A CRMS IMPLEMENTATION FRAMEWORK:

CASE STUDY OF

A SEMI-GOVERNMENT ORGANIZATION

IN SRI LANKA

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Degree of Master of Business Administration in Information Technology

Department of Computer Science and Engineering

University of Moratuwa

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ABSTRACT

Background: In the global scenario, public utilities are experiencing growing demand to improve their service delivery to customers, whilst managing efficiency in their own operations as well as complying with regulations. The problem is that the solution as in Customer Relationship Management Systems (CRMS) is offered, and their introduction into the work of a public sector organization is a challenge that is not received by them as easily as it could be by those companies that are oriented to the work in the business sphere.

Objective: The research paper investigates the process of implementing CRMS at the National Water Supply and Drainage Board (NWSDB) in Sri Lanka and acquisition the factors interceding its achievement, execution issues, and its obvious success procedures in public utility organizations.

Methodology: The study was conducted as a qualitative case study with People-Process-Technology (PPT) framework as theoretical ground. The methods included 15 semi-structured interviews with the most significant stakeholders of the organization on numerous levels, document analysis, and observational studies. Data analysis was conducted using thematic analysis based on six steps outlined by Braun and Clarke.

Results: A total of 20 sub-themes were found in the three dimensions of PPT with intricate interdependencies of the three elements of people, process, and technology. The major findings were: (1) organizational culture and management support turned out to be critical people-related factors; (2) business process reengineering and strategic alignment moved into the center of essential process-related issues; and (3) system integration and infrastructure adequacy appeared to be the most important technology related issues. The researchers found that typical PPT models need to be expanded into the worlds of the public sector and uncovered other dimensions such as compliance with regulations, democratic accountability, multi-stakeholder complexity, and tension between mandates in service delivery.

Conclusions: Implementation of CRMS in the field of public utilities requires the comprehensive approach, which will take into consideration all the dimensions of PPT but consider challenges that are characteristic of the sphere. Strong leadership commitment, breadth of change management, stakeholder engagement, and methodical integration preparation can be listed as the critical success factors. The study has evidence-based policy recommendations to NWSDB, other public utilities, policymakers, and academic researchers.

Significance: There is a scant body of literature on the implementation of CRMS in the public sector and, thus, the proposed study will be a valuable source of practical CRMS implementation advice on the modernization of a public utility and expand the theoretical knowledge base of technology uptake in bureaucratically oriented organizational cultures.

Keywords: Customer Relationship Management Systems, Public utilities, People-Process-Technology Framework, Change management, System implementation, Water supply and Drainage Board, Sri Lanka

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

Abbreviation	**Full Form**
AGM	Assistant General Manager
AI	Artificial Intelligence
API	Application Programming Interface
CAM	Customer Account Management
CRA	Consumer Relations Authority
CRM	Customer Relationship Management
CRMS	Customer Relationship Management System
DGM	Deputy General Manager
CAM	Consumer and Asset Management
GM	General Manager
ICT	Information and Communication Technology
IoT	Internet of Things
ISO	International Organization for Standardization
IT	Information Technology
KPI	Key Performance Indicator
NWSDB	National Water Supply and Drainage Board
PDF	Portable Document Format
PPT	People-Process-Technology
RFC	Request for Comments
SMS	Short Message Service
URL	Uniform Resource Locator
UTC	Coordinated Universal Time

1. INTRODUCTION

1.1. Background

1.1.1. Organizational Overview

National Water Supply and Drainage Board (NWSDB) refers to the most established semi-government statutory body in Sri Lanka that focuses in the development of water supply levels and sewerage services within the country. Introduced as a National Water Supply and Drainage Board through an Act of Parliament, National Water Supply and Drainage Board No. 2 of the year 1974, NWSDB has grown over almost five decades to be the largest water service agency in the country covering slightly more than half of the Sri Lankan population in its system of 334 water supplying schemes.

Being a semi-government organization, the NWSDB is placed under the two-fold mandate of performing the vital public service and at the same time being economically viable. GB operates under the control of the Ministry of Water Supply and is accountable to the government authorities besides being operationally independent in delivery of services and customers.

1.1.2. Organizational Structure and Workforce

NWSDB has a workforce of about 15,000 working in various capacities including senior management, technical expertise and in-the-field operations as well as

customer service specialists. The utility operations are very complex; therefore, the organizational structure is based on numerous key subdivisions which act together to provide full water and sewerage services. The Operations Division deals with distribution systems, sewerage infrastructure and water treatment facilities that guarantee high quality delivery of service within the network. The Engineering Division ensures infrastructure growth, development of maintenance plans and technical infrastructure development projects. The Commercial Division deals with the customer-related activities, the billing process, revenue collection and connection of services, which constitutes the main contact point with the customers.

The Human Resources Division works on building capacity in organizations, development of workforce and all-round training elements, which facilitate organization effectiveness. The Finance Division monitors the financial management, budgeting as well as strategic planning that guarantees sustainability of the organizations. To boost development of digital infrastructures and system integration efforts to support contemporary service delivery strategies, the Information Technology Division supports the following programs. This broad-based organizational design is backed by 24 strategically located Regional Support Centers (RSCs) spread among the provinces of Sri Lanka marking the ability to deliver localized services and offering customer care services at the same time as consistency of operations and quality provisions are maintained.

Presently the organization has 24 Regional Support Centers (RSCs) which are strategically placed within the provinces of Sri Lanka thus permitting it to provide

local facilities of service delivery and customer care. The RSCs have several water supply schemes within an administrative geographical area, which makes them comprehensive when it comes to coverage and provision of services.

1.1.3. Core Operations and Services

The main mandate of NWSDB cuts across the various intertwined services that comprehensively achieve the delivery of complete services in water and sewerage to people of Sri Lanka. It has 334 water supply systems all over the country with major installations in Colombo, Kandy, Galle and other metropolitan regions and many smaller systems in service of rural and semi-urban households. Such operations include pumping water and drawing it out of rivers, reservoirs and groundwater, processing with traditional and modern systems of purification and distributing through a plexus of pipeline and infrastructure system.

Sewerage and wastewater management are the other important areas of operations with NWSDB providing full wastewater services to major urban areas using its sewerage systems to collect, treat and dispose to waste. This entails running sewage plants, managing wide networks of sewer systems and compliance with the environment on their waste water management. Its customer service operates over 1.2 million customer accounts in residential, commercial, and industrial users on processes developed to provide new connections, meter reading and billing, revenue collection, complain handling, and technical support services.

The activities in the development of its infrastructure entail constant improvement and extension over parts of its engineering systems with capital investment activities centered on building new water treatment plants, expansion of pipeline networks, setting up of pumping stations, and increase in sewerage coverage in non-serviced regions. These operational tasks are all different and they need to be dealt with in such a way that there is high level of coordination and management to be able to deliver effective services and make the customers satisfied.

1.2. Technology Infrastructure Status

The current technological environment in NWSDB indicates that the organization is switching slowly to the use of technology (which facilitates digital delivery of services) to transform its traditional utility operations. Some of the well-established legacy systems in the portfolio include the mainframe-based billing systems which contain the customer accounts and financial transactions, SCADA (Supervisory Control and Data Acquisition) systems to monitor the operations and control it, Geographic Information Systems (GIS) used in network maintenance and infrastructure planning.

Customer service technology involves various channels that can be used to provide services to customers and to interact with them. The company has a centralized call center which can be reached using the hotline number 1939 with the customer care centers spread in different parts of the region. The provision of text messaging services offers reminders of appointments and deliver receipts as bills. Basic

customer questions can be answered by simple chatbots. Bill payment gateways, as web based, are used to ensure online transactions and Customer Operations Management Software facilitates service management operations within organizations.

The operational systems consist of comprehensive water quality monitoring technologies, programmable control in pump stations, pressure management systems and leak detection technologies that guarantee the reliability and quality of the service. Administrative systems include platforms in human resource management, financial management systems, procurement-related processes and inventory controlling mechanisms that facilitate operations of the organization.

1.2.1. Challenges to Technology Integration

Although NWSDB has a wide range of technology products, this does not eliminate the typical integration problems, which affect service delivery and the efficiency of the operations. System fragmentation is one of the main issues and the customer information of a significant number of systems is scattered in too many disintegrated systems to maintain a high level of transparency in customer interaction and maintain a customer history of interaction. This fragmentation leads to duplication of processes, non-uniformity in data quality and unrewarding usage of the resources that compromise the effectiveness of service delivery.

There is poor real-time integration and therefore little in the way of real-time connection between operational, commercial and customer service systems. This constraint becomes an annoyance when it comes to quick service delivery and the ability of the organization to act proactively to the needs of customers and the requirements of the operations. There is an existence of manual process dependency in most customer service procedures, where a lot of data entry into the system is done manually and through paper records, which leads to tediously inefficient and rife error-producing systems.

Due to the limitations of the legacy systems in regard to scalability, this phenomenon is still a barrier as the number of customers is broadening and the services become more complex, and the modern integrated systems are required to provide adequate support to organizational growth and the changes in the needs of different kinds of services. These technical bottlenecks restrict NWSDB to provide the standard of customer service quality that is required and expected by modern-day customers as well as needed to sustain the organization.

1.2.2. Strategic Context

NWSDB is an organization that exists in the changing environment of the public sector industry that seeks to meet the expectations of various stakeholders such as the government policy needs, regulatory standards, customers service levels, as well as financial viability goals. The organization experiences mounting pressure to still enhance the quality of the services provision, effective operation, and customer

satisfaction besides adopting the expansion and the maintenance of the infrastructure within budgetary limits.

The recent government policies that have been on digitalization of services in the government have provided chances and in some cases necessities to the NWSDB to advance the services delivery processes. Customer relationship management enhancement is one of the core focus areas of the strategic plan of the organization, and this is because the higher the service level it can provide to its customers, the higher the chances of having the trust of the citizenry and the ability to sustain its operations.

1.2.3. Context of the problem and CRMS implementation initiative

To counter these complex issues, NWSDB has decided to go ahead in the initiative of implementing an all-purpose Customer Relationship Management System (CRMS) to achieve the following objectives i.e., integrate customer information, make the service processes more efficient and improve the overall quality of service delivery. Such an undertaking is a major organizational change initiative, and the coordination of people, process, and technology components must be carefully planned to make it work and be adopted as a long-term practice in a manner that works best with the organization.

The project concerning the implementation of CRMS aims to update and unite the disparate customer service systems of NWSDB into a unified and fully integrated system that will allow real time access to customer account details, automate routine

tasks and will allow proactive service delivery. Nonetheless, the installation of such a system has its distinct elements in a large organization of the public sector concerning the organization culture, change management, integration of new technology and coordination of stakeholders that need to be examined analytically and implemented strategically.

1.3. Problem Statement

Although technological development and determination and service improvement that NWSDB leads have so far been experienced, at the moment the organization still uses poorly integrated systems and inconsistent customer information which prevents efficient delivery of services. The customer care system is comprised of stand-alone call centers, stand-alone SMS, and stand-alone chatbot whose systems operate independently of each other leading to duplicated actions, poor services delivery, poor response time, and data management functions.

These operational tasks have a direct relationship with customer satisfaction and the performance of the organization. Past findings (Wang, 2011; Tofte, 2021) have shown that a service that is fragmented negatively impacts on service delivery response time, efficiency and reliability, thus on the overall quality of service delivery. Absence of the integrated customer relationship management tools does not enable NWSDB to be able to provide the degree of service excellence that is demanded by customers and essential to sustainability of its long-term management of a public utility.

Moreover, the usage of a CRMS in the context of functioning of public utilities is a problem of its own merits because the concept of CRM framework had been advanced in relation to profit-making institutions of the private sector. To successfully translate the CRMS implementation to the environment of the public sector, three key dimensions should be considered carefully, those of People, Process, and Technology during the pre-implementation, implementation, and post-implementation periods that would enable the successful transformation of an organization and the long-term adoption of the new system.

The disconnect of the systems and distributed customer data continues to hinder the effective delivery of services at NWSDB notwithstanding the technological advancements in this business and the problem of integration is an added problem to reliability and efficiency.

Despite technological advancements, NWSDB's disconnected systems and fragmented customer data hinder effective service delivery, with integration issues further compromising reliability and efficiency.

1.4. Research Questions

The primary research question guiding this study is: However, it is imperative to know which factors are most important in CRMS implementation at NWSDB. To explore this central question, the study aims to address the following sub-questions:

1. How can NWSDB address the transition challenges associated with moving from fragmented legacy systems to an integrated CRMS platform?
2. What are the key factors for successfully integrating CRMS with existing technologies like call centers, SMS, and chatbot?
3. How should change management and training be designed to support CRMS adoption across NWSDB's geographically dispersed staff?
4. What metrics and methods should NWSDB use to evaluate CRMS impact on customer satisfaction, efficiency, and service quality?

1.5. Research Objectives

This research aims to:

1. Evaluate Current Service Capabilities: Analyze the existing customer service capabilities at NWSDB to identify gaps and areas that CRMS implementation can effectively address.
2. Analyze Implementation Factors: Collect and analyze data on the critical factors that affect successful CRMS implementation through comprehensive literature review and stakeholder interviews.
3. Define Success Metrics for Continuous Improvement: Establish clear metrics to measure the success of CRMS implementation in terms of customer satisfaction, service response times, data integration effectiveness, and operational efficiency.

4. Provide recommendations to overcome organizational barriers: foster strong leadership support, promote a customer-centric culture, provide comprehensive employee training, and implement effective change management strategies.

1.6. Significance of Study

The application of a CRM system at the National Water Supply and Drainage Board (NWSDB) in Sri Lanka is grounded in practical relevance to public utilitarian organizations and is an avenue for extant CRMS literature in non-profit motivated organizations.

1.6.1. Improving Service Efficiency and Customer Satisfaction

The integration of a CRM system with NWSDB promises the most potential when it comes to improving the consolidation of customer data as well as the simplification of services in order to reduce the heritage of legacy systems. This work presents a systematic framework for NWSDB to transform them from fragmented operations into one effective customer management system. It means that if the efforts are regular and involve all the possible contact points, it is possible to have a much better result and customer satisfaction.

1.6.2. Establishing a Model for Public Sector CRM

In this study, effort is made to understand and dissect the CSFs that are appropriate for the public utility environments and design a CRM model that may be useful to

other particular public sector establishments in Sri Lanka and other countries. It is found that NWSDB's CRM journey can be used as a model for any other agency to work for customer centric enhancements for delivering public service.

1.6.3. Contributing to CRM Research in Public Utilities

A sizable chunk of CRM related studies has been focused towards private, commercial organizations, and this study investigates the implementation of CRM in the public domain, in this case, a water utility board. In point of fact, for systems like NWSDB, CRM is not about generating fundamental revenues at all but it is about improving functions of accessibility to services, effectiveness to operations and customer satisfaction. Thus, this research helps to address an existing void in CRM literature not only in examining comprehensively the benefits and issues of CRM in public utility service, but differently with a stressed focus on serving institutions' CRM responsibilities.

1.6.4. Enhancing Organizational Adaptability and Cultural Shift

The elements of the process of how NWSDB is going to incorporate CRM are Organizational barriers, adapt to new technology and customer culture. The authors of this particular study ascertain the importance of management of change, training and staff involvement in the management of culture change in public organizations. Last of all, the people-centered approaches once again highlight how the leading public sector agencies can position their workforce to manage digital solutions change and develop organizational readiness, skills and capacity.

1.6.5. Benchmarking Success and Driving Continuous Improvement

The evaluation measures and frameworks suggested in this study offer NWSDB tools to evaluate success of CRM and incremental advancement. This implies that NWSDB can always enhance the CRM processes by setting targets, customer satisfaction, service quality and operational efficiency. Besides, it contributes to promoting the board's long term strategic goals and indicates the data approach to enhancing public services as well.

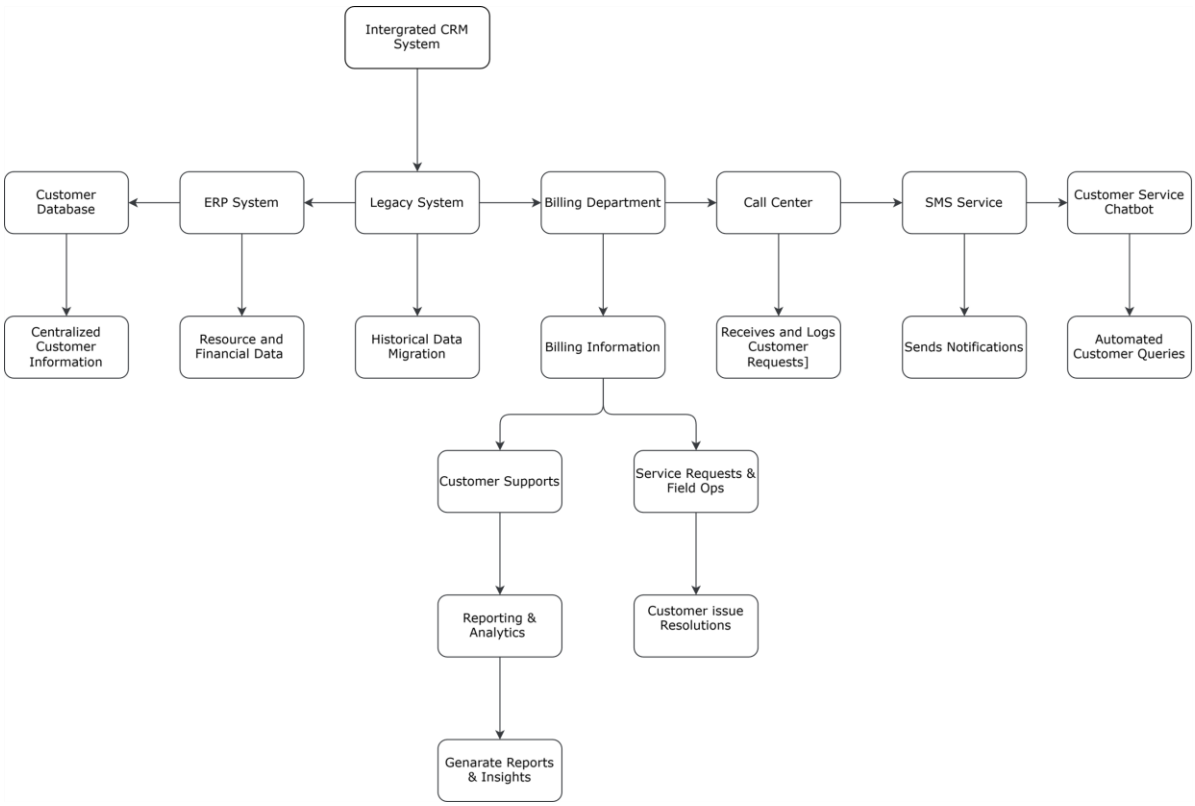

Figure 1 : Integrated CRM System Architecture

2. LITERATURE REVIEW

2.1. Introduction

Customer Relationship Management (CRM) is a critical business model of developing and sustaining customer relationships involving people, process, and technology. Its objectives are to increase customer and organizational satisfaction and, in turn, increase organizational profitability by improving the organization's internal environment to better match customer requirements (Chen & Popovich, 2003). CRM has grown from a simple database that business organizations use to store customer information to an organization for consolidating and enhancing the delivery of services, making it a critical element of current business management strategies (Greenberg, 2010). Nevertheless, CRMS implementation is still a challenging process today, it is still connected with the problems of technology application, organization's culture and managing the change (Rahimi, 2017).

Software solutions like CRM are well implemented nowadays in different spheres, including private business and public services. In the private industries including hospitality and retail, CRM systems make customer experience better by offering services to customers alongside improving its business operations (Rahimi & Gunlu, 2016). Similarly, the utility companies also use CRM to improve efficiency and customer responsiveness in the customer service functions and enhance the satisfaction levels (Chen et al., 2009). However, CRMS implementation success is not guaranteed, and studies point out that more than 70% of the attempts fail because of improper planning, change management, and strategic alignment (Tazkarji, 2021).

A critical examination of the literature reveals that CRM success is influenced by three core components: it was mainly focused on People, Process, and Technology by the authors Mendoza et al. (2006). Such components must be best managed within the framework of the organization to counter issues such as culture and technology (Rahimi, 2017). In addition, organizational culture is the critical factor for the effectiveness of CRM since many organizational attributes influence CRM, including adaptability, mission, and involvement of employees (Rahimi, 2017). Consequently, organizations that apply CRM systems are exposed to novel issues in light of system advancement including big data management, data privacy, and incorporation of AI.

However, as more literature is dedicated to the topic of CRM, some research gaps are identified focusing on the public sector, and even more specifically on non-profit and utility organizations. These settings pose certain challenges like, limited funding, legal requirements and multiple stakeholders that make it challenging to implement CRM as a success strategy; (Reicher & Szeghegyi, 2015). Additionally, the research concerning utilizing CRM in the SMEs and developing countries was limited before, although the number of organizations applying CRM technologies increased significantly in recent years (Rahimi 2017).

The following already mentioned literature review has been conceptualized to offer a synthesis of the literature on factors influencing the implementation of CRM. It is confirmed by research papers, case studies and empirical evidence approaching multiple industries, CSFs, odd and best practices. This review provides new insights

to the area of CRM by assessing gaps and trends that exist that are relevant to conceptualizing CRM as an effective and globally applicable Customer-focused strategy for successful organizational management.

2.2. Theoretical Background of CRM

CRM is a strategic management philosophy that seeks to engage customers, improve relations and unlock value with strategic customer groups to enhance their profitability. CRM strength is based upon the organization's capability to effectively coordinate people, tools and methodologies while responding to the LOBs' requirements in a dynamic and multi-faceted way (Chen & Popovich, 2003). This section seeks to present an understanding of the CRM concept with key definitions, constituents of CRM, frameworks and treatment of CRM as a sub-set of relationship marketing.

2.2.1. Definitions and Core Components: People, Process, and Technology

CRM may be termed as a philosophy of management alongside allowing technology which assists in boosting and improving the business customer relationship. According to Chen and Popovich (2003) in his revelation, CRM was defined as, the integration of people, process, and technology with the aspiration of boosting business performance and customer satisfaction. The effectiveness of CRM systems lies in fusing these three main elements that operate, in tandem, to deliver organizational and customer satisfaction goals.

People component is the most important part of the CRM implementation activities. Human resources are central in the execution of CRM activities where the imperative of hiring and training employees and his or her capacity of adoption of CRM tools play an important role to the organization to create alignment between organizational objectives and customer satisfaction. The human resources in terms of hiring and training of the employees and their capacity to adopt the CRM tools are therefore important in ensuring that the organization meets an alignment between its goals and those of the customers. According to Sources, top-down, bottom-up top commitment to the customer being at the centre of every decision is an imperative prerequisite to CRM (Rahimi, 2017; Tazkarji, 2021). Human aspect presupposes thorough knowledge of customer demands, efficient use of CRM technologies, and the belief of ensuring customers with outstanding user experiences on all the levels of an organization.

The Process dimension of CRM implementation involves the reengineering of business processes that enhance customer related work processes and make operations effective. In this analysis, use of CRM involves redesigning business processes with an aim of enhancing processes with relation to the customer. The aim of streamlining workflows is that most of the organizational processes are geared towards the customer needs, therefore, annihilating overcrowding (Reicher & Szeghegyi, 2015). The shift in the process component is towards the notion that service processes be arranged with the aid of customer-facing processes. Such process optimization guarantees that any organizational processes are structured in a

manner that will concentrate on serving customers at high levels with no bottlenecks in terms of efficiency and effectiveness that can affect the quality-of-service delivery.

The Technology aspect of CRM comprises the use of computer systems in entailing collection and creation of proficient customer-related information to ascertain the needs of the organization. The technological aspect of CRM involves the utilization of computer systems which record and combine data about the customer. The technology of CRM enables the organizations to retrieve the data of customers on a real time basis and apply the real time data on prediction analysis, customer segmenting and developing specific marketing messages (Mendoza et al., 2006). The workings of CRM are supported by the backup of technology because in that, there is the proficiency of analysis as well as operation. Technology base gives organizations an opportunity to gather, store, interpret, and use data on the customers to make sound decisions in terms of defining effective marketing strategy as well as the provision of personalized customer experience that promotes customer satisfaction and retention.

Such integration is evidence of the complicated nature of carrying out the entire CRM implementation and the reason why organizations must not talk about single elements of this implementation but instead should discuss the entire bundle of elements. The relationship of the people-process-technology components makes it important that coordination and strategic planning must be done in order to ensure the best of CRM effectiveness and sustainable competitive edge.

According to their functionality the CRM systems are commonly divided into three different frameworks where they fall under Analytical, Operational and Collaborative approaches. Each of these frameworks focuses on various components of CRM and once they are applied jointly, they complement each other in order to deliver a fully rounded CRM strategy (Greenberg, 2010). All these frameworks cover particular needs of organizations; they are involved in customer relationship management requirements; as a result, we can discuss the overall effect of CRM being implemented appropriately.

Analytical CRM is a model which is more focused on capturing information and leveraging storage in the post analysis, to achieve an insight which can be used in the strategy making process. This framework is more focused on data collection and post-storage to implement a comprehension that can be utilized. It uses methodologies such as data mining, predictive, as well as customer categorization and relates structural behaviour of customer in management decision making processes (Ranjan & Bhatnagar, 2008). Analytical CRM has a significant role to play when it comes to measuring customer behavior and the effectiveness of marketing programs. This strategy helps organizations to unravel customer trends, forecast their future behaviors as well as know how to formulate data-driven initiatives which will increase customer satisfaction and business results.

Operational CRM is all about efficiency, optimization of business activities involving both organization and the customer, streamlined operations and similarity in service delivery. Operational CRM is concerned both with efficiency and

optimization of organizational business transactions with the customer. Viewed on a yet higher level, operation CRM encompass customer touch points, the objectives of which include alignments of customer interactions and a consistent servicing (Reicher & Szeghegyi, 2015). It is a model that is most applicable to an organization that desires to have higher efficiency and agility. Operational CRM properly optimizes all the processes relating to interacting with a customer, in terms of being efficient, but provides them with high standards of services through all the channels of interaction.

The best practices behind Collaborative CRM are the increasing communication between the various departments within an organization and the clients where integrated strategies in relation to customer relationship management abound. The best practices of boosting communication across various departments in an organization and in relation to clients lead to collaborative CRM. These tools are in the form of customer portals and common databases that are used to provide a common perspective about the interactions to the company and all the contacting parties so that they communicate to the customers what they should hear and what to get through the available channels (Chen & Popovich, 2003). The strategy is important in particular to any organization that wants to build a long-term relationship with its customers. Collaborative CRM allows different people within different departments of an organization to communicate and coordinate easily besides offering customers similar experiences across various touch points.

The practicability of the frameworks mentioned above leads to an integrated strategy of CRM that focuses on the needs of customers at different levels of various areas of customer relationship management. These systems, built in the right way, will develop an all-inclusive customer relationship management capability that not only will nurture operational effectiveness but also propound business strategies.

This paper, therefore, seeks to define Relationship Marketing together with its application and incorporation with CRM implementation strategies. The principal idea on which customer relationship marketing is based is retail marketing in as far as it conceptualizes the relationship strategic management of the customer beyond momentary transactions. The theoretical aspect of relationship marketing forms the base of CRM systems as the latter provide the kind of tools as well as actions to enable effective handling of customer relations. As can be observed, the merger of relationship marketing and CRM is manifested in three important areas that reveal that the two are complementary and strategically related.

CRM systems allow personalization activities based on the information that the customers have surrendered and enhance customer satisfaction by offering differentiated service to clients. Personalization CRM systems would then use the information collected about customers in order to give specific experiences and enhance customer satisfaction. The relationship marketing is even with CRM in the power of analysis when the large concept of customers is segmented into the solutions that make up the concept (Mendoza et al., 2006). Through this personalization strategy, firms can shift away from offering generic services that are

standard to all customers to personalizing service experiences that reflect client preferences, skirting behavior, and needs.

Customer Retention is one of the common focuses between CRM and relationship marketing, as both methods of approach acknowledge the role of customer retention as a predictor of profitability and a requirement of business sustainability. The commonality of CRM and relationship marketing is the focus in customer retention as a determinant of profitability. Since CRM tools are used when analyzing the behavior and the preferences of the customers, it becomes easier to establish the appropriate customer retention methods such as providing them with loyalty programs and conducting respective communication on a regular basis (Reicher & Szeghegyi, 2015). The retention orientation allows organizations to generate value with a long-term linkage with consumers by creating continued value to both the consumers and the organization.

The other important area in which the relationship marketing principles are well matched with the CRM technological capabilities and strategies is Enhanced Communication. Communication about customers is essential to be valuable and effective as a part of relationship marketing. This can be matched in Collaborative CRM structures in the sense that the channels of communication are well organized or in sync in the manner in which they address customers (Ranjan & Bhatnagar, 2008). This communication benefit will make it possible to ensure that the same customer gets the exact same relevant and valuable interactions through every organizational touchpoint and contact method.

By combining CRM and relationship marketing concepts, then business organizations can make a transition in thinking at the transactional level, to the relational level so as to achieve a high-level customer commitment which is very important in achieving sustainable growth in business. Integration allows organizations to come up with comprehensive customer relationship strategies to address immediate operational goals and sustainability of the business in the long run based on increasing customer loyalty and satisfaction.

Conclusion

Citing theoretical background, it is imperative that CRM is a concept that is people-centered, process and technology enabled. When implemented in analytical, operational, and collaborative contexts, the respective components allow CRM systems to improve organizational users' capacity for both strengthening customer engagements and operating more effectively. In addition, coupling CRM with relationship marketing supports the organization's strategic leadership view of CRM as a tool for attaining long-term customer satisfaction and loyalty. The next sections will therefore further discuss the critical success factors, challenges and best practice of CRMS implementation.

2.3. Critical Success Factors (CSFs) in CRMS implementation

Implementation of CRM is a multifaceted affair stretching out quite some time to be successful in case some strategies are not followed adequately. Critical Success

Factors (CSFs) facilitate in playing a very important role in indicating the extent to which implantation of CRMS is done, and aids the industry in determining how its strategies, processes and technologies will go in line with being customer focused. In this section, we are going to discuss leadership CSFs, organizational culture, support of technology, process and alignment problems, as well as the case studies of different industries.

It should be noted that the maintenance of CSFs that are identified in the implementation of CRMS is a basic organizational success factor in customer relationship management undertakings. It was assumed in this paper that an organization needs to understand important enablers so as to successfully implement CRMS implementation process and get a stable outcome. Such variables as the strategic planning of the adoption of the system, the support of the system by the organization, and the support of the CRM system by technology determine the effectiveness of any CRM system (Chen & Popovich, 2003). Various studies and research point out some CSFs that organization should be able to respond to methodically to make the implementation of their CRM systems successful and the sustainable in the long run.

A good level of strategic alignment comes to light as a fundamental CSF wherein organizational objectives and plans with regard to CRM necessitate customer-oriented objectives to be the foundation of acculturation program (Reicher & Szeghegyi, 2015). The specified strategic alignment provides that CRMS implementation also serves higher organizational goals with the focus on customer

satisfaction and relationship development. Organizations need to create direct links between their strategies of CRM and their business objectives, so that customer relationship management operations generate a direct contribution to the success of the organization, as well as create a competitive edge. CRMS implementations usually do not provide the anticipated benefits and even cause other operational complexities without a proper strategic alignment which actually led to the negative effects on the operations of the company.

The process of engaging stakeholders can be perceived as another important success factor that needs to be approached in a holistic way during the course of implementation. Engaging all the stakeholders and the levels such as the directorial or managerial level, the employee level, and the customer level should be necessary and essential in order to make them participate cooperatively and to minimize the worst-case scenario, i.e. their resistance (Rahimi, 2017). Effective stakeholder engagement entails organizing communication, consultation, and other engagement processes that enhance concerns and essentially generate support at every level of an organization to CRMS efforts. This interaction should not be confined to internal stakeholders but should also involve customers, vendors and other external stakeholders that will feel the impact of the CRM implementation and who will have an impact on the success of the implementation. A thorough stakeholder involvement enables the creation of an organizational consensus to control imminent barriers in the change implementation process as early as possible.

One of the most significant challenges that a company has to grapple with when adopting a different system of operation, which is the issue of change management as it establishes a method of change management within the firm, this will have to be dealt with in a systematic manner of changing management principles. Another key point of concern that should be addressed within the organisations is that of resistance which is experienced when moving towards the use of the CRM platforms as compared to the traditional systems and the required change management principles should therefore be implemented. Change management implies thorough strategies of communication of the positive sides of CRMS implementation, training employees about the new systems and way of working and also offering support throughout the change process. Instead, organizations should understand that the implementation of CRMS is a substantial organizational change not only on the technological system of the organization but also to business processes, roles of employees, and the culture of the organization. Tangible benefits are based on how committed the leaders are to the process of change and the communication strategies that are clearly integrated into it as well as the systematic strategies of dealing with resistance and gaining encouragement of new working styles.

The quality and combination of data is the basic factor of the success of CRMS, and organizations must develop quality data management systems along with integrating the data. Complete customer related information and high-quality information in an organization acts as basis of CRM systems that facilitates efficient utilization of customer data and treatment of clients individually (Mendoza et al., 2006). Organizations are required to invest in processes of data cleansing, data

standardization and data integration so that their CRM systems can access accurate customer data that is complete and timely. Even the most complex CRM systems can get compromised by having poor quality data and thus give an incorrect understanding of the customers, ineffective marketing planning as well as delivering customer service in the least optimum way. With systematic planning and investment in proper technologies and processes that facilitate easy transfer of information between organizational systems and departments, the data integration issues should be ironed out.

2.4. Leadership and Organizational Culture

The second fact is the role of leadership and organization culture in the process of implementation of CRM strategies. Other tasks of managers include sponsoring CRM projects and communicating the critical nature of the strategic plans to other organizational stakeholders (Rahimi, 2017). The way leadership is effective in connection with the characteristics of operating organizational culture either support or prevent the success of CRM adoption, so it is a key factor in determining whether there would be implementation success or not.

Visionary leadership is also one of the key elements of successful CRM implementation and effective leaders lay out directions clearly, explain how the use of CRM is going to be executed so and why it is worth consideration not only to an organization but also to its customers. Good leaders thus will establish directions and spell how the CRM is to be adopted and why it is significant to the firm as well as to customers (Chen & Popovich, 2003). Leadership is identified as the key element of

establishment of the customer-oriented culture in organization because leaders should show their devotion to the customer-oriented strategies and give the strategic vision that CRM initiatives should be implemented successfully. Effective leaders explain the advantages of CRM use, identify required resources, and develop the organizational environment that favors the implementation of customer relationships managing activities. The visionary style of leadership assists in advancing the organizational consensus concerning the aims of CRM and the boost and assistance the employees need in order to adopt the new strategies and technologies that are customer centered.

Organizational culture will also be another determining factor that plays out in determining the success of the implementation of the CRM and certain characteristics of organizational culture have strong correlations with the results of the implementations. The paper discovers the following existences in terms of relationship of the following traits with the success of CRM, adaptability, mission alignment, involvement. In particular, the study by Rahimi (2017) applied a cross-sectional survey to highlight those business hotels where the concept of cultural flexibility was very high to achieve better CRM outcomes via the involvement of staff. Cultural flexibility allows an organization to internalize the transformations that should be made in implementing CRM and, on the other hand, mission alignment that makes the organization practice what it takes to implement CRM relates to other organizational purposes. Employee participation is another important cultural area to be considered because when employees are involved, they stand more chances of embracing new systems and processes in the CRM. Companies having

their cultures of serving the customers tend to show greater results of implementing CRM as per the success thereof due to the alignment of the current beliefs and practices of a company with the ideals and visions of CRM.

The training and empowerment programs are fundamental parts of the successful implementation of CRM as they make employees ready to work with CRM tools and establish the capability of an organization, in terms of customer relationship management. Why the training of the workforce programs is important, is because, it is what trains the employees on how to apply the workforce tools in the right manner by using CRM tools. Reicher and Szeghegyi (2015) argue that with empowered members of the staff, CRM practices can be applied voluntarily. All-inclusive education should take care of technical skills, such as skills of using a CRM system, and soft skills such as skills of offering excellent customer service and developing relationships with customers. Employee empowerment means giving workers direct authority, equipment, and assistance to make customer-oriented choices and offer outstanding service experiences. As soon as the employees are empowered and properly trained, they will be rather inclined to accept CRM systems as something that will increase their chances to serve customers well than as something that will make their working process complicated when it is inevitably considered as an additional burden.

The role of leadership and culture in the success of CRM implementation as mentioned can be illustrated with several case studies that depict that role of leadership and culture that influences positive outcome of CRM implementation. As

an example, the pillars of the CRM success have been embraced by Slovene service company in managing the significance of leadership and emphasizing on organizational learning (Piskar & Faganel, 2009). This case study demonstrates that when customer relationship management is committed by the leadership together with the learning abilities of an organization and the capacity of an organization to adapt to changes in the culture, then an enabling environment will be created in order to have a successful CRM implementation. Trinity between leadership perspective, cultural focusing and rigorous development of the employees is a complete method of CRM enforcement which caters to the technical and organizational demands of sustainable achievement in customer relationship management programs.

2.5. Technology Integration and Infrastructure

2.5.1. Technology Support and Infrastructure Requirements

Some technological issues that can derail CRM success are legacy systems and silo databases that are likely to pose integration issues in organizations adopting the use of modern customer relationship management programs. The most important aspect is, however, that straightforward integration of CRM technology to already existing IT environments is one of the significant ways of overcoming these technological restrictions (Mendoza et al., 2006). Firms should be able to properly examine their current computing infrastructure and that they devise a complete strategy of integration allowing smooth integration between new CRM structures and developed operational frameworks.

2.5.2. Case Studies and Technology Applications

A Slovenian bank has successfully implemented analytical CRM to contribute towards the attainment of better organizational capability in customer segmentation and decision-making processes. Implementation of the mobile infrastructure facilitated the sharing of data among the departments in order to enhance services delivery by effectively integration with legacy systems (Piskar & Faganel, 2009). The case shows that the barriers associated with traditions can be broken due to the strategic use of technology, as well as negative organizational capabilities can be improved through the systematic sharing and processing of data.

The current changes of CRM landscape in various industries and organizational settings are gradually being driven by emerging technologies such as smart devices, artificial intelligence and big data analytics that have become prominent in the field. Organizations and industries can now better comprehend the needs of the customers and be able to adequately serve them with the help of chatbots, predictive analytics, as well as machine learning algorithms (Tazkarji, 2021). These technological developments equip the organizations with more responsive, personalized services to the customers as manual rote activities are automated to enhance operation efficiency.

Water boards and other forms of public utilities are using IoT-connected CRM platforms to offer better customer services through the monitoring of their usage patterns. Such IoT integrations allow monitoring customer consumption in real-time, scheduling predictive maintenance, and active customer service delivery predicting needs before issues can occur. This adoption of technology can be considered as the transformation of traditional utility management to advanced data-based customer relationship management.

In terms of technological challenges, small and medium enterprises are exposed to special challenges because of self-limitation based on the meager resources, overall shortage of funds and deficiency of proper IT facilities. Such constraints can be resolved by investing in low-cost CRM systems and adopting the use of a cloud system that can prevent high initial financial investments in the business and allow it to grow and be flexible (Reicher & Szeghegyi, 2015). Cloud solutions open access to advanced CRM features to SME without having to make heavy infrastructure investments or dependent on other advanced skills.

The alignment of all processes and the reengineering should always be promoted as business process reengineering (BPR) is one of the critical elements of the success of CRM implementation. Can combine the organizational processes together with CRM capabilities to bring those into line with what is currently being done as far as organizational operations are concerned in eliminating any non-efficient processes as well as enhancing the quality-of-service delivery (Mendoza et al., 2006). Process

design that is customer centric makes certain that all the organizational workflows cater to improved customer relationship management goals (Chen & Popovich, 2003).

One of the pioneer luxury hotel businesses in Britain has managed to reinvent its front-end services and back-end services with its CRM strategic planning. Such end-to-end alignments were being provided to ensure that the satisfaction and loyalty levels of guests improved through consolidated services delivery strategies (Rahimi & Gunlu, 2016). The given example shows the way process reengineering may provide CRM objectives, increasing the overall organizational performance.

Colleges that implemented CRM to manage relationships with students have identified that the admissions process, alumni relations, and the academic advising process were best fit to be integrated with CRM processes (Reicher & Szeghegyi, 2015). Among the key areas college institutions enjoy with CRM integration include higher student interaction, better alumni connectivity, and reduction in administrative activities that facilitate the sustenance of student success all through their educational cycle.

Continuous improvement practices refer to the numerous practices an organization undertakes regularly through the year by visiting their processes regularly depending on its performance as indicated in the CRM performance and thus it becomes

effective in responding to the ever-changing expectations and requirements of the customers. As an example, assessments made within the hospitality industry revealed the need to undertake periodic process audits to help enhance the positional performance of service delivery (Rahimi, 2017). This is a constantly changing method which makes CRM systems develop according to the dynamic customer needs and corporate goals.

In comparing successful and unsuccessful CRM strategies, it has been found out that the failures in implementation resulted most of the time because the organization failed to determine how the critical success factors can be dealt with effectively. A case of one Hungarian SME proved that leadership commitment, well-developed training, and analytical approach are the keys to CRM success (Reicher & Szeghegyi, 2015). Implementation of CRM systems along with tools that allow organizations to identify valuable clients and build services, which satisfy their needs most specifically, led to success in banking environment (Piskar & Faganel, 2009).

Failure analysis recognizes general trends in the various organizational conditions. The case of CRM failure at an educational institution was associated with lack of training and resistance of faculty members, which should speak volumes about the need to ensure proper stakeholder involvement and a well-planned change strategy (Rahimi, 2017). Public utilities experience failures in their processes mainly due to discontinuity in process and lack of sufficient data and flow that lead to erratic performance of its services to its customers (Tazkarji, 2021).

2.5.3. Critical Success Factors Across Industries

Critical success factors can be used in any industry because of its universal positioning; however, to ensure its utilization it is appropriate to adjust it to industry specifics and organizational needs. CRM systems in hospitality industries are usually created to provide programs that enhance satisfaction by the guests in terms of personalized provision of service. Technology should be synchronized with the customer-based processes and the organizations should devise service-driven cultures that complement the aim of customer relationship management (Rahimi & Gunlu, 2016).

Application of analytical CRM models in the banking systems will guarantee a streamlined segmentation of customer base, the capability to understand the customer behaviors, and the ability to assess financial risks. All these can only be achieved with strong leadership and an inclusive data integration approach (Piskar & Faganel, 2009). Banking organizations are examples of organizations with this figure to facilitate advanced analysis of requirements in identifying the needs of the customers and coming up with the specific products and services in the financial institutions.

The unique challenge of CRM adoption to the public utilities is associated with bureaucratic organizational cultures and a necessity to consider several stakeholder interests at the same time. Such problems can be solved with the help of powerful lead and ability to adapt the process to a regulatory framework with the aim of

enhancing the delivery service (Reicher & Szeghegyi, 2015). The issues that need to be taken into consideration are that commercial CRM needs balance with public service, roles and accountability of public utilities.

More learning institutions are applying CRM systems to help them in the improvement of the relationships pertaining to students and also, in the enhancement of the alumni process. Effective implementation focuses on the ways to integrate and not substitute existing educational ways in CRM applications (Rahimi, 2017). CRM systems used in education help students achieve by bettering communication, automating services and relationship management across the student lifecycle.

New technologies such as artificial intelligence, Internet of Things and blockchain are finding their niche in CRM development and improvement. The given technological developments allow the organizations to address the issue of predicting customer behavior with the help of machine learning methods, automatize repeatable tasks with the assistance of artificial intelligence, maintain data security, and transparency on the principles of blockchain (Tazkarji, 2021). An example, application of AI in predictive analytical models has helped banks know cross-selling opportunities and Internet of Things incorporated CRM frameworks have enhanced service delivery in utility sector (Mendoza et al., 2006).

Obviously, Critical Success Factors have offered easy outlines to organizations that are in the process of learning how far the CRM strategy goes, as well as the implementation demands. The study results indicate that the leadership performance and technology incorporation, as well as the process consistency become the key success drivers, whereas the case studies evince the inevitability of the adjustability of the strategies which have to be changed with regard to the kind of the industry and the organization. The progress of technology in the area of customers also directly affects the ability to contend with CRM, and, to be able to grow and have a competitive advantage, organizations should become more multi-dynamic and customer-oriented in their operations.

2.6. Resistance to Organizational Change and Cultural Barriers

Change resistance has been identified as one of the major challenges faced by organizational adopting a CRM system and is mainly caused by fears, job insecurity, and unwillingness by employees to embrace new means of operation (Rahimi, 2017). These implementation challenges between organizational culture may accelerate or aggravate such challenges; therefore, cultural evaluation and management are the necessary processes in effective strategy of CRM implementation.

2.6.1. Change Resistance and Employee Behavior Patterns

Misconceptions about possible benefits of adopting CRM and concerns about work overload are the typical examples of why employees are reluctant to take part in

CRM implementation projects. Such resistance is particularly apparent in institutions that have a strict top-down management style, a formal decision-making process, and a setting that does not realize the views of the employees (Reicher & Szeghegyi, 2015). Being aware of these patterns of resistance helps organizations acquire the specific strategies of garnering employee support and minimizing the barriers to implementation.

A Slovenian service business was faced with much employee resistance in the application of CRM tools which changed the existing patterns of work and defined working procedures. Such resistance was addressed and was eliminated effectively by providing extensive management training as well as positive communicating the aspects of the benefits of CRM both organizationally and customer-wise to the management, sales and customer care employee staff (Piskar & Faganel, 2009). The case shows that when organizational change is proactively managed and communication being strategic about change, resistance can be dealt with, and employees become supportive of CRM initiatives.

Cultural mismatch is one of the key issues with the organizations with product-oriented perspectives of doing business to customer-driven business models that would be needed in successful CRM adoption. The cultural shift in question demands high management investment and clear communication plans to involve the members of the workforce and develop the support of customer-oriented methodologies of operations (Rahimi, 2017). Organizations should understand that cultural change is

long-term and needs time, deliberate efforts, and reinforcement to bring the desired change.

Cultural changes are also difficult when it comes to small and medium enterprises because the lack of accepted customer management practices usually implies that manufactured cultural changes have to be implemented not only in terms of knowledge but also in terms of the behavior when the formal CRM system is introduced after informal methods of managing the customers (Reicher & Szeghegyi, 2015). Such organizations need special support and training programs which would cover both the technical skills and adaptation to different culture's needs.

One of the most efficient practices to assess and overcome resistance by means of systematic change management and introduce urgency, use of change agents, and early success to sustain the drive to change further is the 8-Step Process developed by Kotter. Hospitality companies, which have undertaken CRM by introducing team building activities and frequent feedback sessions, have received a positive response of employees, therefore, making system changes successful and service production ability increased (Rahimi & Gunlu, 2016).

2.7. Technological Challenges and Integration with Legacy Systems

Some of the gravest implementation issues related to CRMS are the technological challenges on how to tie the new systems with the existing legacy infrastructures

coupled with how to connect with other data provisions within the organization (Mendoza et al., 2006). There are a variety of technological challenges that organizations have to go through in order to implement modern CRM solutions with the possibility of sustaining operational stability and data integrity.

One of the main impediments to the successful integration of CRM is the legacy systems and data silos because the older systems of ERP could be poorly constructed to meet the needs of organizational change management or lack the ability to support the required needs of the CRM integration. The circumstance makes customer records store in different places, which would make operations such a pain and it would make organizations take no action of offering the same value to customers in terms of connected functional deployment (Ranjan & Bhatnagar, 2008). Fragmentation of data restricts organizational capacity to determine the customer requirements holistically and present coordinated service experiences.

These problems of integration can be explained by the experience in the banking industry when a Slovenian bank found it difficult to integrate the newer CRM systems with the old transaction systems databases. According to Piskar and Faganel (2009), this project was only successful after carrying out a lot of data cleaning and migration exercises and a lot of systematic integration of works were involved (2009). This case shows that legacy system integration cannot be done without proper planning, resources and expertise to get good results.

The issue of technological maturity and scalability are especially relevant in the case of organizations that have poor levels of IT infrastructure and support functionality (Tazkarji, 2021). SMEs face such challenges particularly because lack of financial resources denies them an opportunity to invest in holistic technologies (Reicher & Szeghegyi, 2015). Budget constraints usually impact the same issue in terms of the delay in CRM adoption and safety of the technological integration in the sphere of public utilities (Rahimi, 2017).

The comprehensiveness of the IT audit prior to the implementation of CRMS can solve the technological issues since the organizations are presented with the opportunity of gauging compatibility of the integration along with the establishment of possible hurdles (Mendoza et al., 2006). The company needs to look into cider-based CRM solutions that would allow small and medium corporations access to sophisticated functionality without the need to make heavy initial investments into the required infrastructure (Reicher & Szeghegyi, 2015). The strategies help organizations to address their resource constraints even as they fulfill the goals of implementing CRM strategies.

2.7.1. CRM Adoption Challenges in SMEs and Public Utilities

The issue of adoption in the context of CRM is also considerably different in the context of small and medium enterprises and public utilities given the fact that these two entities fare in different ways in terms of organizational orientation, resources,

and functions. Majority of the SMEs do not have the required financial and human capital to sustain the complete implementation of CRMS plans. The low operational budgets do not allow us to acquire efficient CRM solutions, and training employees in the area of CRM along with others is complicated, and a limited number of staff members make it hard to allocate someone to the CRM-related tasks (Reicher & Szeghegyi, 2015).

The other big problem of SME CRM adoption lies in the fact that organizations are comparatively unsophisticated in their organization, and they depend on informal management mechanisms and lack clearly outlined customer management practices. As an example, one of the Hungarian SMEs did not have the needed level of IT functionality to shift in the web-based CRM solutions of their customer databases (Reicher & Szeghegyi, 2015). These features of the organization demand extensive process development and capabilities building in order to execute effective CRM implementation.

The bureaucratic nature of the organizations of such public utility's functions in a highly regulated environment that can hinder active measures that is necessary in the implementation of CRMS (Rahimi, 2017). Democratic accountability demands, regulatory compliance needs, and multi-stakeholder interest produce complex implementation environment and necessitate specific implementation management strategies and protracted implementation processes.

In Sri Lanka, one of the problems faced by a water utility organization in integrating the different departments into the centralized CRM systems was the resistance of employees due to the familiarity with old-style work processes and the autonomy of various departments (Tazkarji, 2021). These were some problems that necessitated overall change management decisions and structured stakeholder management to realize effective implementation results.

Using an implementation-specific approach will allow the organization to surmount sector-specific problems. The phased strategies enable SMEs to start with minimal features and successively upgrade their capabilities, as an organization grows in capacity (Reicher & Szeghegyi, 2015). Specifically, to ensure the resistance is defeated, public utilities are expected to focus on cross-functional teamwork and stakeholder engagement to develop consistent support that can ensure efficient change management, which can be achieved with the help of the committed top management and alignment of the organization (Rahimi, 2017).

2.7.2. Case Studies on Overcoming Implementation Challenges

The analysis discussed in literature review illustrates that case study presents worthwhile information about how different companies in different industries have effectively dealt with the issues of CRM implementations. In hospitality business, a luxury hotel operator has discovered that employees have a lot of potential to do

anything to oppose CRM implementation to the extent that the management of this hotel chain incorporates employees in decision making activities besides implementing thorough training programs. The management understated the advantages of using CRM system to the guests instead of forcing them to use the system (Rahimi & Gunlu, 2016).

An example of banks meeting the integration challenges has been the deployment of phased implementation strategies at Slovenia. First, the bank emphasized on consistent coordination between CRM systems and simple transactional databases and later onto advanced capabilities of analytical functions (Piskar & Faganel, 2009). Through these phases, in stages it was possible to build capabilities and simultaneously reduce disruption associated with changing operations.

A Hungary company got the cloud-based CRM systems in order to cope with the constraints in resources and development. Participation of third parties in offering training and technical support by the organization reduced the risk of operations stoppage and enhanced effective management of customer relationships (Reicher & Szeghegyi, 2015). This model indicates the way in which external expertise could be used with internal capacity in the implementation process.

The change management process which involved the sharing of information and training of employees in addition to incentives of early adopters by Sri Lankan water

utility organization also helped in combating employee resistance. Tazkarji, 2021 said that such initiatives led to better employee-buy-in and helped with easier CRM implementation processes. This case shows that systematic change management is a way of managing the resistance in the organization besides generating organizational support to new technologies.

The same themes are present in any implementation of CRMS-related challenges in any industry and any organization such as resistance to change in an organization, technological shortcomings, and resource deficiency. These issues should be approached with the help of efficient leadership, management strategies, and technology frameworks. Results of case studies can attest both specifics of the context and the fact that any organization can face implementation obstacles and succeed with CRM having planned and implemented the necessary actions in a systematic approach.

2.8. Best Practices for CRMS Implementation

The implementation of Customer Relationship Management needs thorough strategies that are able to support the change management issues in the organization, involvement of the stakeholders, and alteration of strategy in the organization in order to realize successful implementation. This requires a contingent implementation plan, which takes into account current literature on the subject of public service reforms and organizational development. The part is a guideline on

CRMS implementation by evidence of organizational success and modern research results.

2.8.1. Strategic Alignment with Business Goals

Some of the most basic CRMS implementation best practices include harmonization of capabilities of CRM and general organizational purposes. Failure to match may lead to low efficiency, system adoption, and low returns on the investment of the organization (Chen & Popovich, 2003). Before organizations begin the process of implementation, they need to have clear links on the capabilities of CRM with the overall business strategy.

Integration of strategic goals involves determining certain objectives that have to be achieved by the organizations like the enhancement of customer satisfaction, streamlining the business processes or boosting revenue generation. To effectively meet such organizationally defined goals, CRM systems have to be chosen and logged in such a way that they enable an organization to achieve them (Ranjan & Bhatnagar, 2008). One of the most successful instances of the adoption of CRM systems was with a chain of luxury hotels which implemented the use of CRM in order to achieve added value in customer value delivery through owning and using reservation-related customer feedback and loyalty program data. Such an alignment based on mutual goal of priorities on customers led to better guests' loyalty and higher earnings (Rahimi & Gunlu, 2016).

The use of customer-focused design principles would guarantee that CRM systems do not conflict with the goals of customer-journey mapping and interaction optimization. Analytical CRM models aid a company to learn and support the customer pains during the service lifecycle and manage an association in a better manner and deliver service (Reicher & Szeghegyi, 2015). Such customer orientation makes sure that the investment in CRM can bring clear results to organizations and their clients.

Another essential need is cross-functional integration since the CRM must integrate the functions of sales, marketing, and customer services departments in order to guarantee uniformity of customer experiences. The example of a Slovenian banking institution indicates that CRM can be successfully implemented with the help of a well-orchestrated combination of marketing and customer service agencies so that the financial services could be provided in personified way, and customer satisfaction and retention could be increased (Piskar & Faganel, 2009). Through this integration, the bank had a chance of attending to the individual customer needs in terms of finance maximized with customer loyalty approaches.

2.8.2. Training, Change Management, and Stakeholder Engagement

CRMS implementation involves a full organizational change management that takes into account employee issues, developing abilities, and an early success rate in

utilizing the system all through organizational levels. Practical necessities such as resistance, training needs, management changes, talking to people, and continuous support should be approached in an orderly manner to make the changing work.

The programs of training and improvement of the skills can be taken as the essential parts since they make employees ready to work effectively with the CRM tools on a daily basis. The training is to be tailored to different types of employees according to organizational roles and features of systems (Rahimi, 2017). In a Hungarian company, the particular SME company offered special training to the sales groups on how they could use CRM analytics to find high opportunities in sales thus leading to even better performance of the groups with regard to the systems (Reicher & Szeghegyi, 2015).

Most change models, like Kotter 8-Step Process, offer a methodical way of dealing with resistance and getting support to CRM programs. The main idea of these frameworks is to produce urgency and involve employees in change initiatives and focus on early victories and prove that the system matters (Rahimi & Gunlu, 2016). The use of the structured change management process that includes various workshops (as well as the communication of the leadership) and the gradual introduction of the system, helped one of the Sri Lankan public utilities find the decrease of the resistance and initiate the easier adoption of the CRM (Tazkarji, 2021).

The involvement of stakeholders during the implementation procedures through the process of CRM guarantees that various stakeholders are taken into account via designing and implementation of systems. The result of this engagement trust is created between the organizations and the employees, there is also guarantee that the capacities offered by a system match the operations (Mendoza et al., 2006). By engaging frontline individuals in the specification of CRM functions and features, a hospitality organization enabled a greater level of satisfaction among the employees and improved the alignment of services with the flow of their operations (Rahimi, 2017).

2.8.3. Best Practices from Service and Public Sectors

The experience of working in the service sector and working with the public will give us a good idea of how to employ the best CRMS implementation in various organizational set ups. A luxury hotel chain in the hospitality service industry used the CRM strategies in order to enhance the adaptation of the reservation, loyalty, and feedback data systems in management. Such interactions of the system with business objectives contributed to improving customer satisfaction and loyalty due to the levels of coordinated delivery of services (Rahimi & Gunlu, 2016). The examples of hospitality industries prove that alignment to organizational culture is vital because only those hotels that had well-formed customer-oriented cultures reached the higher level of prolongation and better CRM outcomes (Rahimi, 2017).

The applications in the banking sector show that analytical CRM systems optimize the profiling of customers and aid in creating new products and services in the finance industry. The top management of a Slovenian bank promoted the concept of integrating various departments to facilitate effective achieving of the CRM project. The strategy boosted customer retention capacity as well as enhanced business working capacity (Piskar & Faganel, 2009).

Bureaucratic inertia and restricted investment funds are the characteristics features of challenges encountered in the process of public utilities implementation, but they can be effectively implemented with strategic leadership, change management principles and systematic implementation practices. In Sri Lanka, one of the water utilities was able to implement CRM systems effectively and improve service delivery and responsiveness by consolidating customer data in various departments (Tazkarji, 2021). The financial restraints prompted the utility providers to implement cloud-based CRM such that their ability to manage customers increased without significant financial investments (Reicher & Szeghegyi, 2015).

The summary of the best practice highlights a few important implementation strategies. Individual deployment helps the organization to handle the problem in phases and adjust strategies before full deployment without the risks and increase chances of success (Mendoza et al., 2006). The practice of continuous monitoring and improvement will require continuous systems performance monitoring, translating the outcome to match the intended KPIs in the achievement of satisfaction

to customers, customer retention rates and smooth operations (Ranjan & Bhatnagar, 2008). Relevance and usefulness of CRM systems are achieved by customization and flexibility that allows responsive systems to adopt emerging market features that achieve greater success levels. Customer value creation focus is the basis of sustainable organizational development as it includes the elements of customer knowledge to provide tailor-made solutions and services to customer needs increasing the trust and loyalty to the organization and ensuring its sustainable business success (Rahimi & Gunlu, 2016).

The results of the CRM system implementation processes of organizational change have major influences in the organizational development success. The application of the best practices like phased implementation, continuous improvement and customer focused strategies, is much capable of promoting the success of CRM systems in organizations. One may point at examples of services and public sectors where it is seen that CRM strategies must be modified to the conditions of specific organizations to make the CRM systems add value and promote long-term development of the organizations.

2.9. Future Trends in CRM

The development of CRM systems is still bound to change because of the ever-growing aspects of technology, the expectations of the customers, and the competition in the vibrant market. New technologies such as artificial intelligence

and big data analytics have transformed CRM strategies, whereas future-oriented and flexible CRM frameworks make organizations adopt customer requirements instantly. It is in this part that the current trends and areas that would be subjected to future studies are discussed.

2.9.1. Emerging Technologies in CRM

Artificial intelligence, machine learning, big data analytics, and integrated intelligence solutions are the driving force behind the transformation of CRM systems into more customer-oriented, quicker, and smarter as technology innovations are redefining the modern shift. Artificial intelligence enhances CRM processes by automating the low-value operations, contributing to the decision process, and creating excellent customer experience. Chatbots provide customer inquiries in real-time, which shorten the response duration and strengthens the identification of the customers (Tazkarji, 2021). Online databases can use static models to make predictions about the customers that will help the organization to come up with improved marketing approaches (Ranjan & Bhatnagar, 2008). The banking institutions have effectively employed AI-assisted CRM technologies in detecting any customer attrition and initiating correct action against them to retain them.

Big data analytics helps the CRM systems handle tons of customer information data within the organization and makes it more knowledgeable about the customers, which facilitates the process of implementing better segmentation, targeting and

delivery methods. The multiple sources of today such as social media applications, the internet of things, and transactions allow organizations to have a broad view of their customers (Mendoza et al., 2006). The studies in retailing have shown the advantages of big data in enhancing inventory aboard in an organization by using the information of purchasing trends and anticipating future demand fluctuations (Reicher & Szeghegyi, 2015).

The benefits of cloud-based CRM deployments are its ability to scale, be versatile, and be cost-effective over on-premises CRM deployments, so that advanced CRM features are brought within reach of SMEs with little capital available. Such systems allow organizations to use CRM functions without a massive investment in their infrastructure (Rahimi, 2017). The improvement of customer information management and service delivery has become a trend in the application of cloud solutions, which a Sri Lankan water utility has already managed to implement with the support of cloud-based CRM systems (Tazkarji, 2021).

Adaptive and predictive client relationship management models are other new trends, which have emerged in customer relationship management due to the application of real-time data and analytical tool in calculation of the customer issues and offering proactive solutions. With adaptive CRM systems, the behavior changes in customer behavior patterns are used to change the system of the CRM as well as how customers are communicated to. To conduct any business with the implementation of e-commerce, the CRM systems have been modified to suggest products depending

on visitor behavior patterns and profile browsing (Rahimi, 2017). Adaptive CRM tools of the hospitality sector allow the hotels to provide services on the basis of guest data of the existing accommodations and former interaction (Rahimi & Gunlu, 2016).

Predictive CRM uses such data modeling and machine learning algorithms to predict customer behavior patterns and help organizations in monitoring of the resources, effective marketing strategy formulation, and optimization of the customer relationship strategies (Ranjan & Bhatnagar, 2008). The banking examples of the usage of predictive CRM are aimed at finding the subject of cross selling and with the help of it the overall product penetration rises up to 20 percent among the existing customers (Piskar & Faganel, 2009).

Internet of Things (IoT) also are becoming the critical technology in the future adaptive and predictive CRM development. The IoT devices can aid organizations in understanding how customers associate with the different products and services that an organization provides, thus the organizations can provide reasonable aid at the best time (Mendoza et al., 2006). By integrating CRM systems with IoT, the utilities and energy companies can monitor and evaluate the usage pattern and offer energy saving suggestions to consumers.

2.9.2. Research Gaps and Future Study Areas

Some of the gaps in existing research and practice of CRM are those that will have to be filled up in future with further research in order to provide better insight and better implementation practice. Literature of CRM in the emerging economies is scarce and much of the research has been in the developed markets, leaving out the developing countries in the study. Researchers need to study how cultural, economic, and technological issues affect CRM use in the setting of emerging economies (Reicher & Szeghegyi, 2015).

Ethics and privacy issues when applying AI-controlled CRM and big data analytics are yet to be properly researched to achieve a system that serves the organization justly without breaking compliance and ethics rules (Tazkarji, 2021). Since more and more companies create and process more data about their customers, studies have to be undertaken to secure protection of their privacy, data security, and ethical use policies.

There is less research on the application of CRM in non-traditional industry such as education, healthcare and even government unlike the traditional service industries. Sharing of knowledge regarding the possible improvement of the relationship with CRM in these industries would increase the scope of its use and may lead to enhancing the work of the government and providing benefits to the population (Rahimi, 2017). Studies on the sustainable meaning of the introduction of new

technologies such as living in the era of AI, IoT, and blockchain application need to examine how these technologies change customer perception and the process within these organizations.

The sustainability and CRM literature potentially could review other sustainability-related contributions that CRM systems would have toward environmental responsibilities such as suffering responsible consumption, wastes reduction, and contribution to environmental programs. CRM systems in the utility industry might be improved by including sustainability metrics that can influence positive environmental impacts by customers (Rahimi & Gunlu, 2016).

Future of CRM lays on the potential of the development of technologies, the ability to be flexible in predicting the ever-changing demands of customers and the availability of predictive data to help in making decisions. The integration of AI, big data analytics and the use of IoT to the traditional CRM has led to the creation of adaptive and predictive CRM models. Solving gaps in their privacy, sustainability, and new applications in emerging markets will however be important in the enhancement of CRM capabilities as well as ensuring that systems can support sustainable relations with customers and allow competitive advantage.

2.10. Challenges in CRMS Implementation

Challenges to change and technology still remain a major impediment to effective implementation of CRMS in organizations. These problems must be addressed with powerful methodological methods and stepwise implementation plans in order to increase employee interest and improve the system (Reicher & Szeghegyi, 2015; Tazkarji, 2021). There are several possible implementation obstacles that have to be overcome in an orderly manner by organizations to achieve sustainable CRM success.

The first one is limitations of primary research which are primary to the limitations faced by SMEs and the public utilities, such as resource constraints and bureaucratic constraints which impact the implementation strategies. There are possible solutions to overcome these organizational problems that can be achieved through cloud-based CRM systems and specific training programs (Rahimi, 2017). The implementation strategies used by resource-constrained organizations should enhance resource utilization under conditions of limited funds given that the less the funds used upfront, the more it results in scalable capabilities to future growth.

The newer ones are the trends in artificial intelligence, big data analytics, and Internet of Things technologies, which now help turn CRM systems into predictive and intelligent systems. Such innovations help the organizations to appreciate the needs of the customers better and tackle them using practices that change the way the

customer relationship management is managed (Ranjan & Bhatnagar, 2008; Mendoza et al., 2006). Nevertheless, the aspect of information on protection, the possibility of misuse of artificial intelligence produced data, and their implications regarding customer relationship management pose some questions that are new to consider when implementing modern CRM.

The implications of the research findings can be made in various ways in the cases of future research and development of practice. Further empirical research is needed in the emerging economic situations where cultural, technological and economic factors do not coincide with the situation in developed economies. Regional analysis in comparison to different regions could also give clues on local ways of implementation and local success factors.

Not much is known about CRM and sustainability goals correlations. The search of environmental and social objectives that are executable through CRM systems can open up a wider avenue of technology usage together with facilitating the wider organizational sustainability agenda. Ethics and privacy need to be taken into consideration as big data and AI tools become pre-requisites of business, making it seem like there are contradictions between developments in technology and the need to protect privacy.

The implication of the findings therefore points to the fact that phased implementation strategies and continuous improvement strategies need to be embraced by organizations in a bid to increase the rates of CRM success. The findings of studies in service and public sectors provide the picture of the systematic and gradual rollouts and thoroughness of stakeholder management as the critical solutions to handling implementation risks (Rahimi, 2017; Piskar & Faganel, 2009). Long term success relies on continuous training and priorities in managing change, employment relations, investing and developing, and positive communication about some disruptions to increase resilience of organizations and help them to streamline performance of the system.

The possibility of maximizing the use of the existing technologies such as the incorporation of AI, IoT, as well as the blockchain has the promise of enhancing the CRM. To create the best tool use situation in an organization, organizations have to only keep up with the changes in technology and deal well with the effects of the trends (Mendoza et al., 2006; Ranjan & Bhatnagar, 2008). The appropriate adoption of strategic technology involves a tradeoff between the cost and opportunity of innovation and problems of implementation as well as capacity issues in an organization.

CRM is no longer easy to recognize as good customer relationship management methodologies, but it is a type of potent and complete system that determines triumph in an organization. Instead of mitigating risks and addressing challenges of

operations, organizations can seize opportunities generated by technological developments and they can also incorporate the CRM systems to their ongoing strategic business goals. Nevertheless, there are too many critical ethical, practical, and technological concerns that organizations and researchers should continue to address in a bid to cover the entire potential of CRM to achieve its envisioned goals of sustainable and equitable value creation to all parties involved.

3. METHODOLOGY

3.1. Introduction

This study explores the elements which have led to the effective implementation of Customer Relationship Management (CRM) system at National Water Supply and Drainage Board (NWSDB) using a profound qualitative approach. Qualitative research design is incorporated in this study since implementation of CRMS needs specification research based on the environment of a public utility organization in which elaborate organizational, cultural, and technological dynamics work together to change the way implementation is achieved. Qualitative tradition helps researchers to learn about employee viewpoint, experiences and situational-related information which can never be addressed properly in the context of quantitative methods used.

The study design will enable an in-depth insight into the dynamics of CRMS implementation by exploring at length the critical success factors, obstacles of organizational change, and the change implementation processes. Using qualitative research tools to facilitate data such as semi-structured interviews and thematic analysis, this project will produce detailed results that go even beyond the figures to yield a complex series of ideas on implementation experience and organizational learning process.

In this methodology chapter, the author gives the justification of this approach both in terms of philosophy and research design and data collection processes as well as the method of analysis used in this exploration. The study aims at distinguishing the methodology employed that will provide rigor of inquiry but also allow pursuing new themes and unanticipated findings typical of the qualitative approaches to research studies. The systematic nature of data collection and data analysis allows it to come up with reliable, valid findings that would not only add to the body of knowledge ideally but can also form a rudimentary guideline on how the CRMS should be applied in the context of public utilities.

The methodology covers various research elements, which are related to one another such as the research philosophy and design justification, study setting and selection of participants, data collection techniques and procedures, analytical models and ethical considerations. These components are incorporated so that an in-depth investigation is possible, but also so that they have a high level of scientific rigor and a transparent application of methods so that other analysts can assess them and possibly replicate this method of research.

3.2. Research Philosophy

In the area of the philosophical orientation of the research, its action takes place in the interpretive mentality which is characterized by the focus on the individual beliefs, experiences, and perceptions of CRM system implementation in

organizational settings. Interpretivism paradigm acknowledges that social phenomena such as organizational change and adoption of technology are best explained by studying how individuals create meaning on their encounter and interactions with others (Bryman, 2016). Such philosophical perspective is quite fit into examining implementation processes of organizations where the role of human factors, dynamics and cultural aspects, and situational factors is high.

The interpretivist paradigm will be especially appropriate in this research as the implementation of CRMS will have complex interactions of people, processes and technologies, which cannot be measured but needs to be understood in the context. The study is aimed at finding out the roles of organizational factors towards the success of the CRM in NWSDB by studying the stakeholder views, experiences and interpretations of the implementation processes.

3.3. Concentrating on Contextualizing Meanings

Implementing CRM systems is not a trivial venture, and it is important to consider organizational dynamics, leadership methods, difficulties and challenges in integrating technology, and also regarding stakeholder participation trends. Interpretivism approach would allow studying thoroughly the relationships between these factors in the context of an isolated organization like the NWSDB, which would otherwise be inaccessible using the exclusively quantitative methods.

By interviewing employees who work in various organizational areas, the study pays attention to a wide range of opinions regarding the role of organizational culture, leadership effectiveness, and methods of managing the change in organizational outcomes. This multi-view model allows grasping the complexity of implementation and discovering both factors that make it successful and those that may act as obstacles on its path to efficient adoption of a system.

In the interpretivist approach, the subjective interpretations and perceptions are highlighted and factors which are thought by the participants to be of the greatest value regarding the implementation success can be discovered. Knowledge of these views assists in finding out organizational needs and strategies of implementation that are congruent with the ability of employees, organizational culture, and realities of its operations.

Exploratory nature of the present research is very much consistent with the requirements of the interpretivist inquiry as there is little research, especially in relation to CRMS implementation in the setting of a public utility development country. Such a methodology as interpretivist permits the creation of new knowledge and theoretical understanding that can be noticed in further research and practice within a similar organization situation.

The methodology also offers flexibility that is required during qualitative investigation so that researchers can adjust the data collection methodology depending on the findings, as well as what the subjects are saying. It is this flexibility that is crucial in gaining an all-encompassing insight on the complex organizational phenomena where prepared questions and strict procedures may not capture the little contextual information and implementation dynamics.

3.4. Research Design

The study will apply a single case study approach in order to explore the implementation of CRMS in NWSDB by conducting a thorough qualitative study. The case study approach, in its turn, suits complex organization phenomena which are characterized by the interaction of various factors that determine the result (Yin, 2014). Single case design allows you to thoroughly study the dynamics of the implementation and collect rich, detailed data, which is important to the development of theory and assisting practical recommendations.

3.4.1. Rationale of Case Study Design

The methodology of a case study would facilitate the investigation of such an interaction of organizational structure together with modernization of technology and adaptation of personnel, specifically in the setting of a public sector organization. The case in NWSDB offers information on the issues about implementation and success factors not similar to those experienced by the firms in the private sector

commercial business, which majority of studies on CRM so far existent have been based on.

The case study method is convenient to study various stakeholder views of senior management, technical specialists, and operations frontline workers and the differences in the experience of implementation on various levels of the organization. This multi-stakeholder methodology is critical in working out implementation complexity and finding out other matters that affect implementation succeeding or failing at various levels of organizations.

The case study methodology can be used to carry out rich, prolific qualitative data because there are various forms of data one can use such as interviews, an analysis of documents, and observational research. This extensive collection of data helps to conduct its strict analysis of all the implementation dimensions and to become evidence of triangulation and confirmation of the research outcomes.

The aim of the research is on the identification of key CRMS success factors, finding out the organizational barriers and creation of change management understandings. Single case study approach allows you to explore in depth such interjected variables and at the same time is deep enough to inform useful recommendations and scholarly contributions.

3.5. Context and Setting of the study

This study will be carried at the National Water Supply and Drainage Board (NWSDB) which is responsible in delivering the water supply services to about 50 percent of the population in Sri Lanka via 334 water schemes located nationwide. NWSDB is a semi-government, statutory organization that has a dual role in delivering services to the people and sustainability of operations and these features present organizational peculiarities that determine ways in implementing technologies.

NWSDB is building an inbuilt CRM in order to streamline their disjointed customer service systems to not only enhance operational functionality but also to enhance the quality-of-service delivery. The company has independent systems used in billing, customer service, technical processes, and administration, which have made it hard to coordinate the activities leading to an inability to provide customer relationship management on a larger scale.

The major contextual issues affecting the implementation of CRMS concern the bureaucratic organizational structure of the NWSDB including hierarchical decision-making procedures, the existence of various stakeholders with varied interests and expectations, the need to comply with regulations which affect the design of the system and the procedures that govern its functioning, the budget limitation imposed

on any given public sector institution, and the drive to deliver services in the best way that means paying less attention to commercial profitability.

Poor design of the existing customer service solutions leads to inefficiency of operations as well as constrains customer satisfaction due to varied experiences of receiving and getting served. Larger implementation issues involve possible substitution of the worn-out legacy systems, staff resistance toward the use of technology, building technical skills in staff, as well as implementation coordination in far-widened operations.

The organizational setting is a worthy representation of the dynamics of CRMS implementation in the setting of the public utilities, adding to understanding the nature of the role played by features of the public sector in determining the onset and success of the factors of adoption of technology.

3.6. Sampling Method

The study resorts to the purposive sample selecting participants who possess first-hand knowledge and experience concerning the implementation of CRMS by NWSDB. Purposive sampling will allow selecting a sample of people who can give pragmatic opinions on the implementation process and the challenges and success factors because of their position and participation in the processes related to CRMs.

Participants should be included in such inclusion criteria given that they should be employed at NWSDB and engaged in or directly involved with CRMS implementation activities. The shortlisted respondents will be able to work in fields which help them to offer an informed opinion regarding the influence of CRMS on the way the business runs or on the technical systems or on ways of serving customers. The participants should have worked in NWSDB at a minimum of 6 months so that they possess enough organizational knowledge and are familiar with the systems.

The use of exclusion criteria rules out that any person is not directly working in the field of CRMS or directly making decisions within CRMS so that all can give valuable input to the project in terms of first-hand experiences instead of second-hand information or guesswork.

The sample to be utilized by the participant encompasses 15 people with a variety of organizational positions to cover all-inclusive full-scale experiences of implementation. The management, which will be represented by senior executives in charge of strategic guidance and management of CRMS, will present an insight into organizational commitment, resource provision, and strategic consideration alignment. Technical personnel make up of IT personnel who deal with system integration, technical infrastructure, and solutioning, and their comments provide

insight into technical issues and difficulty in integration. Front line employees such as customer care and on field staff members make use of such CRM systems on their daily executions to give insights on how applicable the system is, the appropriateness of training as well as effectiveness of the operation.

Such varied selection of participants contributes to fully eliciting the experiences of implementation at both levels in the organization as well as obtaining varied stakeholder views on the determinants of success, issues and areas of improvement.

3.7. Methods of Data Collection

To achieve thorough investigation of the factors of CRMS implementation, the research uses several types of data collection such as semi-structured interviews and document analysis. Such a multi-method design allows in triangulation of results which, on the other hand, brings detailed and rich data which allows proper analysis and valid conclusion.

The main method of data collection would be semi-structured interviews, which would allow achieving a high level of detail in examining the thoughts of the stakeholders on the aspects of implementation, difficulties, and factors contributing to success. Interview will be delivered in person (face-to-face) and by video leaving the choice of medium to the participants and time constraints. The interview will be

conducted once and will take 30 to 45 minutes so that there is enough time to cover much ground on the topic, but sufficient time is given to participants.

The interview results can be complemented and supported by document analysis of the documents that are related to the company such as plan of CRMS implementation, training, and reports. Document review allows us to grasp the official organizational views, policies and procedures concerning the implementation of CRMS and discovery of patterns and themes that will supplement the interview information.

3.7.1. Interview Guide Development

In the preparation of the interview guide, systematic literature review was used to help in developing questions to be used to reveal major issues such as leadership effective practices, method used to involve the stakeholders, organizational culture attributes and approach to change management. The creation of questions was guided by the objectives of the research to address each of the critical success factors, resistance patterns and training effectiveness.

Pilot testing entailed conducting preliminary interviews with the sample of the selected participants to understand the clarity, relevance and comprehensiveness of the questions. The pilot test of the proposed research contributed to improving the wording of the questions and the optimization of the interview guide to collect the

data most successfully during formal research interviews. Appendix A contains the entire interview guide that is used to allow transparency of the research and the possibility of replication.

S. No.	Designation	Date of Interview	Duration
1	DGM (IT)	2025-02-06	24.00 mins
2	DGM (Commercial)	2025-02-11	14.31 mins
3	DGM (Western)	2025-02-13	19.14 mins
4	AGM (IT)	2025-02-07	14.35 mins
5	AGM (Billing)	2025-02-07	20.14 mins
6	AGM (Call Center)	2025-02-24	13.57 mins
7	AGM (CAM)	2025-02-07	38.57 mins
8	AGM (Coordination)	2025-03-02	39.49 mins
9	AGM (Central)	2025-02-14	25.26 mins
10	Manager (Call Center)	2025-02-28	15.50 mins
11	Manager (Commercial)	2025-02-14	24.19 mins
12	Manager (Kotte)	2025-02-15	39.05 mins
13	Manager (Maharagama)	2025-02-13	27.41 mins
14	Manager (Dehiwala)	2025-02-14	10.54 mins
15	Manager (Gampaha)	2025-02-20	19.39 mins

Table 1 : Interview Participants and Session Details

3.8. Data Collection Process

The recruitment of the participants included sending electronic and telephone messages to invite participants, whereby all participants gave informed consent before conducting schedules of the interviews. The tape was used on all the interviews with the consent of the participants to promote accuracy of the information and give the analyst a clear picture in terms of the responses and views of the participants during the interviews.

NWSDB management was one of the sources with access to the needed organizational texts such as implementation plans, training materials, and reports of performance in order to understand the implementation context comprehensively and be aware of the approaches that the organization has.

The data collection was consistent throughout the entire process of the interviews although it was flexible to discuss the emergent issues and thoughts of the participants. This moderate style guaranteed sufficient coverage of topics of study as well as it allowed identifying independent findings that may be used in the development of theoretical thinking and practical advice.

3.9. Ethical Considerations

The study will follow a well-defined strict ethical guideline meant to promote the rights of the participants and maintain research integrity and scientific validity. Before the data collection process, approval by the Institutional Review Board was sought to guarantee adherence to the standards of research ethics and protection requirements of the participants.

Informed consent procedures guarantee all the subjects to be fully communicated on research purpose, collection of research data, protection of their confidentiality, and their rights as research subjects. All the participants will sign a written consent before participating in the interviews pressuring the notion of voluntary participation and informed consent-making.

Protection of the identity of the participants and any form of confidentiality; coding of all personal details, limited access to research-related data to be assisted to the authorized research staff, and safeguarding data storage processes, which secures the privacy of the participants. The participants are also fully free to drop out of the research and there is no penalization or adverse effects to such actions.

There is data security that involves encryption of all the electronic information, safe storage of the paperwork with storage of the same being done in a secure manner and

plans to destroy those data after a period of five years to guarantee maximum privacy. This extensive system of ethical safeguards provides the protection of participants and the promotion of exhaustive research investigation as well.

3.10. Data Analysis Techniques

The study uses Thematic Analysis of a six-step approach designed by Braun and Clarke (2006) to generate a meaningful pattern or theme in respect of CRMS implementation experiences in qualitative data. The thematic analysis offers a systematic scheme to discover, analyze, and report on patterns in qualitative data and flexibility to investigate emergent and obvious themes.

The six steps of the thematic analysis given include phases of familiarization involve the repetitive reading of the materials presented in the interview transcripts to form initial impressions and ideas on the data content therein. Initial coding is the process of recording meaningful sections of data systematically with them being given descriptive codes like leadership challenges and the training gaps which help to capture vital meaning in the data excerpts.

Theme development entails it being subject to categories of codes that make up apt groupings or themes such as organizational culture or technological integration that reflect similar patterns and interrelationships in the data. Reviewing themes involves

thorough reviewing and polishing of identified themes to ascertain their capacity to reflect content of data and research aims.

Theme definition and naming entails the creation of descriptive and clear names and definitions which will describe each theme accurately e.g. Leadership Support to reflect theme content and meaning. Concluding reporting also integrates results in a logical system of analysis but this time using verbatim quotations of participants to substantiate the thematic interpretations and conclusions.

Thematic analysis approach offers flexibility, which is required to examine data patterns and yet be systematic in analysis. They are relevant to the interpretive approach to research given that their orientation in research is the same as that of the theme; to learn about the experiences of the participants and their context that contributes to shaping organizational phenomena.

3.11. Triangulation and validity

This study is developed using several triangulation techniques to increase validity and reliability and reduce the possibility of researcher bias and mistakes related to interpretation. Triangulation of the data source integrates the information obtained through an interview, the analysis of documents and observational data in search of consistent trends in the data and confirmation of findings, using the information in various sources.

Method triangulation is the process that involves the use of semi-structured interviews, analysis of documents and observational data that provide different insights on factors of implementation, and each method shows a different side of underlying phenomena. This methodological heterogeneity empowers more results because it proves reliability of the results collected using various methods of data collection.

The process of investigator triangulation entails frequent consultation of the research supervisors and the peer review mechanisms to determine possible researcher bias and ensure accuracy of interpretation. This interdisciplinary strategy allows objective analysis to be ensured and at the same time enjoy widely different input and expertise.

Member checking procedures allow selection of main research participants to verify on the findings to ascertain the accuracy of thematic identification and interpretation procedures. The use of participant validation assists in assuring that the practical results of a research accurately capture the viewpoints and experience of the stakeholders and not the interpretation of the researcher or a supposition of them.

Long-term engagement consists of a series of interviews and a long-term data collection procedures and periods in order to make up a genuine association with the

participants in the process and to collect all the necessary information on the implementation activities in a detailed elaborated manner. Long contact allows knowing people better and establishing trust that will contribute to candid communication.

Thick description offers findings that are rich with context which helps the readers to arrive at a decision that allows it to determine the applicability of the research findings to other organizational settings. The specific contextual information facilitates the evaluation of transferability as well as theoretical insights into the dynamics of CRMS implementation.

Audit trail documentation preserves detailed documentation of research decisions, data collection processes and analytical procedures so that others outside the research group can judge the rigor of the research or the validity of the conclusions. The research is adequately supported by systematic documentation making research transparent and allows you to replicate and verify research methods.

Peer debriefing implies frequent meetings with supervisors and peers to establish reliability of interpretation and validity of research practices. The independent feedback system should be utilized to overcome the possible bias thereof and maintain the rigor and consistency in analysis and methodology.

Reflexive journaling keeps continuous records of how researchers make their decisions, their personal reflection and how they may be biased in the research. Reflexive practices assist in identifying and reducing the possible researcher influence and preserving the objectivity of analysis.

The triangulation method that is utilized comprehensively reinforces research validity and also offers numerous pieces of evidence that will help to adopt reliable and trustworthy conclusions on the factors and dynamics of CRMS implementation and on organizational dynamics.

4. FINDINGS AND DISCUSSION

4.1. Introduction

In this chapter, data gathered by use of Interviews, analysis of documents and observations made at the National Water Supply and Drainage Board (NWSDB) in respect to their Customer Relationship Management System (CRMS) implementation is thoroughly analyzed and discussed. Thematic analysis conducted is performed based on the six-step framework suggested by Braun and Clarke (2006) and is structured according to the theoretical framework of People-Process-Technology (PPT) to be applied in this study investigation.

This analysis demonstrates valuable information regarding the specialties of using CRMS in the working environment of the public utilities and identifies key issues that complicate the successful implementation as well as key success variables that impact the implementation process. Thematic development and systematic coding of the data generated three broad themes with a series of sub-themes that give in-depth insights into CRMS implementation experience in the NWSDB.

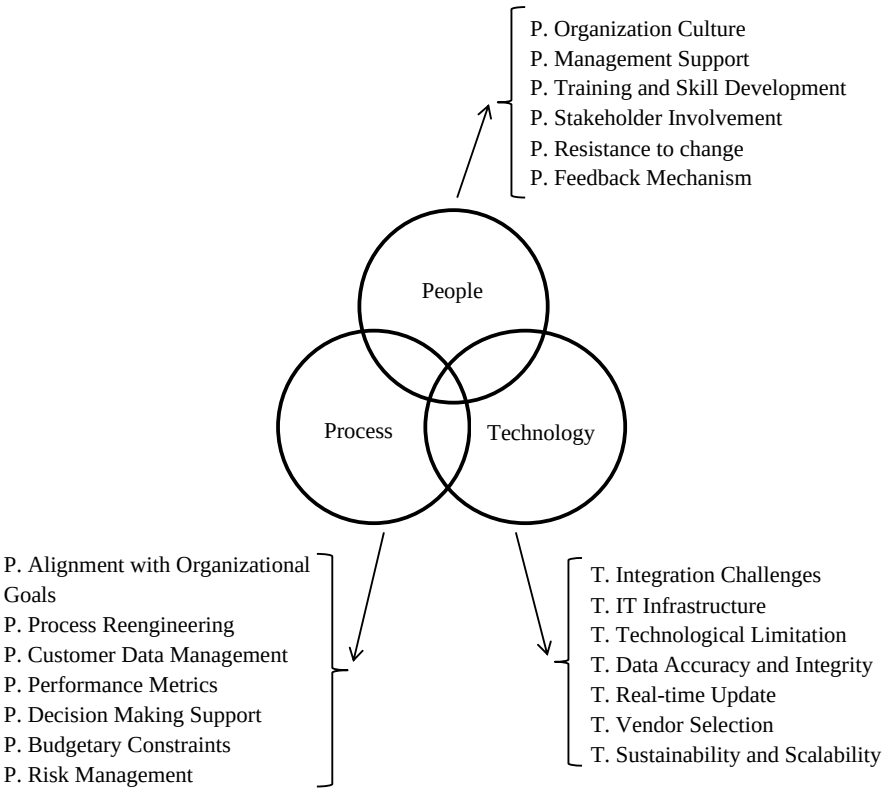

Figure 2 : PPT Framework

The chapter outline shows the detailed thematic analysis findings which are outlaid in relation to the PPT framework and consequently thoroughly discussed incorporating the find out with the existing literature as well as the conceptual knowledge. The analysis involves providing the perspective of 15 key stakeholders working at different levels of the organization and offering a comprehensive understanding of the implementation process and results.

4.2. Results on Thematic Analysis

4.2.1. Theme 1: People Factors in CRMS Implementation

People's dimension turned out to be one of the most significant factors of CRMS implementation success in the NWSDB and it consists of six separate inter-related sub-themes that altogether constitute the human side of organizational change in the area of the public utility transformation.

4.2.1.1. Organizational Culture

The discussion shows that organizational culture in NWSDB is the key in adopting CRMS, which has impacted the implementation process as a challenge and opportunity. The government-oriented culture which is traditional in the country first formed the barrier to modernization in the CRMS adoption as Manager (Commercial) was observed to say:

"Usually this would be traditional even though this is we are saying this is a not fully government organization but, we are working, we have different circulars and all other things which is like a government organization totally."

This bureaucratic way of thinking had various practices that barred the adoption of CRMS, at the onset. Employees were used to fixed process and formalized hierarchical decision-making systems which were not dynamic as postulated in modern CRMS systems. There was however continuous cultural change in the analysis as employees started enjoying system benefits.

One significant cultural adjustment that has been identified by the DGM (Commercial) is that,

> "Although individuals were resistant to CRM system initially, they have been adapted to it, which conforms to the normal change management trends that have been witnessed in organizational change. This process of adaptation was not homogeneous in all departments, and some were showing wider culture flexibility than others."

The culture of departmental silos was noticed as a significant cultural issue with Manager (Call Center) saying:

> "We are currently doing this in a silo fashion, we have a human resource, and we have a culture to do this consumer relation management system in a silo fashion, not end to end CRMS."

This single-function style brought obstacles to the overall customer management technique necessary of effective CRM systems. The results show that the successful implementation of CRMS in the public utilities entails the involvement of effective cultural change management procedures in which the current organizational cultures are taken into account and implemented over time to embrace collaborative and customer orientations.

4.2.1.2. Management Support

The factor of top management support turned out to be one of the strongest in the CRMS implementation process at the NWSDB, with the top management contributing so much to implementation context by offering long-term commitment at the top level. It is seen in the analysis that the management support was beyond the symbolic endorsement and was also in the form of the practical allocations of resources and active engagement.

The AGM (Call Center) clearly expressed that the initiative is not merely a management directive but a shared organizational vision:

> "In management terms, we are an organization, my higher management at corporate level, managers would always be on our side to implement CRMS."

This sentiment was reinforced by the DGM (Western), who emphasized that the direction and commitment originate from the highest levels of governance:

> "Decisions are passed on to the board of directors by the chairman, the general manager and their decisions."

It has been supported by the fact that decision is effectively communicated to the levels of operation through the chairman and the general manager, who are the ones serving the board of directors. It was vital that CRMS initiatives be positioned strategically in the organization to support management and The AGM (IT) express that:

"Due to the fact that the CRM initiatives are the ones that could best reflect our water board goals and visions and missions, this implementation is unanimously supported by the senior management in entirety."

Such synchronization implied that CRMS was not approached as a standalone project within the framework of technology but rather it was viewed as part and parcel of the business strategy. Using technology infrastructure investments, including effective involvement of the top management in the implementation strategies, well-communicated need of CRMS through the organization, and granted decision-making authority to the implementation groups, management support included resolving conflicts when resistance was observed within the department.

4.2.1.3. Skill development and Training

The analysis pointed out that there are large training and skills development gaps, especially among employees who deal with customers. It became one of the major challenges of the CRMS implementation process and training was given in a way which was not consistent to different departments and other organizational aspects. The training deficiency was brought out by the observation made by the Manager (Call Center):

"There can be no training program in CRM system, at least, there is no training program in it, but there are training programs in dealing with consumer complaints."

This means that there was general customer service training, though no specific one such as CRM systems. The AGM (CAM) was more critical with his assessment:

> “There is a lack of training programs in this regard. I believe that we must talk to the training department to enhance that training program.”

The fact that this has been indicated at the management level means that the management realizes there is a training deficit that had to be addressed systematically.

Nevertheless, there appeared opposite views as the Manager (Dehiwala) replied:

> "Certainly. Since on many occasions, our IT section is holding such training program... Even among all employees."

Such inconsistency can indicate by their existence that training on CRMS is inconsistent among different units of the organization or maybe varying definitions of what possesses decent CRMS training.

The perceived training issues are the lack of a detailed training aimed at CRMS implementation, unstable training that is provided in different parts of the organization, a lack of emphasize on training people that are involved with the customer, poor follow-up support and training and a discontinuity between teachers training and practical training. The results of the research indicate that training programs have to include technical competencies along with customer service skills in a form of structured approaches that are based upon roles.

4.2.1.4. Stakeholder Involvement

The extent of stakeholder engagement also presented a rather large variation in terms of organizational scale and level as the former had active people engaged in them while the latter reduced engagement. The argument shows a tight stakeholder landscape that influenced the results of implementation.

The AGM (Call Center) identified key stakeholders and was able to give insight on the multi-dimensional aspect of stakeholder engagement:

> "In the CRMS scenario, we can say that our key stakeholders turn into stakeholders to our organization and the customer and we have outsourced our service on call center solution."

This understanding considers this internal and external stakeholder dimensions believing that management of various stakeholder interests is complex during the implementation process.

The Manager (Kotte) provided a more contextual approach to the prioritization of the stakeholders, as he indicated the significance of technical departments in the success of implementation:

> "The customer is one of the key stakeholders in this regard. However, according to my feeling, of course, instead of customer and commercial staff and area engineering staff, I think the IT department should be one of the largest stakeholders."

Some of the interviewees admitted that no customer involvement was factored in the CRMS design and receiving feedback and that was a huge missing link in stakeholder engagement approaches. This technical attention was put forward by the AGM (Coordination):

> "When we talk about the stakeholders, I would think of the technical people, because the CRM system is normally operated and maintained by the consumer relation staffs."

The latter shows the inclination towards focusing on the technical and operational stakeholders and the possibility of giving less importance to the contribution of customers and frontline employees in the processes of developing systems.

In the analysis, the involvement of stakeholders proved to take different and discrete shapes on various organizational levels and functional units. The management and IT departments exhibited a strong presence during the implementation process where they gave the strategic direction, resource deployment, and technical knowhow required in the development and deployment of the system. The most flexible level

of participation was observed at the middle management level whereby some departments were real participators compared to their counterparts who were more peripheral in implementation process. The front-line customer care employee participation in the design processes was minimal although they were the major users of the system who come into direct contact with the customers and would know, in detail, the nature of operation requirements.

Direct customer contribution to the system development was low and it was certainly a lost chance to include user views and service improvement ideas into the work related to the system. The vendor that we outsourced became a dominant stakeholder and so he/she might impact on the design and functionality of the system in a manner which might not be fully in line with the expectations of the customer or the organization. These dependencies caused by this vendor domination may cause problems in long term sustainability of systems and organization control over businesses in customer relationship management process.

On the basis of these findings, it is probable that CRM systems could be made to work and gain more acceptance as a user when the role of stakeholders is extended to involve more organizational interest. Front line employee feedback, and the voice of the customer, should also be included in a systematic way during the implementation process in a manner whereby the design of the system reflects real operational needs and customer service needs. Improved stakeholder participation would allow a greater degree of insight into the needs of the user population in addition to

developing support within the organization of adopting the system and maintaining it throughout the long term.

4.2.1.5. Resistance to Change

The resistance of the employees to change is as well expected but controllable during the CRMS implementation process. Patterns of resistance proved predictable and less whenever workers were positively affected by what was provided to them directly by the system.

The Manager (Dehiwala) threw light on the above patterning of resistance to change:

> "People are at the forefront, in any change management, they shall be reluctant to start adding up these things. But slowly when they realize that they can work on their responsibilities with a lot of ease so then they will tend to, you know, adjust to this automatically."

Resistance to change was framed by the AGM (Coordination) in the organizational context:

> "By being the normal government organization, there is a great resistance to change. To that end, a great amount of change management with regard to employment is required."

The observation given indicates certain difficulties connected with the application of change in the bureaucratic structure of the organizations. Some of the resistance

elements that have been identified include worries of job security as well as changes of positions, attachment to existing systems and procedures, worries of more workload during transition periods, worry of how reliable the technology will be, and the lack of understanding of the benefits of the CRM system.

As the research results indicate, resistance has minimized greatly when the employees saw real benefits of the CRM system, and thus it can be concluded that enforcing the use of the system may not be effective compared to showing its usefulness.

4.2.1.6. Feedback Mechanisms

The analysis illustrated poor feedback mechanisms especially in areas of integrating customer input into CRMS functionality. This is a huge loss in terms of system enhancement and customer satisfaction.

The Manager (Maharagama) was blunt in his observation:

> "What form of feedback channel does it have to implement in order to use the feedback by the customers in the CRMS functionalities? I believe that we, nowadays, have no such facility in our current consumer management system."

This inadequacy of formal feedback is one of the greatest gaps in customer-oriented development of systems. There was one of the missed opportunities discussed by the AGM (CAM) that was especially alarming:

> "We document every single call from the customers. And they give a lot of thoughts over the improvements... Nonetheless we have been operating call center of over three years. However, the people of higher a level, low, relevant staff, in fact, including the IT department, do not worry about the value of these scores."

This finding implies that even though feedback data of the customers was indeed being kept together as samples on tapes upon recordings of the calls, it is not being systematically analyzed and used to update the system with its feedback. Issues related to the feedback mechanism are the absence of formal procedures in integrating customer feedback into the system, under-employment of the existing customer interaction information and lack of proper channels of staff feedback that contribute to improvement of the system, lack of systematic process of analysis and addressing feedback and omission of an opportunity to continuously improve it.

4.2.2. Theme 2: Process factors in CRMS implementation

The process dimension disclosed a basic problem of how organization work process can be aligned with CRM functionality, which created seven significant sub-themes which by combination depict operations strategies of CRMS implementation.

4.2.2.1. Strategic Alignment to Organization Goals

The analysis revealed significant challenges in ensuring CRM strategies support NWSDB's primary organizational objectives, leading to tensions between system

capabilities and mission fulfillment. This disparity became a significant obstacle to effective implementation.

The Manager (Call Center) puts it quite clearly:

> "The goals of our organization are out of sight; that is, the issues in that sense. That is to say that we have a mission... we pledged to provide the sustainable supply and the necessary amount of water supply."

This fact shows how challenging it is to align CRMS goals with the fundamental utility service delivery requirements.

In contrast, the AGM (Central) offered a more optimistic yet realistic view:

> "Organization overall goal is to offer and enhance the customer service... The question we have to settle is the probability of how well we will execute the CRMS."

This statement reflects an acknowledgment of the strategic role CRMS can play in achieving improved service delivery, while also recognizing the practical challenges of execution.

The conflicts of operational efficiency and customer service enhancements, the inability to integrate the CRMS initiatives with main utility missions, rivalry between the objectives of service delivery and the system implementation, the absence of clear integration between the CRMS and organizational Key Performance Indicators,

and the lack of strategic planning in terms of CRMS and organizational goals integration are a few of the strategic alignment troubles.

4.2.2.2. Process Reengineering

The research revealed that the business processes in place had to undergo significant changes to realize integration of CRM into business, since the current processes were disjointed and unsuitable in practicing integrated customer management.

The necessity of a thorough restructuring of the process was emphasized by the Manager (Call Center):

> "Well that is the question really that the reorganization of the process should be comprehensive one, as I said before we have some capturing mechanism and feedback mechanisms they are however spread all over the place. Thus, we have to go through the reengineering process."

The processes must undergo broad and significant changes to be properly implemented within the CRMS. The AGM (Coordination) evaluated:

> "It needs reengineering of all the processes. It is, on the organization side so that we have to reengineer all the processes in the CRMS."

The analysis goes ahead to show that in order to have successful CRMS implementation, the business process reengineering should be thorough and generate

workflows leading to integration in ways that customer management strategies are coherent.

4.2.2.3. Customer Data Management

The management of customer data became a major issue of process concern and integration of the various customer data systems was lacking thus putting in place no customer relationship management. Analysis also reveals shortcomings as well as some strength in the current data management practices.

Manager (Call Center) gave an insight into the existing potentials in the field of data management:

> "So, at the moment we have well up to my knowledge a good customer data capturing system, having said this the only problem arises in the handling of the complaints... We just have the consumption and billing data of the consumers."

The Commercial Manager (Western) expounded on the current data infrastructure available:

> "We now have a billing system. Therefore, under that system, we have a billing module, legal module, the profile management. Similarly, also, we have a different module. In that case so the billing module, we are fully aware of, on our side we have almost 67,500 consumers or sorry 60,000, actually 67,500 consumers."

The result shows that organization faces several customer data management challenges, including fragmented data silos, poor integration between billing and customer service systems, inadequate customer profile management, weak data quality controls, and the inability to update information in real time across systems. The excellent CRMS needs the combination of customer data handling approaches, which encompass all contacting points and reservoir of contact with consumers.

4.2.2.4. Performance Metrics

It was revealed in the analysis that there is an essential lack of the measures of performance to assess the successfulness of the performance of the implementation of CRMS that can also become the critical failure of the management of the implementation and the continuous improvement tools. This lack of end-to-end architectures of performance measurement is a major gap in the ability of the organization to measure the progress of implementation and show the value to different stakeholders of the system.

According to the Manager (Call Center), it is not an easy task to develop adequate performance measure in assessing CRMS:

> "Yeah, so we can do the matrices in the matrices in the means, use KPI? The KPI implies, there is a vision and a mission to sustainable voter and desired quantity. That is why we have to bring on that cap into our KPI of the CRM system."

This response reflects awareness of the necessity of key performance indicators, in addition to uncertainty on answering the question of how to be able to properly merge CRMS metrics with the already present systems of measurement in the organization. The recognition of the importance of performance measurement, by the participant, implies knowing that it is important but with a little clarity on the methods of performance measurement implementation.

The insight of AGM (Central) showed an even more severe situation related to the performance measurement capabilities:

> "To my knowledge, there is no research in this field on the Water Board... we have not been yet gauged the successfullness of CRM implementation."

Such an absence of measuring success can be termed as a significant management gap during the implementation process. This lack of any form of systematic evaluation system denies the organization the capacity to assess whether efforts in utilizing the mechanism of CRMS are attaining intended goals or not helping in enhancing better customer service delivery and operations efficiency.

A number of issues that are critical to the development and implementation of performance metrics in the organization were identified through looking at the analysis. Absence of CRM-specific success indicators is a fundamental problem because the organization has failed to put in place effective metrics of measuring the effectiveness of its system or the way the implementation is progressing. There is no baseline measurement to gauge improvement, which makes it hard to show that there

is some improvement, or which areas need more resources or require more concentration. Lack of integrating CRM measures into the key performance measures that are already operational by the enterprise leads to lack of integration in the performance measurement in various aspects thus fails to offer a comprehensive picture of how the system is influencing the goals of the organization.

Fragmented data analytics performance monitoring capabilities constrain the organizations to derive useful analytics out of available information and inadequate systematic review processes mean that CRMS performance is not evaluated and constantly enhanced on a regular basis. This lack in measurements makes it difficult to measure value added by the system to the stakeholders and to optimize the process of customer relationship management using data.

According to the research outcomes, it is necessary to implement effective performance measurement models which would assist in illustrating the value of CRMS and take the lead in continuous improvement activities. A good and sufficient performance measuring program must have several elements such as measures of customer satisfaction, measures of operational effectiveness, levels of employee adoption, and strategic factors of alignment. The latter would allow the organization to monitor the implementation progress in a systematic manner and, at the same time, clarify the opportunities to improve and optimize the customer relationship management capacities.

A. Customer Satisfaction Performance Dimensions

Customer satisfaction performance dimensions constitute the first critical component of the comprehensive CRMS evaluation framework identified through this research. These dimensions address external stakeholder experiences and service quality perceptions that directly reflect CRMS implementation success and organizational performance improvement.

The analysis revealed comprehensive customer satisfaction measurement requirements spanning multiple service touch points and interaction channels. Customer satisfaction performance dimensions emerged as critical evaluation criteria requiring systematic measurement approaches to assess CRMS implementation effectiveness on customer experience and service quality.

The research findings indicate significant gaps in customer satisfaction measurement capabilities. The DGM (Western) described current approaches:

> "No such metrics. But, usually, we measure the customer satisfaction on the service. Not on the CRM system. CRM system is used to measure the level of the service. And satisfaction of the customer regarding the level of service. It's based on the KPIs, like, number of complaints, commercial complaints received per thousand connections, and time due rate or the duration taken to solve commercial complaints, technical complaints."

Service quality assessment encompasses response time satisfaction reflecting customer perception of service speed and efficiency across all channels, resolution effectiveness measuring first-contact resolution success and follow-up requirements, service accessibility evaluating ease of service access across multiple channels and geographic locations, communication quality assessing clarity, helpfulness, and professionalism of staff interactions, and overall experience satisfaction capturing holistic customer relationship quality and service consistency.

The Manager (Maharagama) emphasized the multidimensional nature of customer satisfaction measurement:

> "You need to get the feedback from the customer, and you need to get the feedback from consumer relation offices. And you need to get exactly feedback from the technical department as well as the commercial staff. So you need to focus or you need to adjust and adopt based on the multidimensional and multidirectional system."

Current customer satisfaction measurement approaches lack systematic feedback collection mechanisms. The absence of formal customer feedback integration represents a significant capability gap, preventing the organization from understanding customer perceptions and service quality improvements achieved through CRMS implementation. Customer satisfaction measurement requirements include post-interaction satisfaction surveys for immediate feedback collection, periodic comprehensive customer experience assessments, Net Promoter Score

evaluations for loyalty measurement, Customer Effort Score for service accessibility evaluation, and systematic complaint analysis for service improvement identification.

B. Operational Performance Dimensions

Measurement of efficiency and effectiveness and resource optimization developed in the operational performance are all parts of the CRMS implementation. The analysis found there were several dimensions to the operations that should be evaluated in a concerted way in order to prove that the implementation is valuable and can be used to drive improvement in every upcoming step.

The AGM (Billing) described current operational tracking approaches:

> "Matrix, we already metrics means it may be some formulas, no metric we measured that one is number of complaint received, number of complaint solved out, and the 1000 complaint per 1000 received likewise."

The dimensions of process efficiency are the levels of workflow automation that attributes the shift toward delivering features such as the automation of activities throughout the organization, time to complete the tasks that records the improvement of processing time of customer requirements and service delivery, resource to utilize rates that measures the ability of staff members to work as well as the capacity of an organization to handle its operations, errors reduction performance that measures the quality of improvements and reliability of processes, and costs optimization that

measures the financial efficiency growth and cost reduction measures in an organization.

The AGM (CAM) provided insight into current system monitoring approaches:

> "Normally, that we have some KPIs here. There are a lot of KPIs that I can I think that you can obtain from our call center application... Like, the call drop the amount of call drop that the average time of calling and, number of calls. Likewise that we have a lot of KPIs there. Based on those KPIs, we are monitoring that, how effectiveness of the CRM system and the performance of the CRM system."

Technology integration performance includes data integration effectiveness the measurement of consistency and accessibility of information across systems and systems utilization the measurement of user adoption and level of technology engagement, performance reliability which is the measurement of system uptime and response times, and the rating of organizational stability, integration success which is the measurement of flow of information with systems and departments with each other and finally scalability achievement which measures the ability of a system to be able to cope with increased workload and organizational increases in size and ability.

The Manager (Commercial) highlighted current manual tracking limitations:

> "At the moment, normally, we are doing it on a manual basis. Because, for the system, we can get the complaint details. And based on the complaints, what are their captured complaints and how many complaints we have already

resolved within the limited time period. It means within the fourteen days and what are the pending things that are normally we can use the, billing system."

The research findings emphasize that operational performance measurement requires systematic approaches moving beyond manual tracking to automated data collection and analysis capabilities. Current fragmented measurement approaches prevent comprehensive operational performance evaluation and limit the organization's ability to optimize CRMS effectiveness.

Performance Category	Measurement Dimensions	Current Status at NWSDB	Implementation Requirements
Customer Satisfaction Performance	**Service Experience** – Response satisfaction, Quality perception	Limited complaint tracking only	Systematic survey implementation
	Service Accessibility – Channel availability, Geographic coverage	Informal assessment only	Comprehensive accessibility audits
	Customer Loyalty – Retention rates, Recommendation likelihood	Not measured systematically	Net Promoter Score and loyalty program development
Operational Performance Dimensions	**Process Efficiency** – Automation rates, Task completion times	Manual tracking in some areas	Automated workflow monitoring
	Resource Optimization – Staff productivity, Cost effectiveness	Basic financial tracking only	Comprehensive efficiency analysis
System Performance	**Integration Success**, **Reliability Metrics**	Limited technical monitoring	Real-time performance dashboards

Table 2 : Performance Measurement Framework

4.2.2.5. Decision-Making Support

It was also discovered on the analysis that the capabilities did not include the use of the abilities to the fullest capacity to provide far potential chances of enhancing the operations and the decision-making process as long as the CRM systems were equipped with the decision-making support abilities. Such misuse of analytical abilities signifies the huge loss of opportunity to improve efficiency of the organizations and customer service delivery via data-based decision-making strategies.

Recommendations of the Manager (Call Center) were elaborated in regard to decision-making processes optimization by making better use of CRM:

> "And my suggestion here is the number of hours that we will take in responding to the customer complaint in the CRM system is an effective application."

This recommendation shows the possibility of application of CRM systems to monitor and enhance service delivery performance by monitoring the service delivery indicators and response times on a systematic approach.

The DGM (Western) referred to the existing decision-making processes, which were defined according to the existing approaches to operation:

> "We regain the delays and consumer grievances to the CRA and then we re-process our system, not the system. Suppose that we have a process in customer service."

This explanation demonstrates how complex modern decision-making processes are even as it can be seen that such processes can be enhanced by the improved combination of CRM features and everyday operational processes.

The review was able to shape out some of the most vial problems relating to decision-making support in the organization. Poor utilization of CRMS analytical capabilities limits the organization's ability to generate actionable insights from available customer data and operational information. The lack of management reporting abilities of CRM systems does not allow knowledge of the performance tendencies and strategic results. The lack of predictive analysis to customer-service planning limits the capability of pro-active service delivery and vice versa resource allocation optimization.

Weak integration of CRMS information and strategic decision-making forms gaps between available information and planning activities of organization. Failing to offer real-time dashboard capabilities of the decision-making process at the operational level, the responsiveness to developing issues and possibilities to optimize the given performance instantly decreases. All these restrictions make the organization unable to maximize the potential of CRM systems in assisting decision-making processes on strategies as well as operations.

These results used in the research point out that to make CRMS as efficient as possible in supporting the decision-making process, there is a need to make the maximum use of the available analytical capabilities involving technical improvement and management process as well. Organizations need to engage in building up technological systems as well as organizational skills that support effective data-driven approach to decision-making.

4.2.2.6. Budgetary Constraints

The study revealed that two sides of opinion had developed regarding the budgetary constraints matters whereby some stated that there was adequate money but there were also the stakeholders who claimed that budgetary constraints was one of the gravest barriers of implementation. This opinion gap implies different knowledge in terms of costs and resources needed to implement this or that initiative on the organizational levels and in different departments.

The budget sufficiency in implementing of comprehensive CRMS was of concern to the AGM (Call Center):

> "We do not have that because already we have set money to take care of call center solution. In that there is a budget to make that happen, we shall do the CRM solution."

This is an indication of a doubt that the current budgetary provision would be adequate to carry out a full-scale roll out on CRM to mono-functionally of the call center service.

However, this resulted in contradicting views, and the Manager (Gampaha) mentioned budget constraints to be one of the major implementation issues:

> "Among the biggest problems are the issues in the budget."

According to this view, budget is a major obstacle to implementation of CRMS effectively and building the capacity of an organization.

The more optimistic view of budgetary resources and organizational commitment was expressed by the DGM (Western):

> "I do not think so... During the meeting I would bring in the staff and there would never be a post raised by the end of party that we cannot make these improvements, or we cannot do this implementation because of budget restrictions."

This defensive perspective presupposes organizational commitment on having the required factors needed to make implementation successful.

The results of the analysis presented a number of trends in budgetary consideration that influences the implementation planning and implementation process. The fact that different sides have disagreement on whether the budget has been adequate in

the organization brings confusion about the availability of resources and the extent of its implementation. The unclear future of financing systems (to keep them in maintenance and upgrade) evokes doubts of sustainability and the systems effectiveness in the future. Competition of the resource on the side of CRMS initiatives and other priorities in organization needs proper planning, setting priority in order to realize sufficient allocation of the resources.

There is also no flexibility of budget to cover implementation requirements as there are situations where sudden needs or expenditure may arise during implementation procedures. Lack of adequate cost-benefit analysis of investment in CRMS restricts knowledge on possible returns and value creation through an implementation of the system. All this budgetary reasoning points to the fact that clear budget communications and budgetary financial planning are two of the greatest factors that must be covered in order to control the level of concerns of stakeholders in regard to availability and sustainability of the implementation.

Analysis shows that explicit budget communication and detailed financial planning are vital in mitigating concerns by the stakeholders as far as availability of resources is concerned.

4.2.2.7. Risk Management

The element of data security turned out to be the most frequently discussed risk aspect in the implementation of CRM which evidences the need in concentration on

the protection of information on one hand and reveals the absence of the systematic approaches to risk mitigation management on the other hand. This data security focus, though relevant, implies that other risks in implementation have the probability of not getting sufficient consideration in organizational planning tasks.

The AGM (Call Center) discussed certain security implications as they concern third party vendor management:

> "One is data security. Speaking of data protection, the point is the following: in the CRM solution, we will interact with the third party. They are a reputable company, and we shall sign a data security policy agreement with them and then we give them the contract."

This strategy proves that it has recognized the significance of data security, but it suggests that it will rely on contractual arrangements in order to be protected against risks by third-party service providers.

The AGM (Central) stated other data-related risks relating to its impact on the reliability of the system and ability to go on with the operations of the organization:

> "Key risk is the data. The information, what we stored could vanish or could get corrupt, with advancement in technology in the future."

This issue elucidates the isolation of the organizational data to changes in technology; system malfunction and process pauses that might put the information of the customers and business processes at risk.

The review established a number of problems that were raised in risk management strategies at the organization. Extreme focus on the security of data, without conducting a thorough risk analysis at the same time, reduces awareness of the larger issues of implementation and potential solutions thereto. When an implementation does not show good consideration of the operational risks, it exposes it to potential impact on service delivery in addition to service delivery performance. There are no systematic methods of risk monitoring, so the arriving risks to the implementation success are not identified and eliminated timely.

Poor contingency plans for systems breakdown or loss of data pose threats to the organization and may lead to huge losses in terms of customer service provision and business operations. The poor risk communication between organizational levels limits awareness and preparedness towards the possible implementation challenges. Based on the analysis, an introduction of operational, technical and strategic risks in more developed risk management systems will guarantee effective implementation of CRMS and sustainable organizational resilience in the long run.

4.2.3. Theme 3: Technology Factors in CRMS Implementation

The technology dimension indicated intricate issues in integration of systems available, sufficiency of technology infrastructure, as well as development of the technical capacity, including seven major sub-themes that describe the technical nature of implementing CRMS.

4.2.3.1. Integration Challenges

System integration became the most challenging aspect in terms of technology in CRMS implementation, and the legacy systems present massive problem in terms of integrated customer management capabilities. The intricacy of integration between new CRM systems and existing infrastructure of organizations designates several technical and operational challenges that may be resolved responsibly one by one.

The core problem areas in the integration of the human resource and technical capabilities that was identified by the Manager (Call Center):

> "Primary challenges, as I see it are, we can, we have a technology, to implement the technology we need skilled people. This type, this is a government setup, and we have some limitations to the payment and all that, to the skilled people."

This observation shows the combination of technical needs and organizational limitations which make integration more difficult, especially in the environments of the public sector where the level of flexibility in compensation and personnel hiring is lower.

The AGM (IT) detailed a technological view of complexity of integration:

> "One of the focal points is that CRM system is new one. When we install such a solution we will be forced to interface with our existing system. That is one of the major problems to accommodate as part of the existing system."

The inherent difficulty involved in enabling smooth integration between new CRM processes and existing organizational tools as well as sustaining organizational operations is highlighted in this technical evaluation.

Some of the crunching problems regarding system integration processes were determined during the analysis. Complexities involved in the integration of the new CRMS with the other already existing billing platforms due to the technical challenges posed further involve a specific skill as well as planning. Lack of qualified technical human resource to carry out integration work cuts down organizational capacity to handle technical transitions of high technical complexity. The availability of technical advantages is hindered by salary and recruitment restrictions of specialized integration experts, especially in the government organizational structure.

Incompatibility of data format in various systems poses technical hurdles that can only be addressed in order to receive fruitful information exchanges and operational collaboration in a systematic manner. Limits in the network infrastructure have implications on the communication abilities of the systems and the same might need a significant upgrade in order to facilitate integrative operation. Analysis shows that the integrations problems are not addressed by technical solutions only but needs wide-ranging organizational capacities development that targets solving both technical and human resources needs.

4.2.3.2. IT Infrastructure

The existing IT infrastructure was enough in the organizations but some changes were required to achieve the optimum performance of CRMS. Such an evaluation implies that although there are basic infrastructures in place, there is need to optimize and enhance to ensure that there is realization of overall potential of the system and ability to carry out organizational goals.

Our vital infrastructure capabilities are sound as the AGM (IT) had a high degree of confidence:

> "We had already installed the infrastructure facilities at the call center in our organizations. Thus, the system was implemented by us with more ease."

Such evaluation is encouraging, especially when it comes to fundamental technological backgrounds, which are established to facilitate implementation of CRMS, and hence have good foundation to work on the deployment of systems and integrate it with operations.

However, the DGM (Western) has detailed some performance concerns which need addressing as follows:

> "It has to be improved. I mean, there is that experience system, I might as well call it, slow... there is slowing down of the speed."

This performance issue raises the issue on how infrastructure should be streamlined to avoid incidents when the system responsiveness is related to its operation needs and the customers through their expectations of effective customer service provision. The analysis came up with a number of considerations focusing on the IT infrastructure sufficiency and optimization needs. There is basic infrastructure to levels that implementation of CRMS would be possible with the required level of technology in order to launch the system. Nevertheless, its performance is stunted, which influences the responsiveness of the systems, and organizational experience, necessitating specific enhancements of the systems to improve operational efficiency. The need to scale in order to process more data intensity also implies infrastructure scalability needs due to the increased use of CRM.

Bottlenecks in the network are caused by network bandwidth limits when the system is at high utilization limit operational performance of the system affecting efficiency of service delivery and user satisfaction. Maintenance of a hardware system to provide a versatile and efficient system also means continuing investment in order to keep the level of performance and to facilitate the growth of an organization. The findings advise that despite basic infrastructure being present, capacity building and modernization of the system should be prioritized to guarantee high results and long-term sustainability.

4.2.3.3. Technological Limitations

This has been mentioned in the analysis that there are a few technological constraints that affect the performance of CRMS notably, the configuration of the hardware and

limitation of the system capacity. Such limitations act as key obstacles to maximum system performance, and they must be systematically addressed so that there are effective customer relationship management abilities.

The AGM (Billing) explained the limitations on system capacity that are considered by the smooth running of operations today:

> "In the existing system now we are facing the big trouble in system slow, how we work in our billing system. I am convinced that it is associated with more. I believe it is already at full capacity."

Such an assessment shows that the current systems are being fully utilized and thus introduces bottlenecks in performance, which influences the performance efficiency of the operations and the user experience when doing their daily tasks.

The Manager (Dehiwala) recognized the inconsistencies in the configuration of hardware which may influence the effectiveness of CRM implementation:

> "It might be computer configuration. Everybody does not have full configured machines. That is going to impact on us, when CRM implementation."

The given observation speaks about a problem of infrastructure standardization that ought to be addressed to make sure that the systems work in a similar way in any location within an organization and irrespective of a user.

The right ones were found during the analysis some of the limitations still at the technological level that should be solved systematically. Performance limitation caused by legacy billing systems that are clogged to the maximum limit limits the present system production while impacting on the future system integration. Uncoordinated system frameworks of computers within the workplace produce uneven client experiences and operational boondoggles in various sites of an organization. Weak processing capabilities for integrated system operations limit the organization's ability to manage complex customer relationship management processes effectively.

Technical barriers are possible when the software is incompatible with the older operating systems, and it might need to be upgraded significantly or even replaced to allow optimal performance of the same. Data management limitations due to storage capacity constraints restrict the organization's ability to maintain comprehensive customer information and operational records. Findings of the research demonstrate that the technological barrier can be overcome by a systematic approach to hardware and software update with a coordination of the schedule of CRMS implementation so that technical infrastructure could support organizational goals.

4.2.3.4. Data Accuracy and Integrity

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One of the most important matters that should be encouraged by the systemic quality control mechanism and compliance with the organizational standards is the data integrity and CRMS data accuracy. Having confidence in reliable and correct home

information of customers is one of key requirements in satisfactory customer relationship management and excellence in service delivery.

The options were quality assurance strategies as discussed by the Manager (Call Center) on an international standard:

> "But when we show up the CRM system, we will need to aim at the ISO standards. So, we are chasing the PDF arrangement of plan, design, do act in the case of ISO. Then we have an audit. Therefore, we will be able to verify the accuracy (of data) and all that through that audit."

The strategy further illustrates the organizational adherence to systematic quality management using internationally recognized frameworks that offer systematic methods of checking the accuracy of data and their continual enrichment.

As challenges have been ranked in terms of data verification and system integration, the AGM (Central) pointed out the following challenges:

> "Once the customer complains..... and we should be in a position to verify all to our database. It is the billing system. Well, those two do not go together, I am thinking."

This issue identifies the problem of integration between customer service and billing systems which influences the possibility of data verification and effectiveness in terms of customer service delivery.

Besides the multiple challenges arising due to data accuracy and integrity management, this analysis also indicated a number of problems. The requirements of ISO compliance on data management processes establish standards which need to be implemented and maintained in a systematic manner on organizational operations. Poor interface of customer service information with information on billing systems causes the existence of data silos that inhibit the possibility of verifying complete customer data and optimization of services delivery. The absence of real-time data verification capabilities restricts the organization's ability to provide immediate, accurate responses to customer inquiries and service requests.

Data management has restricted processes of quality control; organized observations and correcting the accuracy of the information throughout the organizational systems is restricted. The lack of a standardized process of data input in various departments makes the quality of information different and does not allow us to perform comprehensive customer relationship management. The study reveals that there should be technical solutions to data quality control as well as a standardization of procedures and periodic audit and verification activities that would provide reliable and accurate data about customers so that their information can be used to provide quality services.

4.2.3.5. Real-time Updates

The possibility to share real-time information and update the system became a necessity, not only a need, but also undeveloped, which limited the success of CRMS in integrating to real-time delivery of customer service. This weakness is also the

main barrier to delivering proactive, effective customer service that customers require given that they expect to access information and receive services instantly.

The Manager (Call Center) has made an essential evaluation of the system capacities at hand:

> "So here too, I think, we are dealing with the not a CRM system, but the COM system. There is no real time update and the same happens with billing payment, it takes once a time, once a day."

This fact reveals structural weaknesses in the system architecture that does not allow sharing real-time information and develops delays in providing services to customers and coordinating operations.

The Manager (Maharagama) raised an issue of coordination problems that challenge the integration of systems as well as its performance:

> "There are certain restrictions in that regard as well since there is an interlink familiarity with, the back, and technical teams. Much more attention should be paid on that."

This issue is relevant because of the necessity to find more coordination among technical teams to overcome the problem of system integration and streamline the possibilities to share real-time information.

In the analysis, some of the issues identified coupled with real-time update potential are related to the effectiveness of the system. It is not possible to access the current

customer information and the status of their service instantly since the systems are not simultaneously connected. The delays during billing payment processes that necessitate 24-hour cycles pose a challenge to customer service and alter the responsiveness of the organization to customer needs and enquiries. Adversity in the interaction between front-end technical team and back-end technical team confines coordination that is required to achieve efficient system integration and sharing of information in real-time.

Real-time information cannot be updated, and the response of the system cannot be met immediately due to the technical obstacles, which lack proper network infrastructure to transmit real-time information. The legacy systems which fail to automatically share data would involve manual processes which would lead to delays and impacting functionality in operations. As the results show, it is impossible to gain real-time capabilities without improving both the technical infrastructure and the processes redesign to promote immediate sharing of information in all the customer service touch points and functional domains.

4.2.3.6. Vendor Selection

Vendor selection criteria were based on experience, capability and knowledge of the targeted operational needs of NWSDB, because it was identified that successful implementation will be mostly lying on the hands of the vendor and the capabilities in satisfying its requirements. This understanding underlines the essentiality of selection of implementation trade partners that are sensitive to the requirements of

organizations and able to provide better solutions within the context of the operations.

The AGM (Coordination) defined significant selection criteria to be used in vendor assessment:

> "In the IT development, it implies the introduction of CRM solution of the organization. I think one thing, which is not complicated, is post and that is significant. And knowledge of our systems is also fateful since it is being directly influenced by the development."

This school of thought stresses on the issue of vendor knowledge of organizational systems and operation needs in order to have successful implementation as well as long term effectiveness of the system.

The Manager (Maharagama) focused on the possibility of customizations when choosing the vendor:

> "When you are doing CRM, you want to have different vendors because, especially, you want to look at what type of customers do you have and what type of problems do you have."

This observation shows that the source of products needs to be products that are able to give custom solutions to organizations as it relates to particular organizational issues and the need to service customers and not generic system implementations.

The analysis highlighted some of the important points to consider in screening vendors. Past experience with regards to similar public utility implementations is critical that the vendors need to realize the challenges and needs of customer relationship management in the field of public sector. This guarantees that the systems can be connected with the existing organizational infrastructure without hitches leading to smooth flow of operations during implementation procedures. Knowledge of NWSDB's specific operational requirements enables vendors to provide tailored solutions that address organizational needs effectively.

The ability to perform customization to meet individual solutions that take into consideration specific organizational requirements is to make sure that CRM systems are able to facilitate unique workflows of organizations and a unique style of customer service. Long term support and maintenance capabilities ensure frequent assistance and system optimization with the aim of continued efficacy and organizational growth. Analysis of the research findings signify that vendor selection is considered as a critical factor of project success that needs sufficient analysis of the technical skills of the vendor and their organizational fit to guarantee successful implementation of the project as well as the sustenance of such system in the long run.

4.2.3.7. Sustainability and Scalability

System scalability and sustainability on a long-term level became the fateful question that must be discussed in detail to pre-construct the further development of the organizations and phone technical development. These aspects are essential

considerations to make to ensure that CRM investments keep paying off as needs of the organization change with time and customer demands rise.

The Manager (Call Center) touched on the need to have cultural change to succeed in the long- run:

> "If you want to have this a long term we have to make the cultural shifting in the organization. There was already general circulation of people doing the job and they believed that this is customer relation management."

This observation brings out the importance of organizational culture in aiding successful CRM implementation that is sustainable and the need to develop a system of cultural development in order to achieve long term effectiveness and adoption of systems.

The AGM (Call Center) emphasized the basic aspects of organizational sustainability:

> "A customer satisfaction is one of the areas of sustainability of any organization. It is due to this that it should not go away as a mandatory aspect in the NWSDB and there is also no risk of it going away with the CRMS."

The reality it presents is that customer satisfaction is a central element of organizational sustainability and that customer-oriented strategies should always be considered as one of the key priorities of any organization despite the changes in technology.

The following are some of the considerations that are vital in the planning of sustainability and scalability as identified through the analysis. The requirements of organizational cultural change that would drive long-term CRMS success include the systematic shaping of customer-valued values and practices at all levels of organizations. Combination of sustainability planning of CRMS with overall organizational strategic planning makes sure that the customer relationship management functionality gets in line with the changing organization goals as well as organizational operational demands.

The ability to scale the CRM capabilities with growth and expansion of customer bases and more complex requirements of service provision is made possible with the use of technical architecture that supports the future. Installation of long-term budgeting in system maintenance and upgrades guarantees the sustainability of the system both in terms of effectiveness and technological update as required by the needs of the customers and operations requirements. Staff development plans that ensure retention of technical skills enable constant organizational capacity in terms of administering and optimizing CRM systems during the lifespan of their operations.

Through the analysis, one would realize that sustainability should be both technical and organizational planning that should not end with what has been effected on the organization, but on the long-run management of the organization as well as systematic evolution of customer relationship management capacities. Wise

sustainability planning would guarantee that the CRM investments would generate value on-going and contribute to the development and shifting organization to responding to their client's service needs and to the new opportunities in the improvement of technology.

4.3. Discussion

4.3.1. Analysis of Research Questions with Findings

4.3.1.1. Managing Transition from Legacy Systems to Integrated CRMS

Transition Challenge Framework

The analysis shows that the process of changing a situation in which NWSDB runs on a set of fragmented legacy systems to integrated CRMS systems is a multi-dimensional process involving technical, organizational, and process issues that must be dealt concurrently. The findings of the research show that the successful transition requires engaged systematic planning, risk mitigation, involvement strategies considering the independent peculiarities of the implementation of technology in the government sector.

Reduction of Technical Challenges

The study aimed at determining that the major technical inhibitor was system integration complexity and the participants described the technical challenge of integrating the new CRMS capabilities and the ability to connect to the established billing systems, call center solutions and customer management platforms.

According to the AGM (IT), one of the major challenges in implementing such a solution is the need to forcefully interface it with the current system, which must be carefully accommodated within the existing infrastructure.

In order to ventilate these challenges, NWSDB is expected to incorporate a planned migration process approach that allows the concurrent running of both systems during migration phases. This strategy reduces risks of service disruption and provides periodical data migration and connection of the systems. The company should invest in the introduction of strong data mapping and validation systems that will promote the integrity of information during the transition period. Infrastructure can also improve with one example being the performance bottlenecks as highlighted by the participants such as the slowness of the system cited by the DGM (Western).

Challenge Management in an Organization

Resistance to change was also a manageable challenge that was identifiable. The greater part of the research results also concurs with the established theory of change management, which demonstrates the reduction of resistance to a change, once the direct system benefits are achieved by employees. According to the Manager (Dehiwala), people are initially hesitant to embrace changes introduced over change management. However, as they gradually realize that these changes make their duties easier to perform, they would automatically adapt to this.

NWSDB ought to adopt systematic change management through established models such as Kotter 8-Step Process, with focus on communicating the benefit and showing

early wins, commitment to the long-term leadership. It is very important to change the bureaucratic organizational culture, where modifications in the change strategies must be made to suit civil service hiring patterns, top-down decision making, and risk-averse organizational cultures not present in the business environment.

Solution to Process Challenge

The reengineering of business processes comes up as a crucial flight to transition, and the existing workflows will be totally re-designed based on their integration with CRMS functionalities. According to The Manager (Call Center), it is essential that the reorganization of the process will be done in a comprehensive manner... the reengineering process has to go through. The discovery confirms what some literature on the subject had presented, BPR is the key to effective implementation of CRM (Hammer & Champy, 1993).

The organization shall undertake rigorous current state process mapping, inefficiencies and bottlenecks, the design of future state work will have to be undertaken and this work should result in optimal benefit of integration of CRMS. The standardization of processes around the 24 Regional Support Centers becomes instrumental in the delivery of consistent services and potential use of the system.

Contingency Planning and Risk Management

The study presents minimal methodical risk management strategies whereby the respondents were much concerned with the data security threats yet the risks of

implementation were not considered. NWSDB is to elaborate the entire risk management structures that include technical, operational, and strategic risks during the transition period. This involves maintenance of their backup system, contingency planning on the failure of the system and monitoring the performance of the systems so that identification and fixing of the problems can be done quickly.

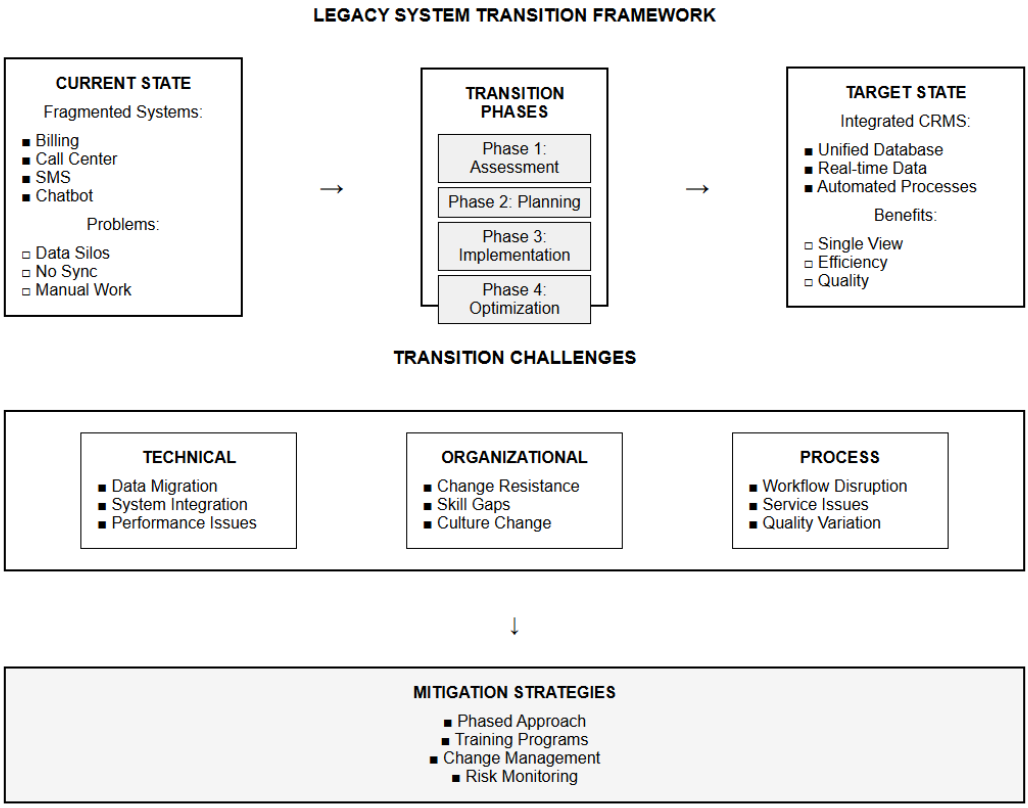

Figure 3 : Legacy System Transition Framework

4.3.1.2. Key Integration Factors for CRMS and Existing Technologies

The study cites technology integration as a rather complicated multi-level problem that demands methodological measures in regards to data synchronization, alignment of the processes, and improvement of the user experience. To succeed, it is necessary

to solve the problem of technical infrastructure support, organizational capacity, and process standardization at the same time.

Integration and Synchronization of Data

The ability to share data in real-time becomes a central integration need, and the existing limits to the current systems do not allow any effective customer relationship management process. As the Manager (Call Center) observed, there is no real time update and the same occurs with billing payment as it is done only once per time, only once per day. This limitation affects the quality of service delivery and the responsiveness of an organization to the needs of customers to a great extent.

A strong API development that facilitates smooth transmission of data between CRMS and the pre-existing systems would be necessary to achieve successful integration. NWSDB should also invest in middleware systems that allow real time synchronization without loss of data integrity of platforms. One of the first items that the organization must address is integration with billing systems, where customer interaction with username and password only will give the required data on customer account, payment details, and service status.

Architectural Performance and System

The situation on infrastructure sufficiency is contradictory, since fundamental capacities are present, still, there are problems in user experience on their performance. The DGM (Western), on the other hand found the problem of system

slowdowns to be a major issue and the mere fact is that the infrastructure has to be optimized with respect to integrating operations.

The architecture of integration must focus on scalability in order to withstand the growth of the organization and demand on the systems. Infrastructure improvements of networks are also necessary to handle real time data transfer in operations that are geographically spread. Performance observation systems need to be established to facilitate proactive detection and elimination of bottlenecks that would undermine the successfulness of effectiveness in integrating.

Call Center Integration Details

The process of call center integration will necessitate Computer Telephony Integration (CTI) features that provide screen-pops, automatic call recording and complete customer data during the process of interaction. Research results show that the present-day operations are not integrable with customer billing and requesting of the services systems in call centers, thereby establishing information silos effecting poor service deliveries.

Some of the success factors will be the adoption of integrated agent dashboards which offer a 360-degree view of the customers, use of automated call routing which is enabled by the customers history and their service needs and the use of quality monitoring systems where the services provided can be evaluated based on the data collected by the CRMS. The aspects of technical operation of the system as well as

the customer service excellence have to be laid in the training program through integrated information.

SMS Platform Integration

The same method of thoroughly testing in-house solutions can be applied to SMS platforms which are specifically designed to communicate with national parliaments and their operations.

The successful implementation of SMS integration is preconditioned by the automated message activation triggered by the customer interactions, the service events, and the billing processes. The standing-alone SMS processing reduces the scope of reaching the customers proactively and the effectiveness of marketing campaign efforts.

The major implementation aspects are template management systems that allow relaying consistent messaging, delivery tracking, and respond actions, customer preference management to allow opt in/opt out, and campaign automation on customer demographic data available in CRMS. Integration ought to allow a two-way communication whereby responses are automatically recorded in customer interaction histories.

Chatbot Integration System

Chatbot requires advanced natural language processing and knowledge base management functions. According to the research, not many current chatbots have capabilities, which mean that there is high potential to improve the service using control and revenue management systems like CRMS.

The success factors would be deep integration of the FAQ databases with the CRMS knowledge management, seamless flow of conversation to authenticate customers and route requests, natural escalation to the human agents with maximum contextual context being maintained and the machine learning capabilities that allow continuous improvement based on the interaction analytics. Chatterbots must have the right to access the real-time customer to respond and make recommendations to customers.

Continuous Improvement and Quality Assurance

In order to achieve integration success, there is need to ensure there is a system of monitoring quality in all channels, the measures of service delivery has to be standardized with performance monitoring. The Manager (Call Center) stated the intentions regarding ISO standards compliance: "One day when we demonstrate the CRM system, we will have to target the ISO standards." It is a sign of systematic quality management in an organization.

Implementation effects ought to apply full scale testing prior to full implementation, user acceptance testing with all the integrated systems, performance benchmark to

determine baseline measurements and constancy tracking with every recurring period of optimization. The process of error handling should make systems resilient and ensure that no disruption of services occurs in the case of technical problems.

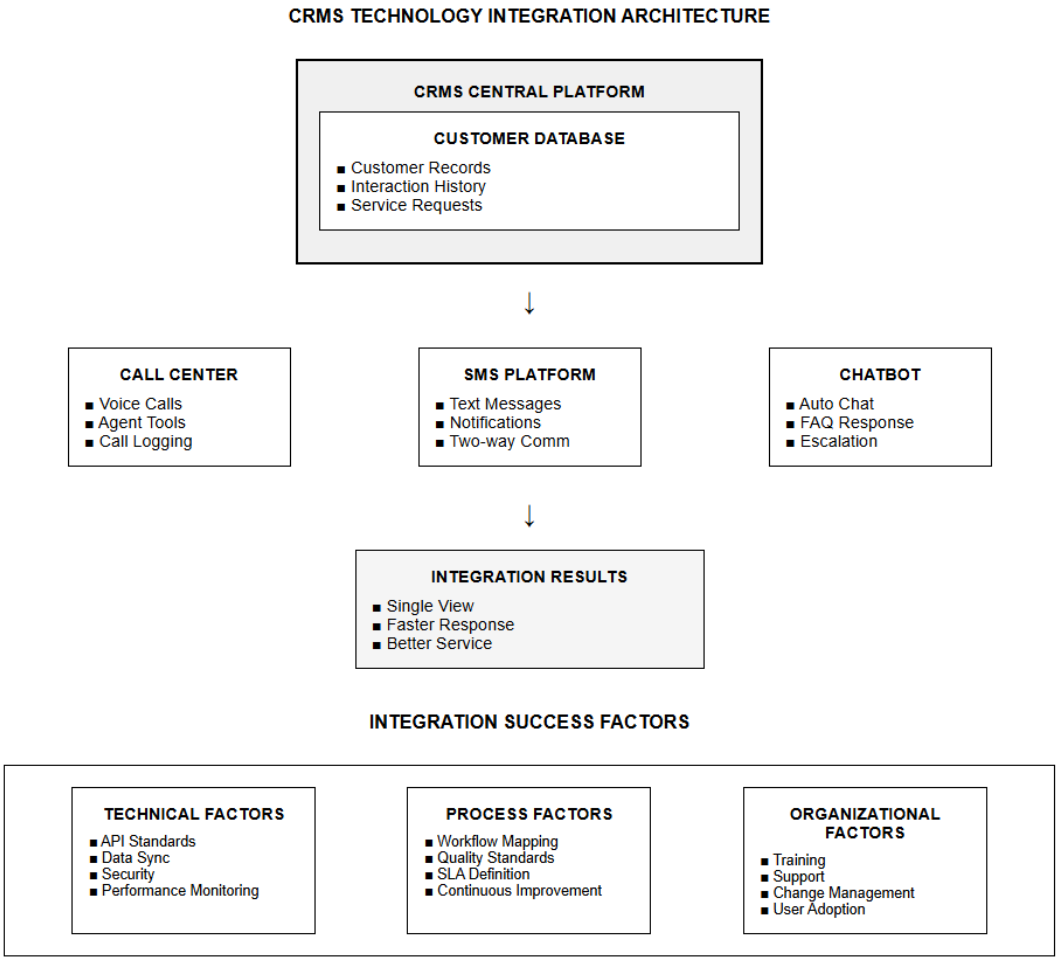

Figure 4 : CRMS Technology Integration Architecture

4.3.1.3. Designing Change Management and Training for CRMS Adoption

Effective implementation of Customer Relationship Management System (CRMS) in the National Water Supply and Drainage Board (NWSDB) demands a change management training program that is strategically planned to suit organizational

structure of its environment. Its workforce of more than 15,000 personnel that are geographically distributed as 24 geographically dispersed Regional Support Centers generates the need to cure both the systemic deficiencies in training and the difficulty of managing change within a large decentralized public organization. The results of the research demonstrate clearly that there are inconsistent training delivery, resistance of an organization to change, and absence of structured programs in some of the main components of that operation, all of which should be eliminated with a customized and comprehensive approach.

A multi tethered training architecture will be needed to handle these challenges. This should trickle down the corporate, regionally and lastly to the local levels and as such there must be standardization and local adaptation. At the corporate level, there should be central coordination to create standard training programs, CRMS specific training programs, train the trainer and quality assurance models. These building blocks are needed in order to promote conformity and precision, especially on research findings revealing that some of the departments have no form of training about CRMS at all. As one manager succinctly put it, the problem is that, as she puts it, there is no training program in CRM system, at least, there is no training program in it, perhaps the most exemplary description of how failing to prepare the workforce properly deprives systems of the proper implementation.

In the regional dimension, the focus is on the contextualization and realization of the corporate training strategy. Every Regional Support Center is encouraged to provide specific change champions as well as training coordinators who would ensure that

the training content would be changed to take into consideration the local languages, the cultural differences, the operational environment. These regional facilitators are playing a very significant role of helping to bridge the rift between the organizational goals and the frontline realities thereby ensuring that the content of training is relevant, and consistent in all t units. The local knowledge enables them to adapt as required efficiently without affecting the integrity of the entire program.

On local level, the training should be specific in including the usage of CRMS within the position of work. The study points up the necessity of diversified training that suits many positions in the organization, such as technical workers, customers care staff, administration, and outdoors operation. The CRMS relate to each groups differently and needs different competencies. The use of role-specific training will help to make sure that each employee knows how it is possible to use the system effectively in regard to the set of the daily duties, which will help to make both the user and the system work better.

The content of training itself has to consider technical capabilities and the human aspect of this kind of organizational change. That goes not only to the navigation and functionality of each system, but also customer service augmentation, modification of operation workflows and approaches of how to change according to emerging organizational norms. The use of blended learning will be perfect in NWSDB because its employees have different geographical and technological backgrounds. Face-to-Face training offers experiential, interactive training sessions and facilitates peer-to-peer interaction which is essential in cultural change and learning

complicated skills. Meanwhile, though, more cost-efficient scalability and consistency of messaging is potentially achievable via virtual training, conducted across video conferencing and e-learning modules. Also, mobile learning devices can offer on-job accessibility to important info, which will assist in just-In-Time learning and will enhance day-to-day performance.

Change management also requires breeding of strong support networks in the organization. The study points out the relevance of the involvement of stakeholders and that of the change champions in all levels. These people must be highly respected colleagues with both technical acumen and good interpersonal abilities. They also act as guides that will facilitate transitions and help everything out of resistance. The network of change champions ought to represent the top echelons of management who are involved in offering strategic direction, middle management who facilitate execution, technical experts who provide resources and problem solving, and front line essential who can foster grassroots adoption. Frequent communication between these networks will make messaging consistent and facilitate alignments during the implementation process.

Change is one of the best-documented challenges in organizations in the public sector, and the NWSDB is no different. This study reveals some common resistance models that include being skeptical, obsolescence fear, and refusal to leave legacy systems. These trends will quiet down as the employees start to feel the fruits of the new system. Thus, the effective change management should involve the display of clear communication of the reasons why it is implemented and what particular

advantages it design to its persons and to an organization. Success stories through early adopter programs and availability of opportunities or even able to personally touch the system to allay fears, give open encouragement to supply feedback through complaints/grievance mechanism as well as celebrating successful experiences of the users, can all help in getting a willing and more receptive workforce.

Training and change management strategies must also be handled sensitively by the organization due to its cultural and linguistic diversity. Programs should be modified in such a way that they accommodate local lingo, social norms and working conditions. The variation in region customer profile, infrastructure and in serving the customer should influence the form training is imparted and broadcasted. Including the examples and case studies that relate to the local community, as well as references to local culture, the training will be easier to relate to and will generate greater effect yet it will be in full compliance with the national standards.

Lastly, the sustenance of the CRMS implementation is pegged on establishment of long-term capability development structure. In addition to the initial deployment, continuous learning and professional development have to be invested in by the organization so that the system is updated as the user becomes more proficient in its use and the change in the organizational requirements. This involves refresher trainings to update skills, advanced modules to the skilled users, onboarding activities to new personnel, performance coaching to meet the learning needs of individuals as well as knowledge management systems to record and share

experiences. Such continuous attempts are essential to make the use of CRMS the routine part of operations and instill a culture of the continuous improvement.

To draw a conclusion, it is necessary to claim that effective implementation of CRMS at NWSDB demands a multi-faceted and multi-level method of training and managing changes, which should be standardized on the central level but extendible to regional and local conditions. Touching upon both technical proficiency and cultural readability as well as human-related dynamics of change, the organization will be able to guarantee the adoption of the system by many people and not just transformational change in the way the organization operates to serve the populace.

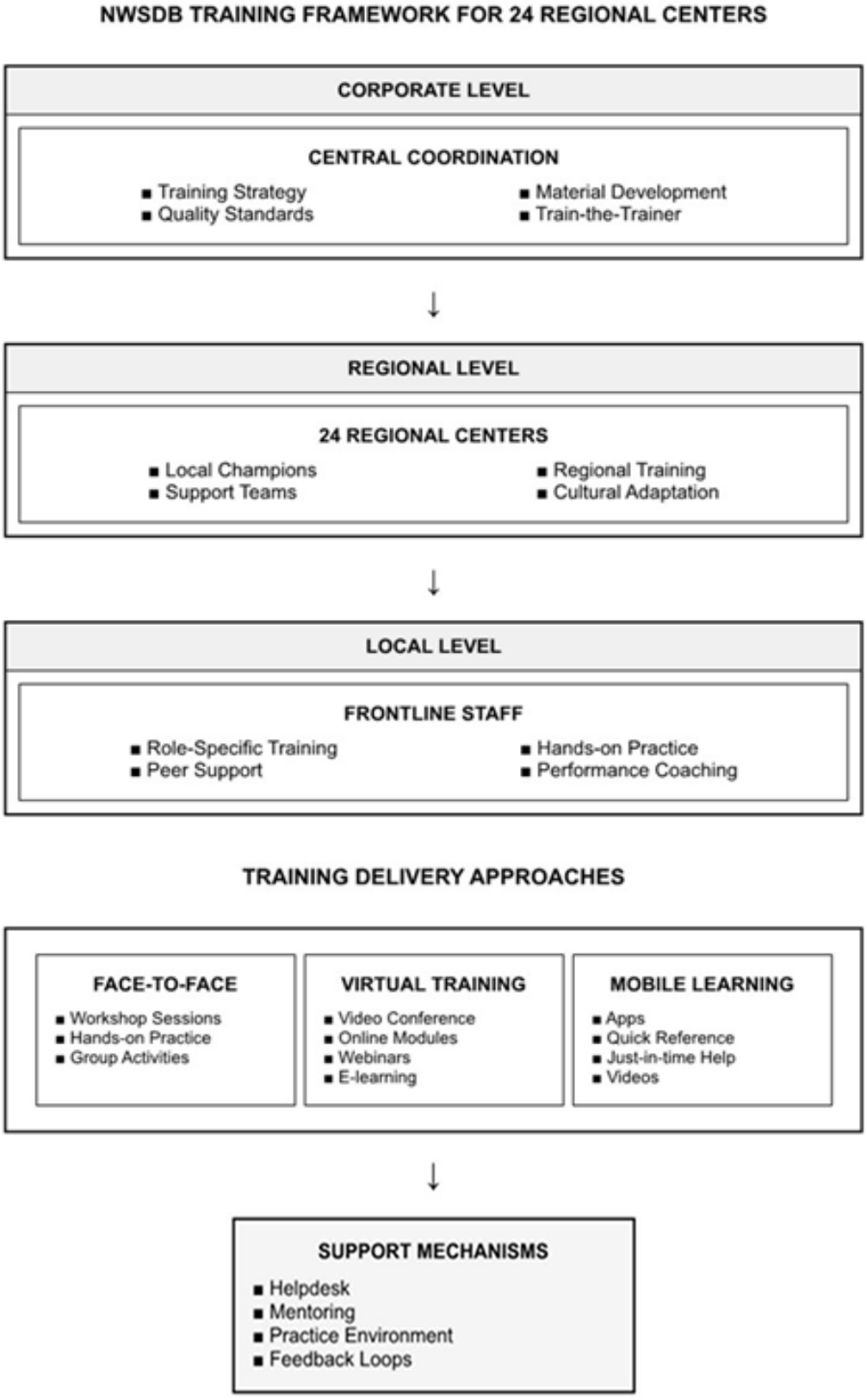

Figure 5 : NWSDB Training Framework

4.3.1.4. Metrics to Evaluate CRMS Impact on Performance and Satisfaction

The study has established that the performance measures capabilities are highly deficient and those who took part in the research have acknowledged the fact that there are no structured models of CRMS implementation success measures. The CRM implementation has not yet been evaluated, said the AGM (Central). The observation shows that there is a necessity to plan the metrics architectures holistically in the terms of multiplicity of performance aspects.

Customer Satisfaction Metrics Framework

Multidimensional methods ought to be used as they are appropriate to base customer satisfaction evaluation upon a variety of set of perceptions about service experience and quality of relationships. The research findings are relevant to the action in the sense that the strategy of assessment is highly valuable, but the systems of automatic feedback integration are still not good.

Customer Satisfaction Score (CSAT) that are based on surveys that are held after the interaction, Net Promoter Score (NPS) that represents the customer loyalty and his/her desire to recommend the service, Customer Effort Score (CES) that indicates the degree of ease of dealing with services and issues resolution, Service Quality Index that describes the consistency of delivery experience and reliability of the service and the First Contact Resolution Rate that determines the effectiveness and efficiency of resolving the issues in the first attempt should be used as the key customer satisfaction data.

Methods of metrics collection have to incorporate auto-surveys of satisfaction in the form of automatically transmitted surveys following service transactions, regular end-to-end surveys of the status of the customer relation, focus groups meetings that deliver qualitative information of the services experiences, mystery shopper reviews that are performed to make sure the level of services is assayed objectively, and customer complaint surveys that reveal patterns and that can be used in improving a higher quality.

As the research findings reveal, there is poor feedback to the customers with valuable information about how they relate with the system which was not utilized to enhance the system. According to AGM (CAM), every single call of the customers is recorded by us. However, the value of these scores is not of interest to the people on the higher level, the members of staff concerned like IT department. This is a huge, misplaced opportunity as far as continuous improvement is concern.

Operational Efficiency Metrics

The measures regarding efficiency need to be considered fully by taking into consideration the enhancement of other processes, the resources as well as the cost that is saved through a process of implementation of CRMS. The jumbled operations and the manual reliance as noted in the study will be measured with improvements after being implemented.

The main efficiency measures are the Process Automation Rate that denotes the percentage of automated tasks over manual handling procedures, the Average Handling Time that determines the services phase across all stations to the consumers, the First Call Resolution Rate to describe the effectiveness of practice, the Employee Productivity Index to determine the output per staff plus the Cost per Transaction to reflect the efficiency improvements in the monetary terms, and also the System Utilization Rate that denotes the process of management of technology that is optimally used.

Other operational metrics, which are necessary to handle, include Resource Optimization that will indicate the success of the staffing, Data Accuracy Rate in terms of the quality and the trustworthiness of data, Error Reduction Percentage that will demonstrate the outcomes of the process improvement and integration, Response Time Improvements that will cover all channels of customer service, Integration Effectiveness that will focus on the smooth flowing of data between the systems.

Service Quality Assessment Metrics

The assessment of service quality needs holistic measures that focus on the levels of uniformity, dependability, and superiority in all of the customer touch points. The results of the research reveal the variation in quality and standardization problems which the implementation of CRMS must handle in a systematic way.

Measures of service quality ought to entail Quality Service Level Agreement (SLA) Compliance that quantifies standardization with the standards, Quality Scores which can be achieved by a systematic interaction assessment, Consistency Index service standardization against channels and sites, Accessibility Measures, ensuring sustainable service availability to all customer groups, and Compliance Ratings, addressing regulatory and organizational standards compliance.

Quality metrics collection systems must include comprehensive quality audits with standard metrics to assess quality measures, performance checks based on call recordings and interaction analysis, customers journey mapping which involved how well the services are being provided at touch points and comparisons with the industry benchmarks and best practices, and regulatory checks that ensure that the services are fulfilling the required standards under the number utility services.

Technical Performance Monitoring Metrics

The actual assessment of performance becomes seriously important in order to make CRMS effective and satisfying. The study reports on the performance and infrastructure constraints that should be monitored and optimized systematically.

The technical metrics must be comprised of the System Uptime and Availability indicators to measure the reliability and service continuity, Response Time indicating the system performance during high and regular usage, Data Integration Accuracy which ensures the consistency of the information to be consistent across the platforms, Security Incident Frequency which measures the protection of the system,

and Scalability Metrics which determines the capacity and the ability of the system to accommodate growth.

Monitoring of the performance will have to be done in real-time through dashboards that give instant view of performance along with proposing user alerting on the performance matters, providing regular reports on the performance situation, scheduling of the capacities to be used and gauging user satisfaction with the level of performance and usage aspects.

Metrics Implementation and Reporting

Such performance measures must have rigorous overall implementation with accountability clarity, frequent review authority and action reporting. The results of the research do show that there is a necessity of organized methods of metrics gathering and declared improvement.

Implementation must come up with new baselines before the implementation of CRMS and compare as an example with a new baseline, new review period with monthly operations results, new quarterly strategic analysis and a new annual complete review. The reporting should be based on real-time operation dashboards to track the immediate performance, executive summary to track business performance strategy, and department report to track operation level and trend analysis to continuously improve strategic planning.

The metrics framework ought to facilitate evidence-based decision making, regular performance enhancement, accountability by stakeholders and ongoing improvement. Success on the other hand is determined by the organization commitment to the discipline of metrics, taking basic steps to the process of data collection and its analysis as well as responding to changes on performance with actions.

Metrics Category	Key Metrics	Collection Method	Review Frequency
Customer Satisfaction Metrics	**Service Experience**: CSAT, NPS, CES scores	Automated surveys, feedback forms	Monthly
	Service Quality: Resolution rates, response times	System logs, quality audits	Weekly
Operational Efficiency Metrics	**Process Performance**: Automation rate, handling time	System analytics, time studies	Daily
	Resource Optimization: Productivity index, cost per transaction	Financial reports, efficiency analysis	Monthly
Technical Performance Metrics	**System Performance**: Uptime, response time, accuracy	Real-time monitoring, system logs	Continuous
	Integration Effectiveness: Data consistency, error rates	Technical audits, validation reports	Weekly

Table 3 : Metrics Categories and Implementation Timeline

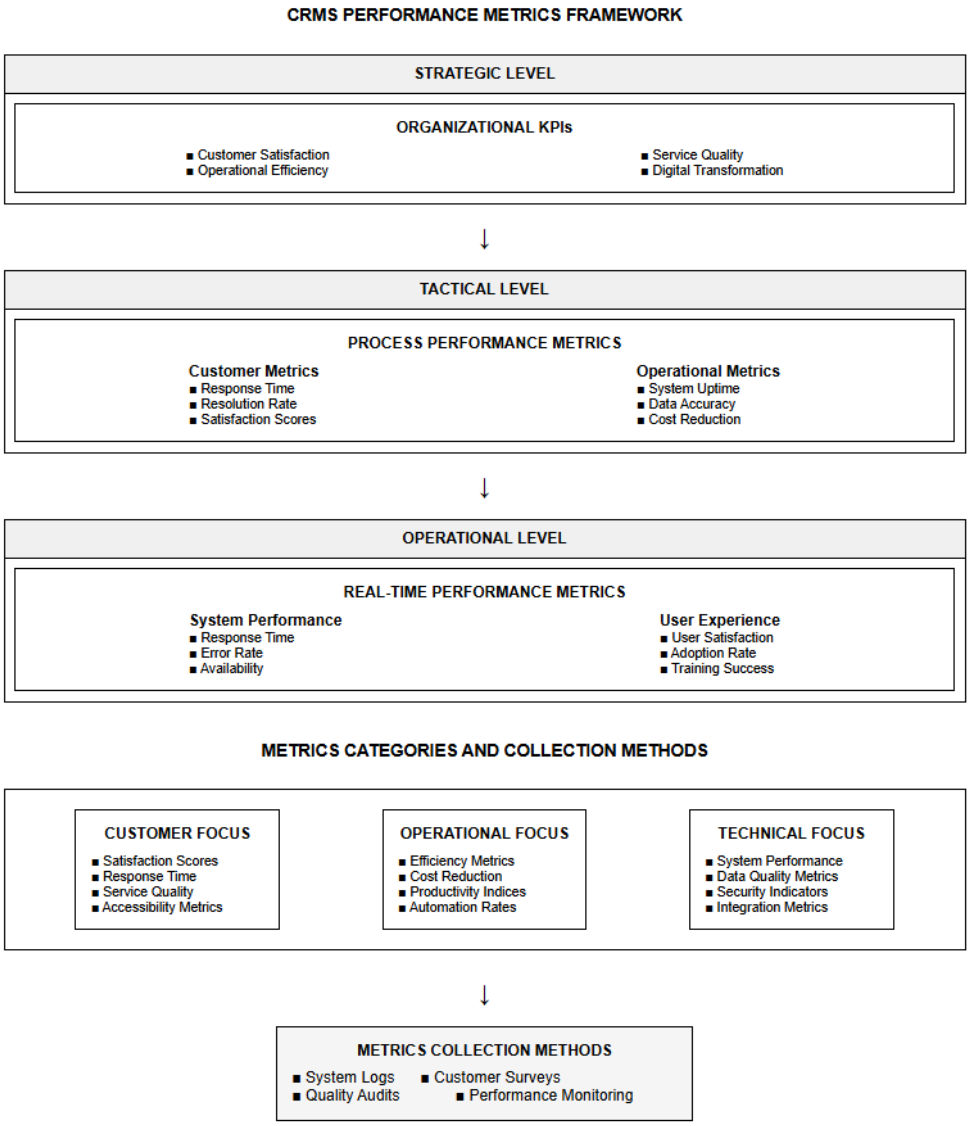

Figure 6 : CRMS Performance Metrics Framework

4.3.2. Comparison of Findings with Existing Literature

The research results give considerable guidance to CRMS implementation in the environment of the public utilities as they show similarities with, and dissimilarities of the implementations found in the lit-up materials about the applications in privately owned companies. This discussion presents a synthesis of findings and

established theoretical frameworks as well as distinctive contributions in the comprehension of technology adoption among the public sectors.

The factor which, according to Chen and Popovich (2003), is among the main determinants of the CRM systems implementations success within the private sector environment is management support. The above setting resonates with the findings of the present study where the participants, just like it is done in the given setting, have highlighted almost identical crucial functions of management support regarding the successful implementation of CRMS. The study shows that leadership engagement in this case NWSDB was not a lip service exercise but was applied on real resource provision, strategic fit and active assistance in problem solving and the fact is that in all events in any organizations, the universal value of leadership commitment remains undisputed.

Nevertheless, the present research indicates some peculiarities of management support in the state setting, which are beyond the similar case used in the private sector. The aspects of government run management responding to hierarchical bureaucracy, regulation adherence, and accountability to the democracies make the arena of managing the public sector all the more complicated than a decision-making setup in the private sector. According to the study results, the principles of management support are also similar, but the approach to implementation should be changed to reflect the peculiarities of the government in the public sphere and the expectations of the stakeholders.

According to Kotter (2012), resistance to change has been exponentially cited as the universal deterrent to organizational change efforts. The present study found identical resistance trends in the NWSDB staff where the initial refusal to accept new systems and processes was followed by accepting them when the advantages appeared. Predictable patterns of change resistance identified in the research are in line with the theories of change management which indicate that the truths about change management may be universal throughout the organizations.

However, the research has found out that there are specific types of resistance patterns in public organization sector patterns which are based on civil service structures and employment systems, bureaucratic cultures and risk aversive organization on patterns of resistance. Resistance to change in the public sector has mostly to do with legal compliance and reassurances of employment in case of civil service systems and attachment of an individual to a given cultural way of doing things and that way may fulfill accountability and transparency purposes. This implies that although principles that govern change management can still be applied, they will have to be applied through implementation strategies that take into consideration resistance factors that exist in the public sector.

The forms of predictable patterns of technology adaptation by Rogers (2003) were on the provision of systematic cost-benefit analysis in the decision-making of organizations. The existing study reveals that technological adoption in the publicly funded sector has different sceneries because of the limited resources, nanotech barriers to procurement decisions, and bureaucracy procedures causing peculiar

implementation issues that do not exist in the private sector. The use of public utility technologies should focus on resolving the regulatory compliance needs, accountability demands by the people as well as the consultation mechanisms between the government and stakeholders that have massive impacts on the implementation studies and methods.

In the analysis of CRM implementation, Mendoza et al. (2006) paid more attention to the internal stakeholders such as management, employees and customers. The existing study is further expanded to the context of the public sector that has other groups of stakeholders that prove to be exclusively related to the public sector such as regulatory oversight organs, political accountability instruments, community organizations that are interested in access to services, and the multiple categories of customers that may have different sets of services requirements. Such stakeholder complexity leads to the need to have specific engagement strategies as well as coordination mechanisms that the literature of the private sector CRM has not studied extensively.

According to Greenberg (2010), customer profitability focuses and customer segmentation strategies come as significant components of commercial CRM implementation techniques. The study at hand shows that profit-based customer selection is inapplicable to the needs of managing the relations between a public utility and its customers because of their universal service commitments, duty of looking after the social welfare and complying with the regulations to treat the customers equally without regard to their commercial value. This observation refutes

some of the key assumptions in the current CRM literature in respect to customer-centricity, as evidenced by the fact that in the customer-centers of government sector, there is a need to strike a balance between excellence in service delivery, equity, and accessibility needs.

The research will add value by looking at extending the People-Process-Technology framework to the requirements of implementing CRM in the public sector. Even though, the PPT framework

4.4. Theoretical Framework Extensions for Semi-Government Organizations

One of the major theoretical contributions of the research is the fact that it forecasts an expansion of the People-Process-Technology (PPT) paradigm in light of additional complexity information that is relevant to semi-government organizations as they implement technology. Although PPT model has been shown to be useful in the business environment the analysis indicates that in the public sector there is need of extra dimensions to reflect the regulatory setting, democratic responsibility and multi-stakeholder governance arrangements.

4.4.1. Shortcoming of Standard PPT Framework in Public Sector Application

The traditional model of PPT, as Mendoza et al. (2006) and Chen and Popovich (2003) describe it, was set up in profit-based business organizations in which the measures of success are based on customer profitability, market share and a competitive edge. The NWSDB case study shows, however, that semi-government

organizations live under radically different constraints and goals with respect to which the traditional framework is not sufficient.

Results of the research show that PP&T dimensions are still applicable, but they must undergo major modifications and development in scope so as to suit the contexts within the public sector. AGM (Coordination) pointed out the following complexities: "This is the normal government organization, and therefore there is much resistance to change. In that regard, there will have to be a tremendous level of change management when it comes to employment." This statement sheds light on the fact that the nature of the public sector organizations requires new solutions when applying the traditional approaches to the PPT.

Moreover, the conventional model of efficiency and profitability focus has to find its co-existence with legislative requirements on service with equal measures of justice that do not occur in the business arena. The Manager (Call Center) observed: "The objectives of our organization are beyond sight; in other words, the problems in that regard. In other words, this is a mission that we have... we committed ourselves to deliver the sustainable supply and the essential quantity of water supply." This is a conflict between business-oriented CRM purposes and governmental service missions that is an operational core that needs extending the theoretical frameworks.

4.4.2. Long frame dimensions of semi-Government organizations

As presented in the research, there are four other dimensions of the research that need to be combined alongside the classical PPT framework in order to develop a complete model of semi-government technology implementation:

Regulatory Compliance Dimension

Organizations that are semi-government are subject to complex regulatory environment, which largely determines decision concerning the implementation of technology within an organization. It was found in the researches that the implementation of CRMS should be carried out in association with the process of governmental procurement, rules on data protection, standards on quality of service provided, and on accountability to the general population. The Manager (Call Center) cited this complexity, in relation to CRM system that shall be presented, in these terms, when the presented system is presented we shall have to target the ISO standards. We are therefore in a pursuit of the PDF organization of plan, design, do act in case of ISO.

Democratic Accountability Dimension

Semi-governmental organizations have to be transparent and accountable to the citizens, the elected and to the controlling bodies, in contrast to commercial organizations. It consists of the requirements of the public consultation, the transparent process of making decisions, the reporting of the performance, and the

mechanisms to integrate the citizen feedback. Based on the research findings, it would be evident that such accountability requirements would have a considerable influence upon the system design and implementation schedules as well as measuring success.

Multi-Stakeholder Governance Dimension

In semi-government organizations, the nature of the relationships among the stakeholders goes well beyond the normal customer-supplier relationships. AGM (Call Center) has recognized the following complexity in the CRMS scenario: "In the scenario of CRMS we can say that the key stakeholders in our case become stakeholders in our organization and customer and we have outsourced on our part on call center solution." Regulatory bodies, political oversight committees, community outfits, labor unions, vendors and different segments of customers with different needs and expectations are some of the aspects that this dimension incorporates.

Service Delivery Mandate Dimension

Do not confuse the semi-government organizations between efficiency targets and universal service requirements, equity and social welfare liabilities. In strategic alignment, the DGM (Western) accentuated the following: We take back the delays and consumer complaints to the CRA and then we re-process our system but not the system. Let us assume that we have a customer service process." This plane needs to take into account the service accessibility, costs, quality of standards and the social impact besides putting into perspective the conventional performance measures.

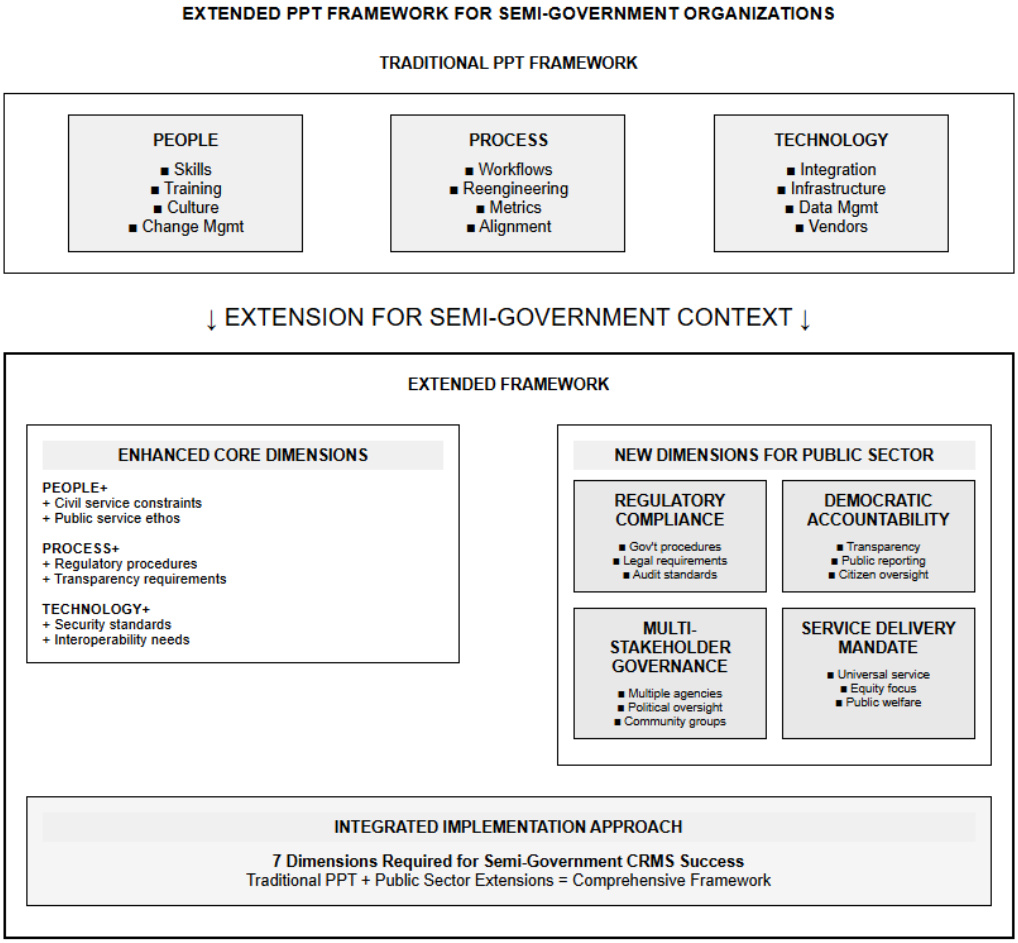

Figure 7 : Theoretical Framework Extension for Semi-Government Organizations

5. CONCLUSION

5.1. Conclusion

The study has been able to present exhaustive details on critical success factors, implementation challenges, and strategic issues relating to Customer Relationship Management System (CRMS) adoption in the case study of the National Water Supply and Drainage Board (NWSDB) in Sri Lanka. The research which was carried out in the context of the People-Process-Technology (PPT) framework with the use of qualitative case study techniques has said to be complex and multifaceted with regards to CRMS implementation in the context of the public sector environment.

The particular research attained all the four research objectives by conducting a systematized analysis of existing service abilities, a discussion of executable factors, a description of success parameters, and a formulation of evidence-based suggestions related to the overcoming of organizational barriers. The People-Process-Technology framework was found to be remarkably efficient as the tool of analysis to deal with the dynamics of the CRMS implementation and further demonstrated the necessity to extend the framework to cover the adaptation to the specifics of the public domain such as regulatory compliance, democratic accountability, and complexity of a multiple stakeholder population.

The people's aspect was found to be the most influential implementation success factor, where the implementation such aspects like the organizational culture,

management support, and the sufficiency of training emerged to be influential particularly in the implementation outcomes. Although NWSDB showed effective management commitment in process implementation of CRMS, there is a lot of room to advance training programs and engagement approaches involving stakeholders. The bureaucratic culture that formed recognition in the traditional ways effectively produced a resistance to change but with the systematic means of change management a slow gradation of change and the acceptance of the new system in the organization was realized.

The process dimension demonstrated basic problems in strategic alignment and business process reengineering and performance measurement which have to be discussed in detail when planning the implementation. Lacking combined performance measurement systems and the current piecemeal processes are the major areas of improvement that can be applied in later phases of implementation. The authors of the study ended up revealing that integrating CRMS requires an extensive business process reengineering that results in integrated working processes that aid unified methods of managing customers.

The technology aspect brought to the fore possibilities and limitations on integration of CRMS in legacy system surroundings. The technical basic IT infrastructure is sufficient although the integration aspects and limitations of real-time ability should also be given particular attention and resources. The fact that this research provided informed that the integration of technology is not only successful through technical

solutions but also through the development of organizational capacity and systematic planning.

The cross-cutting analysis reflected on the value of intervention strategies which should be holistic rather than focusing on people, process and technology dimensions separately. This research established that implementations of CRMS in the public sector are proving to be very unique in that there is a need of special approaches that are nothing like that of privatized sectors in terms of stakeholder complexities, regulations, and service necessities.

The study also provides substantial theory with validation and expansion to the use of the PPT framework to the public sector, as well as adding to a small body of literature about implementation of CRM in the public sector. The practical benefit included by the study is great as well as demonstration of evidence-based suggestions is presented to ease the increase of identified difficulties during the implementation phase and capitalize on organizational opportunities and strengths.

The results show that effective implementation of CRMS within the realm of the public utilities should be based on all-inclusive approaches integrating technical solutions, organizational development, change management and stakeholder interventions strategies. This case of NWSDB can give useful insight to other public utilities that are thinking of implementing similar modernization projects, and it can inform our knowledge in the adoption of technology in the organization of the public sector.

5.2. Recommendations

This study has sorted out the recommendations based on the content analysis of the CRMS implementation experiences at NWSDB in a hierarchical form: the target audiences and the period of implementation. The evidence-based recommendations cover presented issues and development on organizational strengths and opportunities found during the research investigation.

5.2.1. Recommendations for NWSDB

In the case of NWSDB, the first set of recommendations with immediate priority should be aimed at transferring comprehensive frameworks of governance that can authoritatively and accountably facilitate decision making concerning the implementation of the CRMS. The organization must form a special CRMS steering committee consisting of representatives of all the major sections such as the Commercial, Technical, IT, Human Resources and Customer Service departments as soon as possible. This committee will need executive mandate in the decisions to be implemented, resource deployment, and conflict resolution, and an executive sponsor at the level of Deputy General Manager or higher is needed to establish sufficient organizational reach and resource levers. The structure occupying the governance level must comprise the technical working groups regarding the particular areas of implementation, recurring review meetings with a clear decision-making authority,

involving implementation impediments escalation processes, and playing performance monitoring and reporting roles.

Formulation and quick implementation of a wholesome training and skill building plan should be the solution NWSDB needs to implement across the organization in view of the identified skills shortages. The following are some of the key training elements that should be incorporated in this systematic training program; role specific training programs addressing various functions in the organization, technical competency development training modules (address those being technical like IT), customer service excellence training to staff in the front end of the system, change management training program to supervisory level staff, and refresher training-orientation of new system training, and measurement and feedback mechanism of training. The training plan must focus on covering both the core skills in serving the customers and technical aspects with role-based and logical methods of incorporation that help in the sustainable adoption of the system.

To assess the effectiveness of CRMS and direct the continuous improvement tasks, the organization is advised to introduce a powerful performance measurement system. Important measures must be the customer satisfaction ratings and time to resolve complaints, efficiency ratings and time to improve in service delivery, utilization rates and user adaptation quantities, data quality and integration performance, cost benefit ratios and profit iterations, and satisfaction and employee capability resources. This detailed measurement method will make NWSDB show

that it receives the value of CRMS and locate the areas that need more attention or enhancement.

NWSDB needs to improve customer feedback integration mechanisms by implementing systematic customer feedback gathering as well as analyzing processes. This ought to encompass automated customer satisfaction surveys after interaction with a service professional, frequent customer focus groups and customer consultations, review of the customer related recordings in call centers to infer improvement measures, creation of customer portal to carry out self-service and the option of giving feedback, and a formal and routine process of incorporating the customer feedback into system enhancement planning. Such feedback processes will mean that system optimization and the improvement of service outputs are carried out based on customer opinions.

The strategic suggestions regarding NWSDB in the medium term are to perform extensive business process reengineering, which is to enhance the integration of the workflow with the capabilities of CRMS. This project must plan to chart existing workflows in all departments that interact with customers, eliminate duplication and inefficacies, and identify opportunities to integrate, devise workflows that improve on CRMS information and functions, and put in place uniform procedures in managing customer interactions, put in place mechanisms to enforce quality and continuous improvement and to train employees on new processes and monitor the level of improvement agreement. Such reengineering of the process will see

NWSDB gain all the opportunities of CRMS integration coupled with enhanced efficiency of operations.

To ensure availability of real-time data exchange and common approach to customer management, the organization ought to create superior system integration architecture. The best investment areas can be found in direct integration of CRMS and billing systems to gain access to information in real-time, mobile applications to provide field service workers, building customer portal to integrate with internal systems and providing self-service capabilities, developing data warehouses to have advanced analytics and reporting, and building API to provide future integration and expansion capabilities. Such technical improvements will give the infrastructure base of whole customer relationship management.

NWSDB is advised to take advantage of CRMS data in taking strategic decisions by performing high-end analytics and decision support processes. This ought to feature prediction of services to enable them to predict demand and plan services, segmentation and customer analysis to enable them to offer customer-specific service delivery models, performance dashboard development to enable them to perform real-time monitoring and management, and trends analysis capability to enable them to recognize service improvement prospects and integrate with current management systems to provide extensive reporting. Such analytical features will also facilitate the utilization of data-driven decisions and anticipatory service delivery methods.

The strategic suggestions applicable in the long term are those that involve coming up with a service delivery model that is customer-focused and incorporates all customer touch points and service delivery systems. The transformations meant to be implemented should involve the implementation of a single set of customer service standards amongst the various organization departments, customer-focused service delivery techniques geared towards individual customers and histories, proactive service delivery abilities and problem prevention, community initiative programs connected with CRMS networks, and performance clarifications that are linked to customer satisfaction changes. This customer-driven strategy will make NWSDB a market leader public utility organization that is keen on the service excellence.

It needs the systematic ability to come up with continuous learning and innovation in relation to customer relationship management. These ought to cover frequent benchmarking against the best practices in public utility customer service, sharing employee staffing through exchange programs with top utilities in knowledge transfer roles, innovation in the sense of seeking novel technology and service strategies, academic partnerships with research and development in CRMS in the public utility sector, and knowledge management systems with an eye on lessons of implementation reports. The learning capabilities will guarantee that NWSDB becomes more progressive and better in offering customer relationship management strategies.

The strategic partnering and vendor relationships need to be made by NWSDB in order to improve the capabilities of CRMS and organizational learning. This must comprise long term vendor relation where there is clarity on performance and innovative needs, relation with technology providers to enhance the system and capabilities, relation with other government utilities to share experience and do combine capabilities development, schools and universities relation to share knowledge and train staff, international development relation to share the best practice and grant aids.

5.2.2. Recommendations for Other Public Utilities

The recommendations for the implementation of CRMS in other organizations that plan to undertake the implementation outcome results are advice to carry out organization readiness test before embarking to implement. The organizations must evaluate the level of customer service orientation and cultural preparedness towards the customer-focused practices, examine cultural hindrances and drivers to implement CRMS, devise strategies of cultural change by matching them with the CRMS implementation requirements, conduct stakeholder analysis in identifying champions and resistors, and the analysis in change preparedness at different levels and divisions of the organization. Also in the evaluation of technical infrastructure, the following aspects ought to be evaluated thoroughly; the available capacity and performance of IT infrastructure, complexity analysis and planning on integration of legacy systems, evaluation on adequacy of network infrastructure to support real time data sharing needs, identification, and cost estimation of hardware and software

upgrades and evaluation and planning of cybersecurity and data protection capabilities.

Public utilities must use the phased implementation models that enable gradual potential development and risk management. The foundation building phase must ensure there are governance structures and implementation teams, a comprehensive training of core implementation groups, implementation of basic CRMS functionality on small groups, development of change management and communication strategies and establishment of performance measurement baseline and monitoring systems. The actual implementation process must be extended in its scope to all the business functions dealing with the customer, integrating the system with priority legacy systems, ensuring complete training to all types of user groups, put in place a customer feedback system and control on service quality and reflectively streamlining business processes to incorporate CRMS integration. Implementation of advanced analytical and decision support capacities, designing customer portal and self-functionality, integration of mobile functionality to field going service, creation of in-depth performance management and continuous improvement systems, and establishing strategic relationships and partnerships with vendors to continue improving capabilities are some of the capabilities that should be included in the advanced capabilities phase.

Viable implementation entails all-inclusive strategies of engagement with the stakeholders, which involves engaging internal stakeholders by displaying senior

leadership commitment, engagement with middle management by offering them opportunities in the planning and decision-making processes, engaging the frontlines personnel by training him and giving him feedback, technical staff involvement through system design and integration planning, and consultations and collaborations with union and employee representatives. Engagement with the external stakeholder should incorporate consultation and feedback by the customers during the implementation, communication and peace of mind with the regulatory authority, outreach and communication with community leader, collaboration with partners and vendors to ensure optimum system design and implementation, and partnership with academic and professional organizations, and development of capabilities to acquire and share knowledge.

Public utility must have an elaborate management strategy taking into consideration the organizational attributes of the public sector. Cultural change management ought to incorporate both building the service culture that is customer centered by exemplifying the same through leadership non-monetary reward mix, a communication plan that focuses more on public service improvement as opposed to the commercial motive, recognition reward program on customer service excellence and the sustained use of CRMS, a training plan that incorporates the combination of technical skills with service delivery philosophy, a transition plan that should be gradual in its approach so as to not dismiss the current organizational culture and inculcate the brand of change that is required. Capability development is to involve institutions of developing skills of various organizational functions and

responsibilities, knowledge management systems of recording and spreading lessons and best practices of implementation, mentoring and coaching systems of supporting individual adaptation and growth, and implementation of cross functional teams of customer service delivery and leadership development programs to maintain change and continuous improvement.

5.2.3. Recommendations for Policy Makers and Development Organizations

Policy makers and development organizations are advised to design public utility CRMS implementation guidelines and standards. Best practice guidelines on problems unique to the public sector in implementation planning, standard methodologies regarding organizational readiness assessment, methods of measuring performance at the levels required by public utility, risk management and mitigation techniques in technology implementation in the government, stakeholder engagement procedures that are democratic and which project transparency should also be formulated by the government organizations and development agencies. The capacity building assistance must propose training program development in the domain of public utility managers and technical personnel, knowledge sharing platforms, and inter-organizational learning and cooperation, technical assistance program in respect to implementation planning and implementation, financial resources and funds to modernize the public utilities, and research and development assistance in respect to innovation and adaptation of the CRMS in the field of the public sector.

Regulatory bodies are expected to come up with models that promote and facilitate the excellence of customer services in the public utilities sector by means of stipulating the customer service quality standards and performance indicators to measure regulatory compliance, innovative mechanisms to implement investment in the development of the customer service capabilities, transparency requirements on the customer service performance reporting and customer accountability, standards in handling and resolving complaints that protect as well as satisfy the customers, and technology adoption to promote innovation as well as security and reliability. The data protection and privacy regime must encompass complete data protection requirements in managing customer information, privacy protection requirements to ensure proper use of customer information in provision of services, data security requirements safeguarding critical infrastructure and customer information, customer information use and sharing transparency requirements with proper oversight, and international data sharing requirements in cooperation among utilities at the regional level.

5.2.4. Short-Term Plan of the NWSDB Management

The management of NWSDB should right now form a Centralized CRMS Steering Committee that will have executive powers to guide all activities connected to implementation. Members of this committee should represent the Commercial, Technical, IT, Human Resources and Customer Service departments and Executive sponsors should be appointed at Deputy General Manager level and above so that organization reach as well as the ability to allocate resources is sufficient. The

government should have technical work groups to exercise the implementation areas, and the review meetings should be calculated monthly with the obvious decision-making process and escalation process to overcome the implementation barrier. Such an exhaustive governance model will give the structure in the organization required to implement the CRMS successfully and achieve its sustainability.

To ensure that the above skills deficits are closed, the organization should come up immediately with some serious role-specific training programs that should be administered to all levels of the organization. IT staff must be trained on technical competency to address the issue of system integration and maintenance which should include specific training on technical aspects, all frontline personnel should go through the customer service excellence training where they get to be given skills on how to maintain the level of service delivery so as to be able to provide any service at a given standard. The training plan must incorporate continuous refresher training programs and feedback to determine the efficiency of training and determining aspects that require continuous corrections. The given organizational structure of skills development will allow employees to be equipped with the skills needed to work with the functions offered by CRMS to the fullest extent so as to provide customers with better service experience.

There should also be a full range of the essential performance indicators that allow measuring the success of the CRMS and its influence on a company. Customer satisfaction, service response time, operation efficiency, and system utilization base

level should be recorded as soon as possible that would allow tracking the progress and demonstrating the value. Operation dashboards ought to be developed to allow real-time operational monitoring and to give the management the real-time visibility of performance on the system and customer service measures. Cost-benefit analysis procedures are to be elaborated to measure the returns on investment and consistent performance review periods should be introduced so as to maintain control as well as perfecting the results of CRMS implementation.

5.2.5. Mid-Term Strategic Projects

It is also important that NWSDB should engage in extensive business reengineering processes to make organizational workflow connecting to the capabilities of CRMS and the utmost efficiency of the system. It is important that management carry out a detailed workflow mapping of all departments involved in dealing with customers to determine what they are doing presently, the stagnation and where they can be improved. The reengineering process should work on removing the duplication of processes and inefficiencies and building in integrated workflow designed to make maximum use of CRMS capabilities to deliver improved customer services. The presentation of customer contact processes at an organizational level will accord consistent service experience on many points of contact and quality control measures should be in place to support the set bar of excellence in service delivery. Such a systematic process-optimization will change the way organizations operate and will provide basis on which sustainable excellence in customer relationship management can be built.

Priorities of the technical management of Information must be in ensuring that flawless integration of CRMS and other systems in the organization is established so that data may be shared in real time and the operations may run smoothly. This should be mainly done to know at exactly what point of time there is integration of CRMS and billing systems so that there are no data silos and we get all kinds of information on the customer. The development of mobile applications in the field service personnel should allow real-time updates and better performance in service delivery even in the remote areas. An integrated backend systems-based customer self-service portal will serve to activate the customers and leave less operational workload, and the data warehouse capabilities should be established to give power to strategic decision-making and advanced analytics. An API framework ought to be put in place to enable future system expansion and technology integration with change in organizational needs.

There should be a focus on the adoption of advanced analytics capabilities in management tactics in order to make CRMS a proactive strategic tool rather than a reactive customer service tool. The predictive analytics in terms of service demand will allow proactive distribution of resources and service planning, whereas the customer segmentation opportunities will allow us to adopt target customer groups-related services as an approach. It will be necessary to develop comprehensive performance dashboards that will provide management visibility in real time, to facilitate data-driven decisions as well as the instantaneous reaction to operational

problems. The possibility of trend analysis should be created to identify the opportunities in service improvements and strategic developments, their total embedding to the existing management reporting systems and ability to remove the information flow and align the strategic development across organizational levels.

5.2.6. Long term Organization Change

The organizational development objectives should aim at establishing an all-rounded customer focused service approach that will make NWSDB a top ranked public utility that upholds extreme service. Adoption of the standards of customer service that do not differ in various departments will mean consistent customer service experiences irrespective of the mode of customer interaction with the company or which departments are involved. Personalized service delivery approaches based on comprehensive customer history and preferences should be developed to enhance customer satisfaction and loyalty while demonstrating the organization's commitment to individual customer needs. Proactive service delivery capabilities should be built up, so that the customer needs can be responded to even before the problems manifest itself, which will bring in positive customer experiences, and minimal reactive service needs. The community engagement programs marred with CRMS will reinforce the relations between community and stakeholders and the performance measures that will be linked to the customer satisfaction outcomes will lead to organizational focus in line with customer value creation and the achievement of service excellence as its core variables.

The strategic leadership initiatives should provide an elaborate structure to further innovation and organizational learning that should sustain the competitive edge and leadership position in terms of services of the public utility industry. Continued benchmarking against the best practice utilities will be informative to developments in the industry and areas of improvement, exchange programs with the top utilities will also help in the transfer of knowledge and develop capabilities. The development of innovative processes based on emerging technologies should be done to test and incorporate new abilities which improve customer service and operational frequency. Research and development, such as academic partnerships will deliver knowledge of leading-edge knowledge and expert consulting, whereas organizational knowledge management systems, such as approaches to knowledge management will enable implementations experiences and best practices to be codified, shared and applied to enhance their capability on a continuing basis.

5.3. Limitations

Multiple limitations should be admitted in methods and contexts of interpretation and application of research results. The single case study design, although offering the detailed and more insightful information on NWSDB implementation experience, hampers the generalizability of the findings to the other organizational contexts. As informative as the depth of analysis is, it can be extended to applying to a wider range of conditions by such means as multi-case comparative research of various public utilities, organizational scale, and cultures. Future research that uses more than one case study would increase the external validity of such conclusions and also

make it possible to establish the specifics of environment that affect the level of implementation success in the various locations.

A temporal constraint existing in this research limited the experience gathering of implementation to a particular time whereas significant trends that remain unseen over longer periods, system sustainability factors, and patterns of evolution may be observed only after a long observation interval. The studies including the monitoring of CRMS implementation over the years would bring even greater insights regarding the dynamics of implementation lifecycle, the long-term, organizational effects of the implementation, and sustainability phenomena that determine the further effectiveness of the implementation and organizational growth.

Although a variety of organizational perspectives has been represented, stakeholder representation was not comprehensive because other stakeholders, especially the voices of direct customers and external partners, are relatively unreachable. The study has been based on the interpretations of the organizational employees of customer experience and needs but not customer feedback and analysis. In future it should include more detailed opinions of the stakeholders' views such as on-ground customer surveys, external partner interviews, and community stakeholder contributions to improve the completeness of understanding providing all viewpoints to the development of the theory and suggestions to do the practice.

This research has all the characteristics of cultural and contextual specificity, as it has been realized in the Sri Lankan setting of organizations and national contexts

where applicability to other developing nations or other diverse cultural situations where norms of organizational behaviors, governmental set up, and stakeholder demands are much different cannot be realized. The findings would be improved by cross-cultural validation, thus increasing their applicability and contribution to the knowledge gaps on the role of culture in the process of adopting technology in the public sector.

The limitations of data collection involved data access to isolated organizational information and data because it was necessary to take measures to protect such secret data which could have hindered the comprehensive nature of analysis in specific research areas. The study was done in one particular implementation period which might not be similar to the experiences at other implementation stages or operational duration where various challenges and opportunities can be identified. A consideration such as language and communication, which is well taken care of by ensuring that the interview languages used are comfortable to the participants, might have led to the loss of certain nuances of information in the process of translation or interpretation.

Other limitations found in the analysis are that it might be influenced by the perspective of the researcher in interpreting data despite the applicableness of triangulation method and member checking to ensure objectivity in the analysis. A multi-research standpoint would improve the search of validity and decrease possible personal biasness in the interpretation process. Although the utilization of the PPT framework delivers well-structured methods of organization and analysis, it is

possible that its strict application limited the discovery of such factors that do not fit well together in the three-dimensional framework of the PPT system thereby overlooking very valuable implementation considerations that are ill-defined under conventional PPT categories.

Data collection and analyses activities were constrained by a lack of resources and time and could not be undertaken to a larger extent to incorporate more stakeholders, and to examine some of the implementation aspects that were deemed critical in the course of conducting the research. The study design was more of organizational orientation and not the technical performance measurement of the organization or quantitative outcome evaluation, which would give further support in qualitative results and complete review of implementation success.

5.4. Future Research Direction

5.4.1. Immediate Research Priorities

In accordance with the research results, the issues of study include some key domains in which further research may benefit the knowledge and establish substantially better practice of CRMS implementation in the public sector. The next research priority must be comparative case study research on CRMS implementation in various public utilities with the aim of better contextualizing the impacts of various influences on implementation success as well as offering more generalizability on the part of practitioners and researchers. Multi-case studies comparing experiences of implementation between utility types, the size of the

organization, geographical location as well as cultural setting would elucidate what all implementation success had in common as well as determining country/location- and culture-specific implementation strategies.

Research on customer perspective is another issue of a significant gap that needs to be filled with research done that includes direct feedback from customers, satisfaction analysis, and quality of service evaluation as these areas have been underrepresented by the literature on CRMS as applied in the public sector. Studies on the lived experience of customers with the implementation of CRMS in the area of public utilities, with respect to accessibility of CRMS, the quality of services that could be offered to and provided to such customers, and the level of satisfaction, would be of great value in providing the best direction in terms of how such systems could be designed and implemented in order to meet the needs and expectations of the public.

Longitudinal implementation studies, focusing on the evolution of CRMS implementation, the factors of sustainability, and the long-term implementation are carried out to offer useful insights to implementation planning and management that go past the initial adoption period of a schedule to cover a cycle of maturation, the organizational learning, and the ongoing improvement processes. Long-term studies would allow us to learn how CRMS implementations are changing over time and what leads to successful long-term results, as well as how the organizations change their strategies because of experience and the shift in the requirements.

5.4.2. Strategic Research Opportunities

Strategic research opportunities are cross-sector comparative analysis of differences between the CRMS implementation experiences in the public and the private sectors to shed some light on the intra-sector success factors and implementation approaches. Comparative research on the implementation practices, difficulties and results in both public and private organizations would benefit the body of research and act as guidance in similar institutional context and point out the areas to consider in each field specifically.

The effect of technology evolution assessment is an emerging research area because the developing technologies such as artificial intelligence, Internet of Things, cloud computing, and block chain keep reshaping CRMS capabilities and methods of implementing systems. The research on the impacts of such technological developments regarding the application of CRMS in the public utility would be visionary in its approach to organizational planning since it would also be venturing to determine the possibilities and complexities of the contemporary customer relationship management technological equipment.

Comparative studies at both the regional and international level that would illustrate how national policies, cultural aspects, and economic situations affect the success of implementing public utility CRMSs in various countries would improve the conception of how these aspects affect the implementation process. Cross-country comparative analysis would not only yield information about the best transferable

practices, but it would also yield information on adaptation requirements that would be context-specific across contexts within which implementation would occur.

5.4.3. Innovation and Development Research

The research on innovation and development ought to concentrate on the cases of CRMS innovation in the public sector that are particularized to the specifics of the public sector and its limitations, and not in the form of adaptations of solutions existing in the private sector. Exploration of new methods in customer relationship management that are applicable in the circumstances of accountability demands by the public sector, the requirements of democratic participation and service equity would help in advancing both theory and practice applied in the modernization of the public sector.

The work done on sustainability and environmental integration to understand how CRMS systems could be deployed to help achieve the environment sustainability movements and climate change adaptation in the area of public utilities would help in addressing many rising policy priorities and help understand how customer relationship management functions can be used to achieve wider societal goals beyond operational efficiency and customer satisfaction.

Research on digital transformation integration explores how the implementation of CRMS can be included into the large-scale digital transformation of any public sector organization that would serve to offer strategy to a large-scale modernization process that ensures the harmonization of multiple technology programs within an

organization at the same time maintaining synergies between the programs and minimizing any rendering effects of conflicting implementations.

The identified gap in performance measurement as well as the accounting and constant improvement needs of a public sector technology investment would be fulfilled through performance measurement and evaluation study on how to develop suitable metrics and evaluation models by which implementations of CRMS in the public sector could be measured.

Research on the theorizing of stakeholder engagement and democratic participation studies relate to how the implementation of CRMS in the context of the public sector can and cannot contribute to but rather compromise democratic participation and accountability in the population would contribute to the insights into how technology modernization can serve to support, rather than to undermine the democratic principles of governance and decision-making.

These areas of research therefore go ahead to fill gaps in the existing body of knowledge and ensure further progression of the theory and practice in customer relationship management in the public sector. Further research in those directions would help achieve even more effective implementation measures, improve the current performance of the public organization and citizens, and further improve the overall understanding of how technology could help to achieve the current modernization goals of the public sector preserving democratic structure and sense of serving citizens.

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APPENDIX A - INTERVIEW GUIDE

Interview Guide: CRMS Implementation at NWSDB

1. People (Human Factors)

1. How does the current organizational culture support or hinder CRM implementation?
2. What level of management support is available for CRM initiatives at NWSDB?
3. Are there any training programs or workshops in place to ensure employees understand and adopt the CRM system effectively?
4. How are key stakeholders involved in the CRM implementation process?
5. How is resistance to change among employees being addressed during the CRM implementation process?
6. What feedback mechanisms are in place to incorporate customer input into CRM functionalities?

2. Process (Operational and Strategic Factors)

7. What challenges have you faced in aligning the CRM strategy with the organization's overall goals?
8. What processes have been re-engineered or modified to accommodate CRM implementation?
9. How is customer data currently managed, and how will CRM improve this process?
10. What metrics are used to measure the success of CRM implementation?
11. How does the CRM system support decision-making and enhance customer service delivery?
12. What budgetary constraints, if any, have impacted the CRM implementation process?
13. What are the key risks associated with CRM implementation and how are they being mitigated?

3. Technology (System and Infrastructure Factors)

14. What are the primary challenges in integrating CRM with existing systems at NWSDB?
15. How well does the current IT infrastructure support CRM requirements?
16. Are there any specific technological limitations (e.g., software, hardware, or connectivity issues) that affect CRM performance?

APPENDIX B – TRANSCRIPT SAMPLES

areas, we did the new connection also. We are always looking to expedite the water connections and then get the most, reliable service to the customers, through the, new connection systems. Yes.

So all these systems are used to improve only their customer service, but the analysis part is lagging because of the adequate and competent stuff.

Then what matrices are used to measure the success of CRM implementation?

As far as I know, there is no studies on this area in Water Board. Yeah. Especially, and, we have never been measured the success fullness of the CRM implementation.

But, thing is, we physically see the improvements on the customer service since the the customers, customers, meaningfully engaged in this, yes, for the implementation of the CRM. Okay. Then how does the CRM system support decision making and enhance customer service delivery? Yeah. It's very important.

The CRM plays the vital role in decision making, in the customer relations management because, you know, we are getting the data from the CRMs. We are monitoring through the CRMs. And, even if the customer complain after the same complain after a few months later, so that's we can review the data from the CRM, and we can address the issue very effectively, and we can take preventive measures, you know, to prevent, such events are not happening repeatedly. So in that case, the CRM is very, very important and make a playing a vital role. Okay.

And secondly, if customer sometimes, the reliability of the customer complains. Mhmm. That is also very important. The customer may complain today and they will say they will say I complained two, three days before, and that the reliability of this complaint cannot be, verified in the absence of the CRM. But after the introduction of the CRM, you were able to, review the CRM system and, see the complaints reliable or not so that the customer and what about also satisfied.

Okay. Then what with budgetary constraints, if any, have we impacted the CRM? Sorry. Sorry. Sorry?

Overall goals. Yeah. So one thing is organization overall goal is to provide the improve the customer service. Mhmm. So in case of improving the customer service, is one of the tool that we are looking to improve the customer service.

Yes. So but the only thing is, the challenge that we are facing is, how effective we are going to implement the CRM. So in order to effectively implement the CRM, CRM must be improved, review time to time, and improve. That's the first thing. Mhmm.

Second thing, the CRM process, should be, time to time made aware to the all levels of staff. Yeah. And their feedback should be obtained in order to improve the this one. So these areas are not being addressed, especially, due to the lack of, staff involved in the CRM, review and, for extension informations. Yeah.

Okay. Then what processes have been reengineered or modified to accommodate CRM implementation?

One is the IT. IT should be improved in order to facilitate because, CRM is not the only one process that we are incorporating in order to improve the customer services. Mhmm.

So that is one of the services. Yes. So there are so many other services that has to be improved using the IT. So so incorporation of IT requires to improve the, IT division as well as the, site level IT staff Yeah. In order to have the adequate knowledge on the IT, improvement as well as the maintenance of the IT infrastructures.

Mhmm. Okay. Then how is customer data currently managed, and how will CRM improve this process?

The only thing is we we customer data in case you mean, customer, complaints. Am I right?

Yeah. Customer complaints Complaints and customer are the new connection data and disconnection, then that also may be greater. No? Yeah. Yeah.

The the the thing is, those data are very important in order to analyze the analyze and see how the customer behaviors and the, how work how effectively we are implementing each and every Yeah. Programs in, regarding the customer CRM. I'm sorry. CRM. So one thing is, the adequate staff.

In the absence of the adequate and compete competent staff, it is very difficult to do the analysis part. One thing is what we do is we, try to give utmost service to the customers by, monitoring the pending complaints in the CRM. And in even the other

Sorry. I couldn't get it. How is resistance to change among employees? Right. Yeah.

If you take the employees, especially the people who implement the CRM is the as I said before, it's a low level employees. Yeah. The role of employees in case CRM is implemented using the, I mean, new, younger, fresh staff Yes. Instead of old staff. Of course, if you take the field staff, they are considered a significant percentage of the staff who are not willing to change further, any new changes.

So that that kind of staff has been facilitated with the, I mean, in in case of shortage of these, field level employees. You know, the at the site level, there are most of the staffs are, recruited through the, contract services. Mhmm. So they are we have the room to recruit, the very competent and, motivated staff Yes. Through the service countries.

So that is that has affected the I mean, the effectively, we were able to implement the CRM due to this procedure. Okay.

Then what feedback mechanisms are in test to incorporate customer input into CRM functionalities? Yeah.

One is, the one is the customer made the complaint Mhmm. That is lodged in the CRM and customer receives the reference number. And once a complaint is, solved, the customer received the feedback. In between, their customer doesn't know how long it will take to complete their, complaint. So customer charter must be introduced, and that should be incorporated with the CRM systems so that customer will be able to, realize that his complaint is going to be solved by this time. And these are the actions they will they will be taking within the time frame.

So that customer will be, vigilant, one thing. Second thing is he will be satisfied with our CRM system. Okay. The next six, System.

Okay. The next six seven questions are based on the process factor. In that, what challenges have you faced in aligning the CRM strategy with the organization's overall goals?

One is the, management level. If you take management level I mean, the middle management level, especially Yeah.

The other people who are managing the CRM system. And, these people doesn't have enough training sometimes, Firstly. Secondly, can you repeat the question? What challenges have you faced in aligning the CRM strategy with the organization's overall goal. Yeah.

support also looked after by the higher management, and, that is, effectively implemented.

I mean, provided to the, all necessary staffs. And, thirdly, the maintenance of the, hardware and software management that also, from bottom to top level, information passes from, time to time to the higher management, and it is addressed by the relevant staff. Okay, sir.

Then are there any training programs or workshops in place to ensure employees understand and adapt the CRM system effectively? Yeah.

That is one of the area that we need to improve because the basic level training has been provided to the, staff who are, working on the CRM. But that, basic level training must be time to time reviewed and improved Yeah. Because, one is the basic training is not adequate for the future, CRM improvement. That is one thing. Second thing is they are, new staff recruitment.

I mean, not directly from the water board. They are contractual basis contractual basis as well. Yeah. From the service conducts, we are recruiting a staff. Those staff, they don't get even the basic knowledge from the proper training arrangement.

Uh-huh. So that that is given by the their immediate subordinates. Sometimes they may lead to the wrong, CRM management system. Okay. So that that should be improved.

Mhmm. Then how are key stakeholders involved in the CRM implementation process? Yeah.

That that is the main question because, you know, the customers, already, we through different means, they were made aware of the CRM system. And, the facility they are provided to connect the CRM system as well.

So the CRM system is effectively implemented in all almost all the parts of the country. Yeah. But the thing is still the they are, they don't believe the current system is reliable. Yeah. So that should be established among the stakeholders, and they should be encouraged.

So if this is the even if you find some of the shortcomings of the CRM, that affects the customer's reliability. Mhmm. So that is, one of the area that we have to focus. Okay.

Then how is resistance to change among employees being addressed during the CRM implementation process?

Good afternoon, sir. Good afternoon. I am conducting this interview as part of my research on successful CRM implementation at NWSTB. This interview will focus on people, process, and technology factors affecting customer relation management implementation. Mhmm.

In the people factor, there are six questions. In that, how does the current organizational culture support to hinder CRM implementation? Yeah. Hello? Yes, sir.

Yeah. First one is the how does the current organizational culture support to hinder CRM implementation? Yeah. The CRM implementation is, performed at different organizational levels. No?

Yeah. Starting from the lower level, it means the OIC up to the call center. It is, directly implemented. Yeah. And, the complaints are just directed to the relevant people, and those relevant people, capture the complaints into the CR CRM.

This is how the customer relation sorry. Customer complaints are captured into the CRM systems. Okay. And regarding the make, complaint solving, it is, done by the field staff who directly handling the customers. So once they are, solve the complaint, that is uploaded into the systems.

Okay. And thirdly, the management of the complaints, monitored by the, all levels of the, staff. I mean, higher management, middle management. Mostly managing the complaints, complaint management systems and the low management level. I mean Yeah.

Field workers, they usually do not involve in the management of the complaints. They involve only the addressing the company. Uh-huh. So these are the three major aspects of the complex CRM. Okay.

And technological improvement is looked after by the IT sections. Mhmm. Okay. So if you take the all four areas, which is the only the, if you take the water board structure Yeah. The higher management and the middle management, they focus on the complaint management using the CRM.

Okay. And complaint capturing and solving are mostly done by the, low level staff. Okay.

Then what level of management support is available for CRM initiatives at NWSDB? One is the commit yeah.

Commitment from the high management. The the high management has provided its commitment to implement the in the in order to implement and complete continuous improvement of the CRM. Yeah. And secondly, the, hardware supports. Hardware

receive those data for the. This is the, because during that process, so many enrollments. Mhmm.

I spent so many time. Yeah. Actually, it's very it's not good because, we we we we need if we take readings in first of the month in within two seconds, we need to develop the system to share all the data for the relevant department. Yes. Definitely, sir.

And how was the CRM vendor selected and what criteria were considered? Yeah. It seems that, it means for the seletion of CRM vendor means, for it's for the IT development or practices. The IT development, sir. Yeah.

For the IT development, it means introducing CRM solution for the organization. Yeah. Yes, sir. Yeah. I think it's a basic factor is cost, is, important.

And, understanding of the our systems is also important because it's directly affected for the development. Yeah. And, easy accessibility for the them is also important, because, in any system, they need time to time the other one. Yeah. Therefore, it's the accessibility for the developers is also important.

Yeah. Okay. Then how does the NWSDB plan to sustain and scale the CRM system in the long term? Yeah. I I think, the NWSDB plan is I am and I already said, we are not, yeah.

Yeah. We are not in the position of developing good systems because we are not, we all we are only talking about that. Yeah. And then then, therefore, I think first thing is me to, develop all the process of self organization. Mhmm.

Then, discuss with the, it mean all the possessions mean the all the small actions in the process also considered. And, then, discuss how to remove the repeating access. And, also, we need to, match with our future goals. Yeah. Like that, we need to this works.

I think it's about two years. Mhmm. It's not we are not hiring to deal up, and convert for new system. It's, I think if we try to do like that, it's will be another figure for organization. Therefore, we need to work at least two years and, prepare a master plan for the CRM solution.

And then we give for the it for the look. Mhmm. But yeah. Yes, sir. Thank you for your insight, sir, and your input will be valuable in understanding CRM success factors at AWS DB.

In the in good system, because we have nothing to this and GIS map. On the other hand, we have large database of, account numbers, like that, area that's, by giving location. While IT system and file this by the, local number and the voice internal manager, we are in the like that. Mhmm. Therefore, you IT department said the it's a system of support for that.

Yes. I don't know. I'm not expect, but, I see the partnership with the system is not. Yeah. Yes.

On the other hand, the, I think, it's, had Hadiya is continuously, updated and, blackboard code Hadiya remote support. That's, problem also available. But my my point of view that I I will set, we try to limit the we need the hardware use we will set by, this device. Yes. Yes.

Then what steps are being taken to ensure data accuracy and integrity within the CRM system? Yeah. I think it needs to, yeah, regular analytics with me that time data validation and like that. And, we need to audit the system by, it's, capable person. And, needs to introduce some time for for, time for for using the data entry.

Yeah. Then how does the CRM system handle real time updates and data sharing across departments? Yeah. I think I, implementing good CRM system. You can have the data to have the organization.

And the sample, that's that's that's also a new collection process. After payment of new collection, we We we have we have payment details. But, finance reason take those data and other end, like, bank. Mhmm. It's not, good.

Mhmm. Need to share all that data, for the organization by, good CRM system. It's, those details and here, process all the department and, by by doing that, we can, reduce our inefficient words and, if, unwanted stuff and utilized them for the, value added jobs. Actually, we have not in the organization, lot of, staff except in, ground level staff, like, operation staff and, we were the department. All, all other staff.

Yeah. I think it's just about one third of organization. They are doing lots of things, but not no value for organization. Yes. We can, minimize them, using, data they are in, extra study department.

As example, in last week, I monitor that one department, the as a reason for delay of the staff meeting precipitation. The I have not received the production data of our water supply system. Uh-huh. They said that, twenty fifth of the month. Yeah.

About that, last month reading. But in our practice, at the end of every month, in regional level operation, they take trading. But but, they will take twenty five days to

Then, last seven questions are based on the technology factor. In that, what are the primary challenges in integrating CRM with existing system at NWSDB? Yeah. I think it's integrating existing system is, so many issues, and it is, trying to integrate in for those system is meaningful. Meaningless.

Yeah. Sorry. Meaningless. Because, they are not properly structured. And, as my knowledge, some are not, any with the current technology.

Therefore, it's very difficult to, indicate, those systems. And it's, waste waste our time and I load for the system. We are trying, to, integrate those system. Therefore, I mean, my opinion is we try we we we we have to implement, the this existing system, if we use Yeah. By doing small improvements going, minor integrations.

Yeah. But, we have to plan at least after five five years. Mhmm. In 02/1930, it's, unique ten months system for the organization. Sir.

Yeah. Definitely, sir. Then how will the, how will the current IT infrastructure support CRM requirements? Yeah. Actually, actually, at the current system, CRM, it's, somewhat okay.

It's a big actually, that, commercial operation management system is, compared to other systems, somewhat okay. Mhmm. Therefore, I think, we can improve it, for the requirement of CRM, but not it's it will not give perfect solution for organization as well as the customers. Mhmm. But I think that this in this stage, it's, enough.

Actually, in the new new document of, call center, we include CRM, solutions for the, this on ongoing, tender. Oh, yeah. Therefore, I think, if we can indicate CRM requirement for the SCC system for some extent. Some yes.

Are there any specific technological limitations like software, hardware, or technical issues that affect CRM performance?

Yeah. I think, I'm not I'm not expert in this subject, but I think, there are some, some, limitations. Actually, we we we we you last week, we discussed with IT department about the online application for new customers. Yeah. At that stage, IT department said that, we ask that, in the in the current application, we need to fill so many attributes like, what region, what area engineer, and nearest customer account and address, so so many attributes me as a custom applicant, new customer need to build.

Yeah. We ask that, or seem to be actually, in generally, we we use, those technologies. Actually, the customer applicant know about, can upload the location of the connection that he required. You know, he required. Yeah.

Then what Budgetary constraints, if anyhow, impact the CRM's, implementation process? Yeah.

I think, actually, the organization, there's no budgetary constraint. My my, my, idea that, organization have enough budget. Yeah. Only this service, is the, like, purpose of use the budget. Okay.

As example, last year and this year also, we we we we allocate, considerable amount of, budget for digitalization. Yeah. But, my understanding is, those, budget used for the use, majority from, for the by hardware idea. Yeah. Yeah.

Yeah. It's it's the we think, as as example, digitization means not, buy and, give computers, printers, like that. All other, IT equipment for offices. It's not digitalization, but, our in our side, most of the remarking, it is digitalization. Yeah.

We need to minimize those those equipment. As an example, I think it's not directly related to CRM CRM. But, as example, I think that these days, we are trying to adapt our staff or EDMS system, different data document management system. Yeah. The first question is, they ask, we have no interest in standards for, implement EDMS.

EDMS But, in my point of view that this, only printer and, printer needed on, actually, no need printers for implementing the. Yeah. We we we we have, that, and, yeah. As example, all the letters we generate in our end.

Yeah. The they can, in, word or PDF format and, directly upload the system. Therefore, no need No need to print it. Print. Yeah.

But, on the other hand, the scanners also is only for the scanner. Few scanners only for the, outside letters. Yeah. But in the e d for the implementation of EDMS, we try to buy all ping test, and scanners for all the officers. It's not the solution, and it's not worth.

Yeah. Yes. Actually. Then what are the key risk associated with CRM implementation, and how are they being mitigated? Yeah.

Right. Make sure that data handling within the system and, data security. Mhmm. Because, and, accurate output from the system. Yeah.

Yeah. That means, in the yeah. Simple thing that you know that in our systems, they are, when we extract the same reporting with you, system, they are not, similar to each other. Yeah. Same same report.

And that's I need to manage data in the system accurately and, accurately. And the other thing is security issues. They are fighting to any tool at this security in terms of the CRM. CRM. Yes.

We, we like that. Mhmm. Yeah. Those are, challenges because, most of those people are highlighting lots of issues, and they are not fast IT systems, and they always try to continue manual process. Yes. Therefore, it's really difficult to adapt for the organization culture for, CRM strategy. Yeah.

Okay. Then what processes have been re engineered or modified to accommodate CRM implementation? I think, it's need to reengineering all the processes.

Will it, it's in the organization side that we need to reengineering all the processes for the CRM, intermediate implementation of CRM. It's need to, reengineering 11 to all processors. Actually, I think all the processes in the organization directly or indirectly linked with the CRM. Yeah. It's a financial process a financial process, and, I, we directly, that campaign, I mean, I hand, management system, billing system, management system, And, yeah, disconnect and like that or or, these things.

But, I think, all other professionals are also, winter CRM. CRM. CRM. Yeah. Providing them, you know, for the data outcome for our customer and you, yeah, for new era, it needs to interim all the processor.

Without the interim, all of all those processors, it's, difficult to, implement good CRM for that. Okay.

Then how is customer data currently managed, and how will CRM improve the process?

Yeah. I think, in the CRM improvements, we have central database for billing data, complaint data, like that. Yes.

Then what matrices are used to measure the success of CRM implementation?

And act actually, it's the key performance indicators. We need link with the, CRM, for the, better success. CRM implementation, it's need to, highly concentrated about the measure of the performance indicators. Mhmm. Therefore, by during the reengineering process, it's need definitely, linked with the API of, employees. Mhmm.

Yeah. Yeah. Okay. Then how does the CRM system support decision making and enhance customer service delivery? Yeah.

This, CRM system, we need to continue as monitoring and continue as analysis the, data and need to continue as improvement. Yes.

No one, no one, analyze those records. Yes. The actually, we we have is, we record all the customer calls. And they give a lot of, ideas about for the improvements. And, by listening those calls, we can easily identify the what are the need of customer and and our issues.

Yes. But, we we operate call center that's about, more than three years. Mhmm. But, anyone of the higher level, low, relevant staff, actually, including IT department Yeah. They are not concerned about the value of those scores.

If we, as example, if they listen, few calls, recordings, we we can, improve, the CRM, functions. Yes. Actually, in the in the initial time of call center in first year Yeah. From, our additional team, sometimes, we listen for recording and, sometimes one call he analyzed in, several ways. And the did so many improvements, through the support of IT department and other stuff.

After that, I think no one okay. Attention for the those valuable, resource. Yeah. Only the few few staff in, call center that office, they, listen those calls and analyze and view their ideas. Yeah.

But, it's not enough. Yeah. Actually, we need to consider about that factor. Yeah. Yeah.

Yeah. Then next 7 questions are based on the process factor. Yeah. What challenges have you faced in aligning the CRM strategy with the organization's overall goals? Yeah.

I yeah. There are a lot of challenges for the, like, in the CRM strategy. One thing is we we we have not really identified the process of the organization. And they are not integrated. Yeah.

And, most of the cases, the the accents are repeat repeating. Therefore, I think it's the basic need is, we we need to take a clear picture of all the processes of organization in one one one paper. Uh-huh. Then, yeah, then we we have to we we we remove the repeated action. And also, some other things like, legal and financial barriers are also there.

Yeah. Actually, I'm not clear that, this is my opinion, is, that we are always trying to digitalize customers. Yeah. Right? Yes.

Yeah. It means, we we we we introduce, so many, channels for bill payments. And at the currently, we are trying to upload our new connection applications through website. Yeah. But after that, within the organization, we always practice manual manual.

Manual that. Yeah. Actually, we we encourage people to pay their bill online. But in the our side, we we are not, pay third party deals like electricity or telephone to online. Yeah.

first question, I I said that all discussed and all need to change. But, and most of the ground level persons improvements but not integrated.

Okay. And, they are they try to find isolated solutions, for their work. But, I think it's not enough. Mhmm. We need to think, in, all the process and then, into the, the other part.

The part. Okay. And how is resistant to change among employees being addressed during the CRM implementation process? You you mean, what procedures we need to to to change the employee? Yeah.

Then I think, one thing is that, they are in the center in, is, mask. Mhmm. On the other hand, we need to address the employee's concern. Actually, most of our systems are not, user friendly. But, actually, I I think the only level in, regional level.

Yeah. They they raise lot of, issues, about the available systems. Mhmm. But, top management and IT people are not understand that question as it is. Mhmm.

I think, need to address this issue because, ultimately, those systems are used by ground level staff, and, it's benefited for our customer. Customer. But but, I feel that, our existing systems are not, easy for our ground level staff as well as the customers. They are always, leaving the available systems. Oh.

Therefore, I think leadership is very important for the this conversion. Uh-huh. And, also, and the system controls also need to, remove this resistance.

Okay. Then what feedback mechanisms are in place to incorporate customer input into CRM functionalities.

That means feedback mechanism means, in customer end. No? Yeah. Customer end. Or or Both end.

We can. Both end. Yeah. Yeah. Yeah.

That I am I, I, answer it in my previous custom. Yeah. I sent for our end. Yeah. It means, always consider for the, always need to pay high attention for the questions based by our, down level, staff who operate the systems.

Mhmm. And the other side, for customers, we need to do survey and, survey and analyze the records, and, complain records. Yeah. And that that means, as example, in our, 1939 call center, we have all the calls are recorded. Yeah.

Right? Yes. But, my I I know that, anyone of the organization, except, call center staff and staff in, customer and management section is, middle management. Yeah. Yeah.

Good afternoon, sir. Good afternoon. I am conducting this interview as part of my research on successful customer relations management system at NWSDB. Okay. This interview based on the people process and technology factors affecting CRM implementation.

First six questions are based on the people factor. Yeah. In that, how does the current organizational culture support to hinder CRM implementation? Yeah.

Current organization culture that, all the, top management and, all the staff need to into a CRM system. But I feel that, actually, all of them need this adaptation. But most of the most of them are reluctant to, change. Mhmm. Actually, because, traditional behavior of, working culture, most of, employees, including top management, they are not, ready to transform.

Okay. I feel that, this is, the current situation. Situation.

Okay. Then what level of management support is available for CRM initiatives at NWSDB?

Yeah. Actually, in the this year and also in previous year, they allocate considerable, amount of finance for this, change. But, and, they always discuss and, they do tray training programs for, and Viviana's program. Like that, they they, they try to change this, by, yeah, change this for improve, CRM system. System.

Then, are there any training programs or workshops in place to ensure employees understand and adapt the CRM system effectively. Yeah. That, that's another area that I want to decide that, NWSDB provide lot of training and, workshops, some and some practical training is also provided. As example, we are in customer and management division. We, went throughout the country and, you train in, tactical training.

And also our training department carried out, with the support of IT department. There are lots of training. Mhmm. But, my through it, most of most of those trainings are not effectively used by used for customer service and other improvement. Okay.

How how are key stakeholders involved in the CRM implementation process? Actually, in the, the two stakeholders in this, CRM implementation is, in the organization, all the departments and I I and IT IT staff and, ground level staff who directly engage with customers. Yeah. And, in other side, the cost customer base, they all in my first your

APPENDIX C - ORGANIZATIONAL STRUCTURE