stated,

> *"I am also in the cluster. You know we have clusters. I am in all the six clusters [groups] in the region here."*

Due to limitations with the number of informants at the school level, it has not been uncovered a lot of information regarding groups managed by Head Teachers, the data set is therefore limited. According to one school, they had two WhatsApp groups: one for their senior teachers, and one with the whole staff. These groups were used to share any type of information that seemed relevant to the Head Teacher, although the latter was more focused on non-educational matters, while the former were used to filter information received from the regional level with their senior teachers. The stakeholders were therefore most of the time only staff at their school, with some exceptions.

One Cluster Monitor also mentioned that,

> *"At the school level, some of them have their own [WhatsApp group] and they will even add me and be part of the groups. So that if they are discussing, I can also put my input on some of their discussions."*

Therefore, in some instances, the Cluster Monitor did also partake in discussions regarding the school, so that he could be involved and have as much information as needed when monitoring.

### 6.1.2 Interaction Between and Within Groups

According to most of the informants across levels, information that was sent in the groups was filtered down to groups below. In most of the regions, information would be sent from the central level through the *HR Region and Central* group, where the RED offices would filter the information further into their *Cluster Monitors* groups. From there, each Cluster Monitor filtered the information to the schools in the *Cluster* group that they managed. Each Head Teacher in this group would at the end filter the information to their staff where it finally reaches the teachers.

Building on this, some of the groups communicated with stakeholders outside of the levels within MoBSE. For instance, the *Taskforce* group, being focused on teacher welfare, included third-party stakeholders such as the Gambia College and the Teachers Union. The information that came from this group would be visible to any one of these stakeholders.

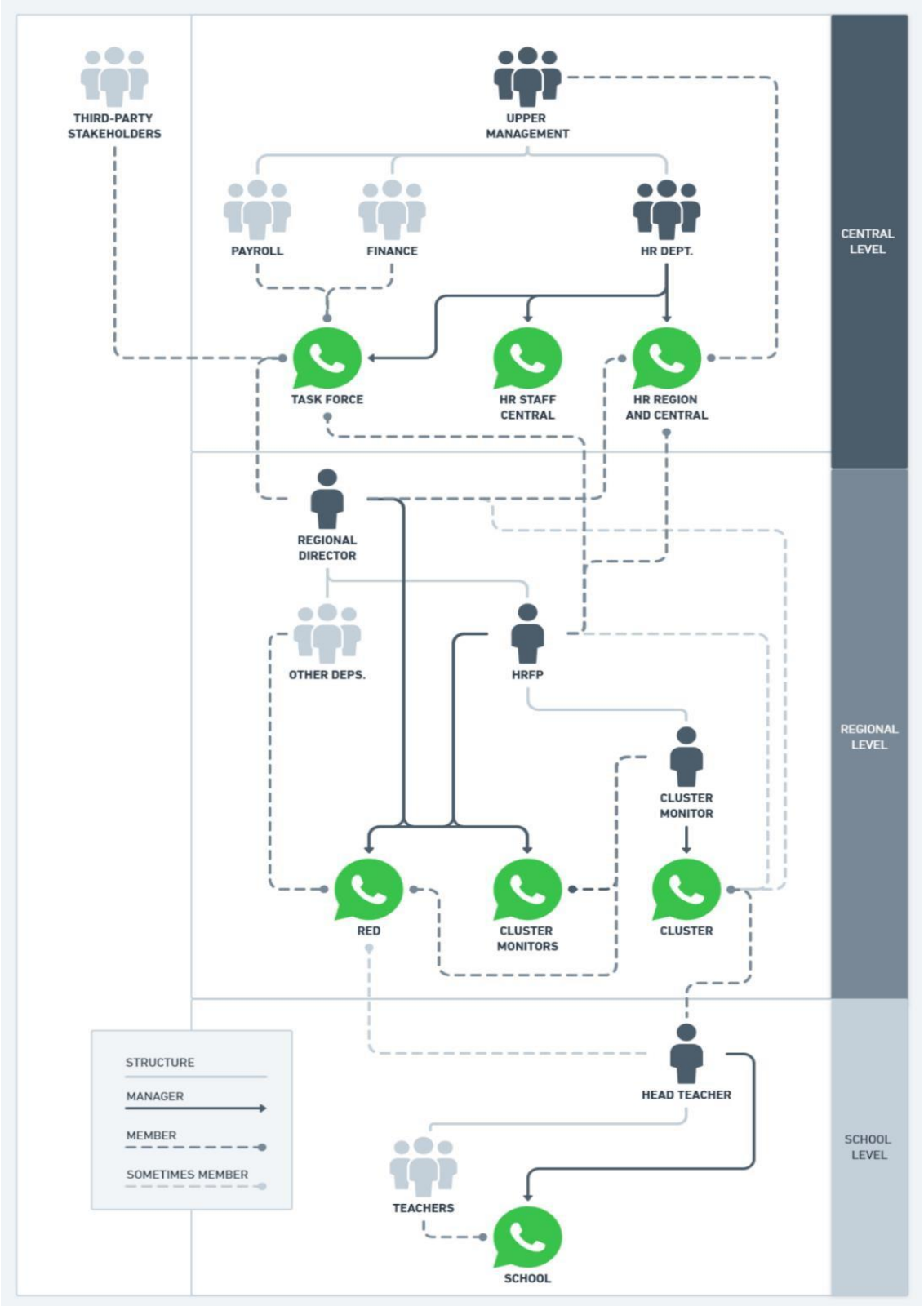



Figure 6.1: Organizational structure within WhatsApp groups

Additionally, the information flow could also happen between stakeholders at the same level. Examples of this is the *HR Staff Central* group meant for announcements within the HR department at MoBSE, the *RED* groups meant for administrative communication, and the school groups which could be used both for relaying information from the RED and for internal communication with the staff. These interactions as well as the principal participants are shown in Figure 6.1 on the previous page, where principal stakeholders are defined in dark gray while the others are painted in light gray.

### 6.1.3 Management of Groups

According to our informants, management of the groups was done at the corresponding level the group existed in. The actual management was done by the administrator(s) of the groups, which could involve adding a new person, or deleting an existing one when employment status changed. The approach to group management varied between the three levels, therefore the data will be presented with each of them in mind.

**Authority and Responsibilities**

To keep the traditional organizational structure in the WhatsApp groups regarding authority, the upper management at MoBSE tried to be involved in as many WhatsApp groups as possible across all levels. For instance, the former HRFP mentioned that one Senior Officer from upper management was part of a *RED* group in a region. Their experience was,

> *"When I was in the region as an HR person, we know that some of the headquarters are part of that [RED] group. Because [Senior Officer] was part of that group. He was part of the group. He's seeing whatever we are doing there."*

The reason behind this, according to the Senior Officer himself, was that he could get an overview of the information flowing through the groups, and act as a supervisor within them. This was more as a quiet observer than an active participant.

However, the data showed that most of the groups, including the *RED* group in one of the regions, had to make the decision themselves to add officers from upper management. There seemed to be no clear indication of who should be involved in the group, and excluding this specific case, stakeholders from the central level were most of the time not part of the *RED* groups. In the *Taskforce* group, the Senior Officer had more participation, and final decision-making authority to go along with it. All the members in this group had a responsibility and were representing their office, be it the HR department at MoBSE, or a RED office. HR worked as a coordinator of the group, with the responsibility of overseeing that every stakeholder represented themselves correctly. Whenever HR could not do this entirely alone, the Senior Officer would intervene. As mentioned by an Educational Officer,

> *"Wherever it is necessary for him to intervene, he does it. He reacts. In fact, quickly, everybody sees what his stand is."*

In likeness with this Senior Officer at central level, some Regional Directors and HRFPs operated similarly when it came to managing the groups beneath them. There was not a mandate for the officers to be a part of other groups outside of their own management, therefore the operations varied between regions. For example, two of the HRFP interviewed were part of one or more of the *Cluster* groups managed by Cluster Monitors in their region. One of them had been added to the groups without making the decision themselves, while another was adamant that he had to be present in every *Cluster* group because of his function,

> *"My function is key. So I have to be in all these. […] Someone else is managing but I am part of them. Because my role is important"*

There was also found that the hierarchy within the levels in the organization was still present within the groups in many instances. Both central and regional levels operated around the idea that before you put information in any group, you must have discussed it with your director or boss. According to one HRFP, they could not post anything on the various WhatsApp groups they were a part of in the region without instruction from their superordinate. The reasoning being that if you shared anything you were not authorized to, you would become responsible.

> *"Even though my director was part of the platform, when information is shared, I know that it concerns me. I cannot do anything. So I will wait the next day. If he does not give me the permission, I will just sit and wait." - HRFP*

**Personnel Management**

Every level had procedures on how to act whenever a new employee was added or a former one left the system. At the central level, such issues were dealt with by the HR department as they were responsible for personnel management. Whenever an employee left the system, they were immediately removed by HR, even in instances where the employee moved to another directorate within MoBSE. According to our informants, this practice was to ensure that former employees no longer had access to information meant for that specific department.

At the regional level the procedures were not as well defined as those at central, but according to our informants' experiences, some were immediately removed from a group when they left the system, while it took longer for others. One HRFP was even at the time of the interview still part of the group managed by their former department. The common experience was, nonetheless, that it took longer to be added to a group, than removed from it. For one Cluster Monitor, when he took the position in his cluster, he was added to the regional groups such as the *RED* group and the *Cluster Monitors* group after he had been shown how to perform his job. The procedure was that the administrators of the groups identified him as a Cluster Monitor, and then added his phone number to the group. The Cluster Monitor stated that this was an important step in the process as,

> *"Now you must be part of the communication group. And being part of the communication group, you're most involved."*

Further, each Cluster Monitor had, as mentioned, their own group where they shared information with the Head Teachers in their Cluster. The Cluster Monitors called themselves 'cluster executives' of these groups. Another Cluster Monitor had the experience where he switched from one Cluster to another.

When he first started in his former cluster, he made this *Cluster* group himself. When he left, he gave the new Cluster Monitor administration rights of this group, and then removed himself. When he reached the new cluster, he did the same procedure with the Cluster Monitor he took over from, who granted him administration rights.

> *"Just like a family setup. You switch off from this family, you go to a similar family." – Cluster Monitor*

Building upon this Cluster Monitor's experience, whenever a Head Teacher left the system, it would be communicated in the *Cluster* group, which then made it easy for him to remove the Head Teacher from his group. This experience mirrored those from the school level, where the Head Teacher would know the status of their staff based on their attendance records and could promptly remove teachers from their groups when they were no longer in the system. One Head Teacher stated that it was important that the teacher was removed from the group as soon as possible because of confidentiality,

> *"You should not know what is going on anymore. You are no more part of us."*

For new teachers, they would add them to the groups after introducing them to the school and their job, as an addition to standard procedures for when a new teacher is posted.

## 6.2 Workflow

The use of WhatsApp as a communication tool comes in addition to standard procedures such as email, phone calls, traveling, mail, in-person meetings and forms. What has been identified is that there are instances where direct communication between stakeholders happened both through WhatsApp direct and phone calls. The most common instances involved the HRFPs communicating directly with teachers, most of the time in a combination of WhatsApp and phone calls. This was a habit that already was established as teachers must communicate with their local RED regarding payment, posting, and other issues.

### 6.2.1 Procedures

Instances where the standard procedures would intertwine with WhatsApp direct or groups, were for example in the case of pay slips. If a teacher has trouble with their salary in terms of deduction, and over- or underpayment, they can fill out a complaint form that should be accessible at the school they are posted to.

After filling out the form, the teacher must submit it to the local RED office, together with their appointment letter and pay slip. The HRFP or Regional Director will then oversee the delivery to the central level.

The complaint form template was created by the central level in Excel format and shared with the regions, who shared it with the schools so that they all had the template and could make copies when needed. The REDs can catalog the forms in Excel and share a soft copy on the *HR Region and Central* group, where the HR department will consolidate and analyze it. A hard copy will then later be sent through the mail. In instances where supporting documents are missing, the procedure is that HR at MoBSE will call the teacher and ask them to take a picture of the document and send it to the Educational Officer directly. For example,

> *"If you are only interested in seeing his let's say appointment letter, you can call him to say I want you to snap your appointment letter and send it to my WhatsApp." – Educational Officer*

Further, every month, HR at MoBSE will send a payroll list that includes every teacher that has received payment for the last month in a specific region. This information will be sent through WhatsApp directly to each HRFP, in order to confirm that the teachers are present and entitled to salary.

According to one HRFP, whenever a new teacher was posted to his region, he would stay in contact with the teacher until they received their first payment. This allowed for the opportunity where the teacher could call the HRFP to retrieve the teacher's payroll number and pay slip from the payroll list. The HRFP would forward the information directly to the teacher through WhatsApp, which enabled the confirmation of both presence and payment of the teacher.

This practice was also commonly used by Cluster Monitors if they had a need for their pay slip, usually when they were out of the RED office.

> *"We call the [RED] office. When they snap it and send it on WhatsApp." – Cluster Monitor*

There were also procedures put in place for teacher posting. Whenever the national postings are finalized for each academic year, the procedure is that the HR Dept. at central level will send it to the regions through email. However, some of the regions experienced trouble with the email application which made it difficult to receive the posting data. In these instances, HR would alter the procedure by sending the posting to the regions through WhatsApp. Although, the advice put forward by the upper management was that it had to be sent to the Regional Director directly instead of in a group where it could be visible to anyone part of it. This was put in place by the central level as a safety measure where if the data falls into the wrong hands, the responsibility will lie with the regions instead of the central level.

Another procedure involves calling recipients in a WhatsApp group to make sure that they have received the message. These were found to be most performed by Cluster Monitors and Head Teachers. One Cluster Monitor mentioned that whenever he sent information to his *Cluster* WhatsApp group, he would check to see if all recipients had read the message. For the Head Teachers who had not 'seen' the message, or it had not been delivered, he would call each individually and rely on the information. If any of the Head Teachers would not pick up the phone, he would try to call any of the other staff at the school, or anyone in the community who might know the person, for the message to come across.

Further, one Head Teacher had her own WhatsApp group for her staff. Whenever she shared important information in this group, she would recommend her teachers to get into contact with those who had not responded and make sure they received the information. For instance, she would say to a teacher,

> *"Call your friend and ask, 'have you seen this message that they put on the page?"*

### 6.2.2 Communication and Data Sharing

Through analysis it was discovered that the most common use cases of WhatsApp direct or WhatsApp groups were communication and sharing of data about teacher posting, staff attendance and planning of meetings. Table 6.3 gives an overview of the most common type of data material shared through messages in groups or direct chat.

Table 6.3: Data shared in WhatsApp.

| | **Data material** |
|---|---|
| **Taskforce group** | Road map for teacher posting |
| **HR Region and Central group** | Teacher/ancillary staff identification list |
| | Salary complaint form |
| | Teacher vacancies |
| | Schools' enrollment |
| **HR Staff group** | Staff attendance list |
| **Cluster Monitors group** | Transfer form |
| **Direct chat** | Teacher postings list |
| | Appointment letter |
| | Pay slip |

Both the central level and some at regional level mentioned that information regarding teacher vacancies would often be shared in the *HR Region and Central* WhatsApp group. The vacancies of a region could be shared in list format, sorted by subject areas and how many teachers they needed per area. This information could be used by the central level for posting of In-Service teachers, or by the other REDs for Pre-Service teachers. At the start of the academic year, when a Pre-Service teacher would apply for a position in a region, if they did not have need for the teacher, they could look up information in this group to see if this specific teacher was needed elsewhere. This enabled the RED to send the teacher to another region who had a need for them.

In instances where vacancies could not be identified, the RED would send information about the teacher in the group and that they were looking for a position and ask the other REDs to check over their vacancies. The regions could forward the inquiry to their *Cluster Monitors* group, and the Cluster Monitors could ask the schools in their *Cluster* group if they had a need for this specific teacher.

The questions could often be formatted as,

> *"HR focal point 1, do you need a teacher in science?"*

**Group Interaction Examples**

In the *Taskforce* group, most of the communication was centered around planning the Taskforce meetings and sharing agendas. The HR department or a Senior Officer for upper management at MoBSE would send a proposal for a meeting, and the other stakeholders could communicate back with an acknowledgement or try to reschedule to a better time. For instance, as shown in Figure 6.2, one Senior Officer wrote to the group,

> *"I am directed to write and inform all taskforce members that the meeting is proposed to be Wednesday/Thursday *26$^{th}$ – 27$^{th}$ [month and year hidden]"*

Further, one Senior Officer mentioned that they used the *HR Region and Central* group for staff identification. They would check over all staff on the payroll list together with the payroll department and try to identify them. In many instances they would need the cooperation of the regions to be able to identify staff.

On one occasion, the Senior Officer sent a list in Excel format of all contract teachers they had a record of to the WhatsApp group, asking the REDs to identify them, meaning they had to make sure that the teachers were located where they were supposed to and were doing their job. In the situation where not all contract teachers could be identified, the issue could be added to the agenda of the next Taskforce meeting and subsequently sent to the *Taskforce* group where the REDs and HRFPs were also a part of. This would be the case for whichever staff was not identifiable, such as ancillary staff which are non-teaching staff in the educational sector.

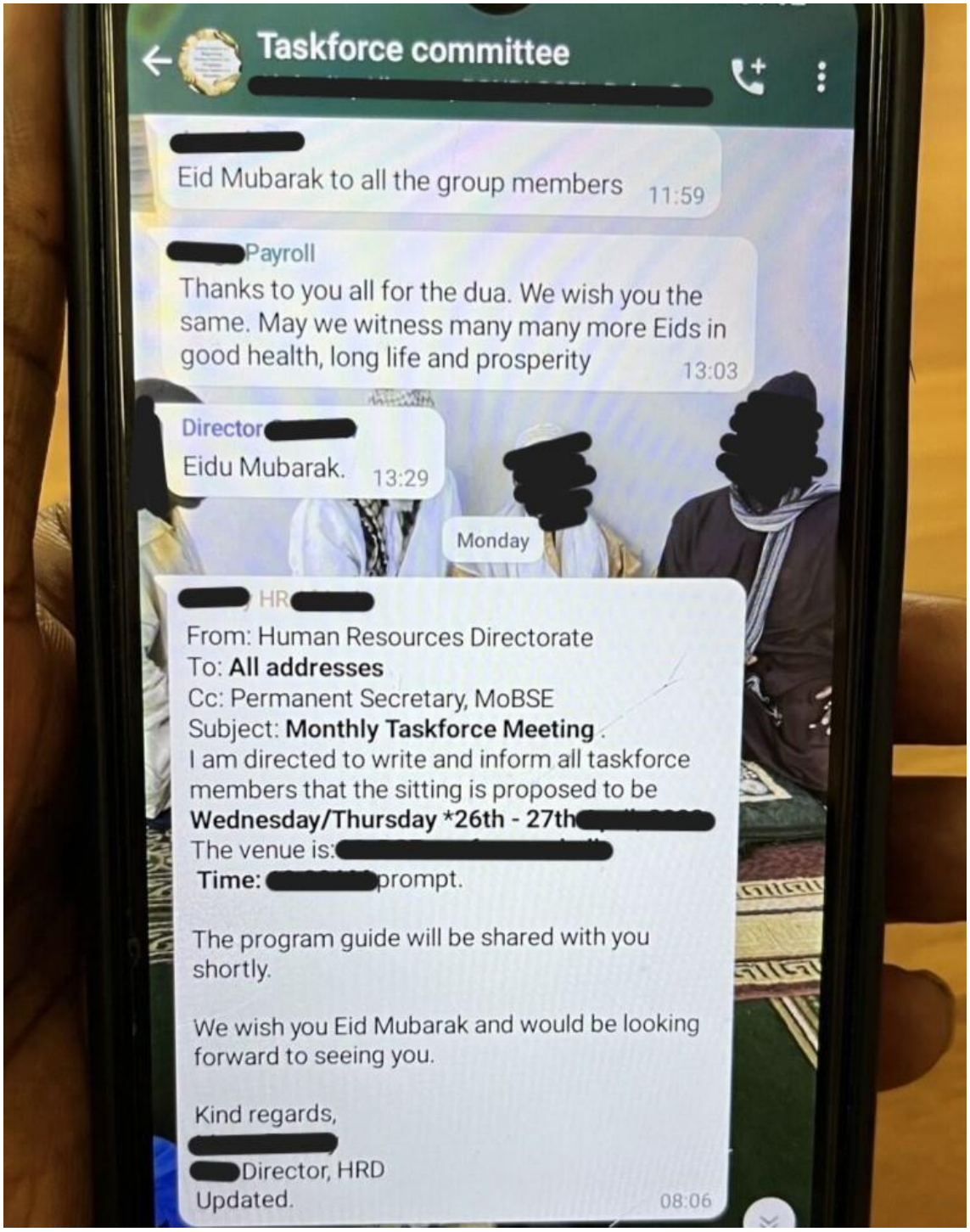



Figure 6.2: Taskforce WhatsApp group interaction

The Senior Officer explained that they had a record of over 2000 ancillary staff across the organization, and 348 of them could not be identified. He had to put it in the agenda for the next Taskforce meeting and wrote the following message to the group **(next page)**,

> *"Good morning, everyone. The above 348 ancillary staff could not be identified. And their salaries are active. We have used different data and other avenues, including staff of respective directorates, but to no avail. The data has been repeatedly shared with the HR focal point and some directors and officers have been contacted in the process, but to no avail. We therefore recommend that we all look at it carefully before we submit our final recommendation to the office of the peers by the next Taskforce meeting. Kindly share it with other directors who are not on this platform." – Senior Officer*

As shown in this example, the expectation was thereafter that the directors that were not in the *Taskforce* group would get the information through other channels. Around National posting, communication in the *Taskforce* and the *HR Region and Central* group could be intertwined. In anticipation of the posting, the central level would propose a road map that outlined the posting into stages such as bilateral and multilateral, set around specific dates. The road map would be in Excel format and be shared in the *Taskforce* group, which the Regional Directors and HRFPs could comment on if it did not fit their schedule. If they did not get any objections, the central level would assume that all the regions are aware of when the meetings are happening and are able to attend. As one Senior Officer stated,

> *"No excuse to say: 'No I was not told'."*

## 6.3 Practice

This section will detail the experiences, opinions, and views of WhatsApp as a communication tool in this organizational context.

### 6.3.1 WhatsApp as a Workaround

According to our informants, WhatsApp started to come into use at MoBSE around 2018. WhatsApp has been a workaround using mobile data as a solution for poor Wi-Fi signal or lack thereof, long travel distances, and trouble occurring with the standard form of information sharing or communication.

Some challenges identified with the standard information channels were,

- Difficult to know whether vacancies exist in schools and/or regions. Teachers may arrive at the premises and discover there is no position available.
- Complications with sharing, receiving, and retrieving information through memos.
- Problems with sharing information through email.
- Unstable Wi-Fi signal can disrupt the communication flow.
- Time consuming to communicate with many individuals at once.
- Challenges with anticipating when a message and/or data has been received (either through email or physically).

Many regions, especially the most rural, had troubles with the Wi-Fi connection, and many schools did not have internet installed at all, some did not even have electricity. Therefore, Head Teachers and stakeholders at regional level said that since WhatsApp was usable with mobile data, it was easier. They also mentioned problems with using email, as the computer skills could vary between the users. One of the difficulties was regarding knowledge of whether the information sent had been received or read by the recipient.

Whenever it was deemed necessary to deliver hard copies of information from one level to another, it would pose an issue of the message's originator needing to wait for an extended period to receive confirmation from the recipients. One example is whenever a HRFP wanted to pass along information to the schools in the region, they would have the Cluster Monitor travel physically to the schools to deliver it. Before the use of WhatsApp, for the HRFP to know if it had been delivered and received, he would have to wait for the Cluster Monitor to arrive back at the office and tell them, or they would have to call the school directly.

For instances where many schools were to be informed at once, this would be a hassle and very time-consuming for the HRFP.

One Cluster Monitor mentioned that in order to solve this problem, he would push the message to his *Cluster* group, so that all Head Teachers in the group could see the information at once. He would then monitor who had read and received the message and rely on the information to the HRFP,

> *"If I push a message on WhatsApp, maybe 20 headteachers can get it at one time. There might be only 10 or 15 who might miss it"*

Under such circumstances, the workaround used by the Cluster Monitor resulted in reducing the workload of both himself and the HRFP. Further, in some instances, the *Cluster* group eliminated the need to travel to the schools outside of the required visits. This enabled him to focus on other monitoring tasks and made the general workload easier to carry out.

The results indicated that WhatsApp was the most convenient and accessible application available throughout MoBSE, as it was already part of daily communication in Gambian society as a whole. For instance, according to one Educational Officer,

> *"Everyone of us has a smartphone. Almost everybody in the group uses WhatsApp. If everybody in the group has a smartphone and can access WhatsApp then it is the quickest, the most convenient."*

Further, troubles with the complaint form relating to payment for teachers (see section 6.2.1), were one of the preambles for creating the *HR Region and Central* group in the first place. The traditional way of cataloging the complaint forms at the REDs resulted in having to search through multiple documents in order to find the specified form, which then had to be either sent through email or delivered by hand to the headquarters. This could be very time consuming, as one Educational Officer said,

> *"If you have to follow the bureaucracy, let them just put [the form] there. Whoever is coming to headquarters to bring [the form], it may take time. That's why we said just catalog them in Excel. That platform was created for that."*

### 6.3.2 User Experiences

In addition to the reasoning behind WhatsApp usage, our informants also had opinions and experiences with the usage itself. This included advantages and disadvantages with the tool, as well as feelings and opinions about what it meant for it to be used so broadly across the organization. The main points can be shown in Table 6.4 on as benefits and challenges with the application, divided into four themes: (1) cost, (2) communication, (3) ease of use, and (4) reliability.

Table 6.4: Benefits and challenges with WhatsApp

| | **Benefits** | **Challenges** |
|---|---|---|
| **Cost** | Cost-effective alternative to telephone calls | Can become expensive to purchase mobile data |
| **Communication** | Enables distribution of information to multiple people at once | Difficult to control the information flow between levels, less regulation over who has access to information |
| **Ease of Use** | User friendly, quick, convenient, part of everyday communication | Blurred boundaries between private and work-related usage, difficult to upload and download large data files |
| **Reliability** | Consistent and dependable functions in most instances, usable with mobile data | Requires a smartphone that is connected to the internet, slower than calling |

#### Opinions on WhatsApp Usage

Relating to this, the opinions of our informants were mostly positive,

> *"WhatsApp helped us a lot" – Cluster Monitor*

> *"I love WhatsApp because it helps" – Head Teacher*

*"It makes the information flow" – Head Teacher*

*"Most instances, you can rely on the WhatsApp group" – HRFP*

However, there were also some negative experiences,

*"I think it doesn't solve everything" - Educational Officer*

*"The ideal situation would have been email" – HRFP*

Stakeholders at the central level were worried about the management and administration of the multiple groups used throughout the organization, especially groups at the lower levels. They acknowledged that they could not determine exactly how many groups exist in total and what information is being shared between them. When asked if this was a concern, one Educational Officer stressed that,

*"It should be a concern. Ideally. Because they are part of us. Whatever is happening there, we should know. That is a gap that should be made."*

The regional level was mainly concerned about the possibility of missing important information. Although WhatsApp was considered as a better alternative compared to relying on Wi-Fi to receive information, unstable mobile data connections could implicate the application usage. This was mostly common for the rural regions, and not a prominent issue in the more urban areas. Stakeholders in regions with poor connections would often need to relocate to ensure a stable connection. This allowed them to access the necessary information and respond accordingly. One HRFP detailed multiple experiences where he had to travel along the highway in order to gain access to data sent from the central level through WhatsApp. There were even situations where he had to travel to other villages just to upload and download data, which required a fare payment to the village. Occasionally, by the time the connection would be established, the information could be 'expired.' One Cluster Monitor informed us that he would often send a message to the WhatsApp groups he belonged to. However, because of connectivity issues, the message would fail to reach the other stakeholders in a timely manner, hence the information had become irrelevant.

Furthermore, situations could arise where stakeholders at the central level had immediate need of information from the regional level. But due to these connection issues, the HRFPs and Regional Directors would have trouble downloading and uploading necessary information, making it almost impossible to do their work. In an interview with an HRFP, the research team were present to witness such a situation first-hand. The subject explained,

> *"Even now I was just trying to download something from headquarters. It's difficult. They want me to identify the contract teachers but I'm still struggling to download so I know who the contract teachers are."*

In these cases where workflows at the central level were dependent on the response from the regional level, stakeholders at MoBSE headquarters had to contact the RED by telephone, in order to find a solution that worked for both parties. Issues with communication and data sharing through WhatsApp could pose as a blocker for crucial tasks in the organization.

**Summary**

This chapter has examined the structure, workflows, and practice of WhatsApp in the educational management work system at MoBSE in the Gambia. It has uncovered WhatsApp groups and their management, as well as the use cases, communication and information flow they are a part of. Further, it has identified the different procedures in the organization, and how WhatsApp has affected them.

Lastly, it has presented the reasoning for the usage of the application in the first place, told through the user experiences of subjects involved in the research. This information, together with findings presented in previous chapters, will be revisited in the next chapter, where it will be discussed in relation to the research question presented in this thesis.

# Chapter 7

# Discussion

This chapter will circle back to the research question proposed at the beginning of the paper,

> ***RQ:*** *How has WhatsApp influenced the organizational structure and workflows within the educational sector in the Gambia?*

The data suggests three main findings, (1) WhatsApp emerged as an initially temporary workaround to bypass challenges with teacher management workflows because of its familiarity and availability to the stakeholders involved, (2) using chat-group functionalities for information processing and communications has reinforced the existing hierarchy between the levels at MoBSE, and (3) because of both extra-organizational pressures and day-to-day work challenges in the work system, the application has evolved to become institutionalized in the organization. Subsequently, WhatsApp has become an essential part of the infrastructure and work processes. Based on these results it can be argued that future researchers might have to take caution in the process of implementing a new solution for teacher posting in the Gambia using DHIS2, to not unnecessarily 'disturb' the existing work system.

However, the results should be interpreted with caution due to limitations with current research in this subject, as well as the sample size used in this project and the amount of time that was available for research.

The next sections will focus on answering the sub-questions provided in Chapter 1, concluding with a discussion of future research.

## 7.1 Emergence as a Workaround

The first sub-question aims to provide an explanation of the process in which WhatsApp was selected and incorporated as a workaround at MoBSE in the Gambia,

> ***SQ1**: What is the process in which WhatsApp emerged as a workaround for teacher management?*

This section will use TOW, mentioned in Chapter 3, to explain and describe this process through the steps that includes (1 & 2) context, (3) need, (4) identification, (5) selection, (6) development and execution, and (7) consequences (Alter, 2014). In accordance with the theory, the perceived need for a workaround is affected by the surrounding context in which the need arises. Although Alter specified context as the structure of the work system, and the intentions, goals, and interests of the stakeholders within it, this paper will argue that much of what influenced the emergence of WhatsApp as a workaround in teacher management is also highly related to the culture and infrastructure present in the Gambia. The next section will begin with an interpretation of the context in the Gambia that could have impacted the need for a workaround at MoBSE. Following this, is an explanation of how WhatsApp was identified and selected as the possible workaround for the need, how the usage of it was developed and executed, and lastly the consequences of the usage. Based on the results identified, what impacted the need for a workaround in teacher management was the culture around WhatsApp in the Gambia, the infrastructure in and around the offices, and the intentions, goals, and interests of the stakeholders involved.

### 7.1.1 Context and Need

As mentioned in Chapter 4, WhatsApp is popular in the Gambia because of the no-cost, its accessibility, simple user interface, and functionalities, including being able to place and receive calls and texts without relying on a mobile subscription.

When the application was first introduced and became popular to use, the familiarity in turn increased to the point where it has become the norm for most people to use it in their everyday life. WhatsApp was first used for private communication to stay connected with friends and family, and after a while it extended to work contexts as well. The data collected shows that usage of this application first became prominent in MoBSE around 2018-2019, and it was largely based around the fact that the stakeholders, specifically those that manage the WhatsApp groups, knew that mostly everyone that would use it, already had access to a smartphone and knowledge about the application. Therefore, having an already established platform that was used privately, it presented an opportunity to easily assimilate it into their work procedures as well.

In addition, HRFPs, Educational Officers, and Head Teachers alike, each had challenges with the standard procedures for teacher management. This was mostly related to inadequate facilities in the office, such as unstable internet, and insufficient infrastructure in the area related to long and difficult travel distances between schools, REDs, and the central office. The existing procedures of sending emails back and forth, printing out digital data to share with each other, and drafting reports on physical paper were also found to be time consuming, ineffective, and hard to manage. This can be claimed as a misalignment between what the authors of the procedures thought the work context would be, and what the context actually is.

The stakeholders on each of the three levels developed their own intentions, goals, and interests based on the challenges that they were experiencing with the current work system. Common needs for the work system for all of them can be identified as wanting an effective workflow, and the tools used for procedures being easy to use and easily available. However, some needs seem to differ between the stakeholders based on the infrastructure they are surrounded by and the hierarchy in which they are placed. For example, HRFPs, Cluster Monitors and teachers working in offices with fewer resources, had the interest of making their work-flow easier in a way that was low-cost, and gave the choice of switching between mobile data and/or Wi-Fi connection. While Educational Officers at the central level, where resources are in greater abundance, had goals associated with more control over the workflows happening between them and the regional level.

To achieve these goals, they had the intention of establishing one common place for all the stakeholders they interacted with. Thus, the need for a workaround was established, which according to TOW is influenced by the surrounding context (Alter, 2014, p. 1057).

### 7.1.2 Identification and Selection

The process in which WhatsApp was identified and selected as the 'solution' for the problems faced by the stakeholders in teacher management, differs from the rigid and chronological 'recipe' proposed in the TOW. Due to limitations with the data collection, the exact moment WhatsApp was introduced into the workflows, and by whom, have not been identified. Although some of the subjects interviewed at the central, regional, and school level were able to provide information about when the WhatsApp groups they managed were created, not many could identify how the process actually happened.

Additionally, as mentioned in Chapter 6, the number of groups present within the work system of teacher management were unknown even to the central level. However, as all the subjects had their own opinions on WhatsApp, which was mostly positive on the ground that it had improved their workflows in different ways, there is a high possibility of the application being identified and selected for a workaround by multiple people around the same time before it was 'officially' accepted. Therefore, it can be argued that WhatsApp emerged as a 'natural' workaround in different corners of the work system. This is not unlike the case study performed by Kapepo et al. (2022) where HCPs in South Africa and Namibia bypassed the challenges with the Vula application by using WhatsApp, which was already familiar and part of their daily lives, and thus naturally evolved as a workaround.

Moreover, identification of possible workarounds in TOW includes considering benefits, costs, and risks associated with each possible workaround. Although the stakeholders in teacher management in the Gambia turned to WhatsApp in a 'natural' way, all these points were still considered by them, albeit maybe more subconsciously so. They already experienced benefits with WhatsApp in their private life, they knew it was free to use, and they knew how to use it.

Steven Alter proposes that in order to consider a possible workaround seriously, knowledge available for designing one is essential, as "when a path to a goal is blocked, people use their knowledge to create and execute an alternate path to that goal" (Koopman and Hoffman, 2003, p. 71, as cited in Alter, 2014, p. 1057).

Furthermore, the data did not identify any type of monitoring system that could have been a blocker to WhatsApp usage, as the usage is widely used and accepted across the country in different sectors, such as the U.S. embassy mentioned in Chapter 4. Any regulations or rules prohibiting the use of WhatsApp in the public sector or at MoBSE were not identified. Therefore, due to subjective norms, it is reasonable to assume that the stakeholders did not associate their selection of workaround with any consequences, such as losing their job. Due to the attitudes of the usage at the highest level, any stakeholders below could create groups freely and openly without having to inform and get permission from management.

### 7.1.3 Development and Execution

As mentioned, the exact time WhatsApp was implemented as a tool for all participants in the work system could not be gathered from the data. This discussion will therefore base itself on the implementation done on the central level. Chapter 6 explains that Educational Officers at the HR Dept. at MoBSE created the *Taskforce* WhatsApp group in late 2018 and did not create the *HR Region and Central* group until three years later, at the end of 2021. When the stakeholders created the first group, it made the workflows more effective, they could plan meetings, share agendas and invitations, and share data with HRFPs and regional officers, all in one common platform.

Because of lack of clarification in the data of why the groups were created so far apart, it can only be speculated that *HR Region and Central* was created as a response to the success of the first group. There is also, as mentioned, no clear information on whether these groups affected the regions to create groups for schools, or if they were all created independently. The common starting point seems, nonetheless, according to the subjects, to be 2018. Thus, in only five years, WhatsApp has transformed multiple workflows relating to both general teacher management and teacher posting specifically.

In likeness with findings presented by Varanasi et al. (2021), the groups have also improved bureaucratic procedures relating to distributing and requesting information. WhatsApp could be implemented instantaneously in the Gambia because it is a third-party application which requires no development or management from the stakeholders. Most of the users already had it installed on their phone, the creators of the groups had knowledge required to create them, and they already had access to phone numbers necessary to add participants to the groups.

### 7.1.4 Consequences

The usage of WhatsApp as a workaround has led to a number of both positive and negative consequences for the organization. Positive consequences were limited to local advantages, such as eliminating obstacles and creating improved workflows, as mentioned in TOW (Alter, 2014). The standard procedures for sharing information within and between the levels had obstacles related to poor infrastructure, unstable connections in some parts of the organization, and difficulties using email.

WhatsApp eliminated most of these obstacles, as well as introducing the advantage of having one 'digital' space for everyone in the work system. The results indicated that prior to WhatsApp, there had not been any set 'meeting place' for levels to get together outside of the headquarters at MoBSE, or a specific RED. For instance, *HR Region and Central* enabled the different REDs throughout the organization to communicate and discuss with each other outside of the monthly Taskforce meeting or the bilateral during the yearly national posting. This group, as well as the *Taskforce* group, eliminated the obstacle of physical travel to the headquarters whenever they had an important inquiry. The groups made it possible for communication with the stakeholders involved at the time of inquiry or problem, which improved the efficiency of the workflow greatly. They could now communicate, share, and store data digitally, and plan meetings with each other, all in one platform. In a sense, these groups became virtual or digital offices which were not limited by the location of the participants. Similar advantages were uncovered in Doğan (2019) where the stakeholders felt that WhatsApp enabled quick decision-making and saved time, by having access to more than one person at a time (p. 237).

However, as WhatsApp improved workflows by eliminating certain obstacles, the usage introduced obstacles itself. Despite the results indicating that many stakeholders preferred the application as it made it possible to bypass poor Wi-fi by using their mobile data, this set new expectations for them. In locations where the Wi-fi connection is unstable, while the mobile signal is reliable, using WhatsApp with mobile data is not something covered by the organization, as they do not have enough resources. For instance, if an HRFP needs to access data sent from central through WhatsApp, but the Wi-fi is unstable, he must use his own mobile data financed by his own salary in order to download it. Further, in locations where even the mobile signal is poor, the stakeholders have no other option of accessing data needed to do their work besides going back to old procedures. Thus, the workflow can be interrupted by the dependency on the infrastructure around locations in the work system, and the stakeholders own economic resources.

Despite the initial negative consequences emerging as WhatsApp was introduced as a workaround, the usage gradually emerged as a standard procedure in the organization and ended up becoming ingrained in the work system. It is important to discuss the implications of WhatsApp being integral to the organization. WhatsApp is a third-party application owned by Meta, which in practice means that MoBSE has no control over the system, and its use is dependent on how Meta decides to control the means. The functionalities and accessibility could change, the services could become stuck behind a paywall, or the application itself could become unreachable. This happened one day in October 2021, as Meta was affected by a widespread outage that compromised Facebook, Instagram, and WhatsApp, which all run on the same infrastructure. This affected users all over the world, including the Gambia (The Chronicle, 2021). When the services were down, every user had no other option than waiting for them to come back online. This illustrates that if more occurrences like this were to happen, MoBSE would have no way of solving the issues, and would neither have knowledge of when it would become accessible again. This would put a stop to several workflows associated with teacher management, and there would again be a need to go back to ‘old’ procedures that were replaced by WhatsApp, which can lead to delays, inefficiencies, and unnecessary workloads.

## 7.2 WhatsApp as Embedded in the Work System

Continuing from the previous section, the usage of WhatsApp as an organizational tool in teacher management initially began as a temporary measure against the obstacles experienced by stakeholders in the work system. To address the research question, given the considerable time that has passed since its emergence, it is both interesting and important to explore what function WhatsApp has ended up having in the organization since its introduction into the work system.

This section will present a discussion prompted by the second sub-question of the thesis:

***SQ2**: How has WhatsApp become institutionalized in the work system?*

This question will be answered by discussing its impact on the work system, why it became institutionalized as opposed to temporary, and risks relating to its current role.

### 7.2.1 From Temporal to Institutionalization

As mentioned in Chapter 3, the TOW discusses what Alter (2014) dubs as the 'temporality of workarounds' after explaining the emergence between the seven steps. It can be argued that the idea and purpose of a workaround is not generally meant to 'solve' the issues with the standard procedures. However, a workaround can go from temporary fix to becoming institutionalized in the organization. They can even be viewed as temporary by the stakeholders but end up being long lived (Koopman & Hoffman, 2003, as cited in Alter, 2014, p. 1053). This rings especially true for shadow IT systems, such as WhatsApp, which has benefitted the stakeholders to the degree that they have embraced the usage as integral to their work.

It is difficult to assess the process of which WhatsApp went from temporary adaptation to an organizational standard, however, this chapter will impose a discussion on *why* the application has become institutionalized. Based on the empirical findings, it can be argued that the persistence of WhatsApp as an essential tool for teacher management is dependent on a set of conditions present in the work system at MoBSE.

In line with the framework for institutional workarounds proposed by Azad and King (2012), these conditions are related to day-to-day work operation challenges as well as extra-organizational conditions, where the latter have been discussed in section 7.1.

Regarding day-to-day work operation challenges, relevant aspects for the case are material constraints, work ethos, and discretion to decouple. Material constraints include unstable Wi-Fi connection and difficult travel distances, which have been previously discussed in past sections. Work ethos can be described through an example case presented by Azad and King (2012) where nurses believed that not properly carrying out orders on restricted medications would put patients at risk. In order to fulfill the needs of the patients and adhere to their ethical principles, the nurses continued to use a workaround solution (p. 367). It can be argued that a similarity exists for WhatsApp usage for educational management, where for instance the Head Teachers will keep using WhatsApp to communicate with their Cluster Monitor and/or HRFP/Regional Director to fulfill the needs of the pupils. Lastly, discretion to decouple can entail for the case context, situations where the stakeholders do not have sufficient trust in that the information will reach the right parties in a timely fashion, that they will keep using WhatsApp as a safety measure.

Avgerou (2000) argues that "the continuous introduction of new information technologies in organizations is, to a large extent, sustained by its own actors and processes." As the results presented, HR at the central level were among the initial stakeholders in the organization to adopt WhatsApp as a formal tool, when they created the Taskforce group in 2018. This may have affected the overall perspective of the application as a tool in educational management, which could have influenced the inception and significance of other WhatsApp groups discussed in Chapter 6. It quickly became a workaround and transformed multiple workflows in the process, which were mostly seen as positive by the stakeholders. By relating this to the WSF, it is evident that WhatsApp has become one of the most common *technologies* used by *people* to perform *processes and activities,* both in teacher posting and general teacher management at MoBSE (Alter, 2013). This has resulted in the application having essentially become part of the work system itself. As such, the use of WhatsApp as a management tool became regarded as a social "fact" (Avgerou, 2000).

It can be argued that the application became institutionalized into the organization where it was initially adopted as a tool based on its technical merits, familiarity, and availability, and continued usage was influenced by the 'powerful' actors in the organization (e.g., HR department at MoBSE).

Connecting this with WSLC, also developed by Alter (2013), WhatsApp changed the work system as an unplanned change without the performance of any formal projects. According to Alter, the fourth phase of the WSLC, *operation and maintenance*, is where the recognition of the workaround normally occurs, where it will be decided to either continue, redesign, or terminate the usage. In line with the results of the research, the usage of WhatsApp and its place in the work system seems to be recognized by most of the stakeholders interviewed, at all levels. It can be argued that since the usage of WhatsApp first became prominent at MoBSE, and the stakeholders experienced benefits with the application, the usage increased, resulting in the eventual choice of continuing the usage as long as it was viable. However, it does not appear to have been any attempt to redesign the workaround to reduce the obstacles experienced with it. This can be attributed to the inaccessibility with redesigning the platform itself because of its third-party ownership, although the possibility of restructuring the WhatsApp groups, or how WhatsApp should work together with other procedures, does not seem to have been considered closely.

### 7.2.2 Impact on the Work System

WhatsApp is used as a communication and data sharing platform by all levels throughout the organization and follows the same hierarchy as the structure in the organization. Educational Officers interact with HRFPs and Regional Directors, who interact with Cluster Monitors or Head Teachers directly, who in turn interact with teachers. However, the structure of both the organization and WhatsApp differs in one way. For this paper, there have not been identified any official 'cluster' level at MoBSE, but the results from the research indicate that the level has been created in WhatsApp for some of the regions.

Examples are the *Cluster Monitors* groups managed by HRFPs and/or Regional Directors, and the *Cluster* groups managed by Cluster Monitors.

In most instances, the Cluster Monitors act as the 'communicator' between the regions and schools, not the regions themselves, both in WhatsApp and through standard procedures. But with WhatsApp, there seemed to be a more distinct division of cluster and region, which can be argued as the stakeholders establishing their own cluster level within the platform.

WhatsApp's role in the work system is a shadow IT system that exists in addition to the other procedures. For instance, while WhatsApp has helped the Taskforce organize monthly meetings and agendas, they continue to meet in person for the actual meetings. They also still use email in some instances, but WhatsApp has been discovered to be more commonly used to send data and communicate with other stakeholders. WhatsApp has become embedded in the work system to the extent that stakeholders often refer to words such as "page," "platform," or "group" when discussing matters related to the application. This trend was reinforced during interviews where the participants would use phrases such as, "they will send it to the platform" and, "put a message on our page." Building on this, when a new employee is hired, they are expected to adhere to the practices defined within the community. If they were to abstain from being part of the groups, or even refrain from using WhatsApp at all, they will have trouble relating to their colleagues and problems performing their work to the fullest. As an illustration, if an Educational Officer at the central level chooses not to be a part of the Taskforce group, they can simply be 'forgotten' which can lead to them missing important discussions, scheduled meetings, and other details. For MoBSE, WhatsApp has become its own digital social reality, and anyone not a part of it will 'miss out.'

### 7.2.3 Risks on Maintaining the Usage

There are risks related to the dependency of a third-party application, such as the individual data privacy of both of employees at MoBSE, and the subjects of the data that is shared on the platform (e.g., teachers).

Regarding data protection, privacy, and security, MoBSE had no objections to using WhatsApp as an organizational tool for teacher management.

There are currently not any clearly defined laws prohibiting its usage in government positions, or what data is allowed to go through it. This gives rise to a problem that was not present before they digitized their practices using WhatsApp, which includes surveillance of the privacy and data of employees, and possible misuse of them.

Meta is known for collecting data about their users and selling them to advertisers. According to WhatsApp they use end-to-end encryption for their messages, and the only information they share with other Meta Companies are account registration (such as phone number), transaction data, service-related information, and information on how you interact with businesses (WhatsApp, n.d.). Companies such as Meta hold "powerful monopolistic positions of the global market", which means that they are such a large part of the internet that they can even control it (Trittin-Ulbrich, Scherer, Munro, & Whelan, 2021, p. 15). This means that although MoBSE seems to have trust in the platform, there is a chance of the data of their employees, and what is being shared, to be misused for advertising purposes. Additionally, with no control over the platform, a situation where outsiders can steal user information is a possibility to consider.

Moreover, as evidenced in my case, WhatsApp is used by every stakeholder involved in teacher management, and each employee is responsible for owning their own smartphone and having access to the platform. However, because of the country's lack of infrastructure, access to electricity and the internet is a big problem in several regions. Since WhatsApp is not an official 'standard' for teacher management practices, access to it will also be dependent on what resources each actor has available. The government will not be able to cover expenses for mobile data, as they do not have the means to do so. The people at the central level introduced the platform as an accepted practice into the information flow because they have easy access to it, but did not stop to view the situation from the lower level's perspective. This can be suggested as creating a power imbalance between the stakeholders.

Theoretically, the use of WhatsApp should have brought attention to issues experienced with the standard procedures and give way for those issues to be solved, which would cause the workaround to no longer be needed.

However, it can be argued that due to constraints with resources at MoBSE, there has not been an opportunity to do so, which has prompted the continuation of WhatsApp as the best alternative available. WhatsApp is accessible and affordable, and as already mentioned, commonly known by all stakeholders. Over the five years since its initial introduction, it has ended up becoming widely used across all levels. These levels are replicated in WhatsApp as groups established for central, regions, and schools, where information is shared to a group by one level and filtered to the group underneath. This is similar to results gathered from Doğan (2019) where WhatsApp had become essential for the school organization. WhatsApp can thus be argued as an 'essential' institutional workaround that co-exists with the standard procedures for as long as it is viable, at least until an 'official' solution that meets all their needs is created (Azad & King, 2012). While this is not an ideal solution, an understanding of the phenomenon could help with further research and potential development of a new solution.

## 7.3 Future Research

The research presented in this thesis has examined the obstacles with the standard procedures and why WhatsApp has become the most effective solution to combat them. This knowledge can be used for both practical contribution to the ongoing research project, and for future research in the field of IS. Lalley and Malloch (2010) echoes this with their argument that to create more effective processes in the future, knowledge of existing workarounds is necessary.

**Contributions to the HISP Project**

The results indicate that WhatsApp has become such an integral part of the work processes, that implementing a new solution using DHIS2 without unnecessarily damaging the existing work system can become a challenge. Azad and King (2012) argue that "attempts that aim to rectify the situation by eliminating the workaround may bring about unintended results" (p. 370). By relating this to the case, if usage of the application is prohibited and new procedures are introduced, the outcome may be a set of new workarounds. The experience and opinions of the WhatsApp users within MoBSE is an important aspect to consider.

Their willingness to 'switch' to a new system from a familiar and beneficial application can vary depending on how well the new system meets their needs. Additionally, removing WhatsApp from the work system will most likely be a large process that could end up negatively impacting many workflows present in the organization, and should preferably not be attempted without a new alternative solution to fall back upon. Development of a new platform with a certain familiarity to the WhatsApp platform already in use, and smartphones or other devices that take the issues experienced with the current system into account, should be something that those responsible for the education system want.

Unfortunately, there will be many obstacles that could stand in the way of the development of such technology. First and foremost, the financial aspect. Is this a technology that will be developed as a priority by those responsible in an already stressed and weak economy? There must also be some form of access to the internet for all areas in place before any new technology/platform can be put into use. Nor can the employees who will be using this technology be met with the expectation that they themselves must arrange to acquire their own device(s) to be able to use the system. Lastly, enough resources should be divided for the implementation of a possible new solution, regarding training and maintenance of the system. After taking the points in the last section into account, if the development of a new solution is deemed as not possible, it is recommended that further research is done on what is the *acceptable* usage of WhatsApp in the educational sector in the Gambia.

**Contributions to the Existing Literature**

As evidenced in other research related to WhatsApp usage (section 2.2), the application is commonly used as a tool for work within both the public health and educational sector in developing countries. Despite concerns related to maintaining the usage in these contexts, there doesn't seem to be any change to the phenomenon in the near future. It has been identified as occurring in several low resource areas, in countries such as South Africa and Namibia (Kapepo et al., 2022), Malaysia (Balasundran et al., 2021), Turkey (Doğan, 2019), and India (Varanasi et al., 2021). Based on the findings in each of these cases, the free-to-use model of WhatsApp makes it a suitable workaround tool for obstacles experienced with standard procedures.

The findings are equally relevant to the Gambia, which has limited resources in several areas across the country. As long as these countries are limited in the amount of resources needed to adopt a more 'acceptable' tool, or develop a new one, WhatsApp can be argued as the best alternative available. Morris, Scott and Mars (2021) identified this as well, and as mentioned in Chapter 2, pointed out that current literature lacks clear, comprehensive, and consistent guidelines on what is acceptable WhatsApp usage, both in general and in these specific contexts.

Most of the existing research is current, which gives the impression that research on the phenomenon has only just begun. This thesis has contributed to existing literature through interpretive qualitative research, which has given an in-depth insight into the experiences of the users of WhatsApp in the public educational sector in developing countries. However, this type of research is limited by its small sample size, which is both difficult to generalize and prone to inconsistencies between the experience of the participants and the reality of the phenomenon. Quantitative research could be applied to access a larger sample size, increasing knowledge on the number of public institutions in various sectors in low resource countries that utilizes WhatsApp to perform tasks in the organization, and which policies and guidelines are put in place for the usage, if any. While further qualitative research with stakeholders in similar contexts, using interviews, observation and ethnography could give a broader perspective on how the phenomenon unfolds and impacts the organizations.

By having a greater understanding of the phenomenon through a wide, consistent, and in-depth data set, critical examination of its implications for both public organizations in developing countries, and its stakeholders is more easily undertaken. The findings presented in this paper can thus contribute to achieving comprehensive knowledge of the situation, which can be used to further research objectives related to the implications identified. A proposal is devoting time and effort to examining ways these countries can keep using WhatsApp as a tool, but in a way that is in line with both security and accessibility for every stakeholder involved in the processes the tool is used in. This is the potential development of government policies that contain consistent and comprehensive guidelines on how WhatsApp should and should not be used in the public sector in developing countries.

# Chapter 8

# Conclusion

The outcome of this research has provided insight into how WhatsApp has become institutionalized in a public, educational organization, within a low resource setting. It has given an insight into information-intensive work processes related to a crucial function within this context. Subsequently, examining the influence the application has had on the existing structure and processes present in such an organization in the Gambia, from beginning as a workaround to becoming ingrained in the system. Based on interpretive qualitative research, it can be concluded that WhatsApp influences the organizational structure at MoBSE by mirroring the organizational hierarchy between the central, regional, and school level, as well as supporting the need of the cluster level within the organization.

Moreover, research has examined the usage of WhatsApp as an organizational tool in a developing country, which based on related research is not an uncommon phenomenon. Limitations on resources, as well as less focus on security and regulations on third-party applications, has enabled WhatsApp to thrive in the Gambia, and other countries in similar situations. It is ethically critical that the employees are put in such vulnerable positions with the current system in use, regarding the fact that they may risk having their personal data stolen or misused by outsiders of the work system.

While these potential risks have been identified as crucial to the stakeholders at the central level, both in relating to security and in general, and control over the data flow, the results from the research highlights that most of the other obstacles related to the application use is related to lack of infrastructure and/or resources at the lower levels.

The results presented indicate that WhatsApp has influenced standard procedures in the organization by 'merging' with them, and in some instances, taking over as the primary tool for conducting procedures. WhatsApp may have begun as a temporary workaround, but the results presented give the impression that it has become a part of the organization to the degree where it can no longer be 'ignored.' There are enough consequences of the usage to justify a discussion about its purpose and role in the work system, and whether it is wise and sustainable to keep using it as is. The role WhatsApp has in the MoBSE work system will in most probability influence the development of possible alternative solutions for the obstacles faced by the stakeholders. While this study cannot provide a specific guideline, or recommendation for dealing with this specific phenomenon, it is worth evaluating if removing WhatsApp from the MoBSE work system is worth the effort if an inadequate solution is put in its place. It is urged to research the possibility of potential compromises, where both security and control can be strengthened for the stakeholders in teacher management.

The findings presented in this thesis hope to increase clarity on the usage of WhatsApp in the public educational sector in other low resource countries, and give a broader perspective on the current circumstances. The paper recommends the establishment of specific guidelines, documentation, and regulations around the usage in the public educational sector in the Gambia, so that every stakeholder is aware of what is proper and official usage. Consequently, giving the opportunity of the stakeholders at MoBSE to evaluate the situation, and establish requirements and possible resolutions, that together with the HISP project at UiO, can lead to a betterment of the processes within teacher management. Subsequently, leading to a better education system in the country which ensures quality education for all.

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