

Analysis of Components for BPR Implementation in the Public Sector, Focusing on Online Service Delivery in Tanzania

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Abstract: This study analyzes critical components for successful Business Process Reengineering (BPR) implementation to enhance online public service delivery in Tanzania. BPR aims to rethink and redesign organizational processes to improve performance metrics such as cost, quality, service, and speed. In Tanzania's public sector, BPR is essential for addressing bureaucratic inefficiencies, inadequate infrastructure, and skill gaps that hinder effective service delivery. Key findings emphasize the importance of stakeholder engagement, leadership commitment, organizational readiness, citizen-centric approaches, information technology, change management, and legal reform. These elements ensure that reengineered processes align with organizational goals and citizen needs. Leadership drives change, while technology integration enhances efficiency. Stakeholder involvement and readiness are crucial for adapting to new systems. The study also identifies gaps in Tanzania's online service delivery, including limited ICT infrastructure, resistance to change, and low digital literacy. These challenges undermine the potential of online services but can be addressed by implementing the identified components, leading to more effective and citizen-centric services. By developing a comprehensive BPR framework, this study guides public administrators in navigating process transformation, ensuring improved service quality and citizen satisfaction in Tanzania's public sector.

Keywords: Business Process Re-engineering, Online Service Delivery, Public Sector, Digital Transformation, Stakeholder Engagement, Tanzania, Public Service Delivery, Business Process, Process Improvement, Information and Communication Technology, Process Mapping.

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I. INTRODUCTION

Business Process Re-engineering (BPR) is a transformative approach aimed at fundamentally rethinking and redesigning organizational processes to achieve dramatic improvements in performance, including cost reduction, quality enhancement, service delivery, and speed (Mukherjee et al., 2021). In the context of public sector reforms in Tanzania, BPR serves as a strategic tool to address inefficiencies and modernize service delivery, particularly through online platforms. The Tanzanian government has embraced BPR as a mechanism to enhance the efficiency of its services by re-engineering traditional bureaucratic processes and integrating Information and Communication Technology (ICT) systems.

The Tanzanian public sector has been undergoing reforms aimed at improving service delivery for decades. These efforts are driven by the increasing demand for efficient, transparent, and accessible services that meet the expectations of a growing and digitally savvy population. However, persistent inefficiencies, such as bureaucratic inertia, outdated systems, and limited technological infrastructure, have significantly hindered progress (Msanjila

& Mbaruku, 2019). The integration of Business Process Re-engineering (BPR) within the public sector represents an opportunity to address these challenges and enhance service delivery through digital transformation.

Globally, BPR is recognized as a strategic approach for rethinking and redesigning organizational processes to achieve dramatic improvements in performance metrics such as cost, quality, and service delivery speed (Hammer & Champy, 1993). In Tanzania, the urgency for such an approach is evident in the challenges faced by public sector agencies. For example, the reliance on manual processes has resulted in delays, inefficiencies, and a lack of accountability in service delivery (Heeks, 2002). Additionally, citizens often face difficulties accessing public services due to inconsistent procedures and limited digital platforms.

The e-Government Act of 2019 marked a significant step toward modernizing Tanzania's public sector. The Act established the e-Government Authority (e-GA) to oversee the adoption of ICT in public service delivery. Among its mandates, the e-GA emphasized the need for public institutions to re-engineer their processes before applying ICT to ensure optimized workflows and better outcomes

(United Republic of Tanzania, 2019). Despite these initiatives, many public agencies struggle to meet the desired standards of service delivery due to inadequate implementation of BPR principles and limited integration of modern technologies (Mwakasangula & Mwita, 2021).

The challenges faced by Tanzania are not unique. Similar issues have been observed in other developing countries, where public sector reforms often encounter resistance to change, resource constraints, and skill gaps (Alghamdi et al., 2011). For instance, in Kenya, the adoption of the eCitizen platform demonstrated the transformative potential of digital service delivery, but its success required significant investment in infrastructure and stakeholder engagement (Newton et al., 2017). These experiences underscore the importance of a tailored approach to BPR that considers the local context, including socioeconomic conditions, technological readiness, and cultural factors.

In Tanzania, previous studies have highlighted the critical role of organizational culture in determining the success of BPR initiatives. Resistance to change, often fueled by fear of job loss or disruption to established workflows, remains a significant barrier (Kotter, 1995). Effective change management strategies, including employee training, transparent communication, and leadership commitment, are essential for overcoming these challenges. Additionally, stakeholder involvement, particularly from citizens and private sector partners, is crucial for designing processes that align with user needs and expectations (Saputra, 2022).

Technological advancements play a pivotal role in enabling BPR in the public sector. The integration of digital platforms, such as mobile applications and cloud-based systems, can significantly enhance accessibility and efficiency (Alghamdi et al., 2011). However, limited internet penetration and low digital literacy levels in some regions of Tanzania pose significant challenges to the widespread adoption of online services (Dzuke & Naude, 2017). Addressing these gaps requires a multifaceted approach that includes infrastructure development, capacity building, and policy support.

Moreover, the implementation of BPR in the Tanzanian public sector must align with global trends in digital governance. The United Nations e-Government Development Index (EGDI) provides a framework for assessing the maturity of e-Government initiatives, emphasizing the importance of citizen-centric services and data-driven decision-making (United Nations, 2022). Tanzania's ranking on the EGDI highlights the need for continued efforts to improve digital service delivery and foster greater engagement with citizens.

The development of a comprehensive BPR framework tailored to the Tanzanian context is essential for addressing these challenges. Such a framework should integrate best practices from successful case studies while considering local realities. For example, the use of participatory innovation in public service design, as demonstrated in Indonesia, can enhance the inclusivity and relevance of BPR initiatives

(Saputra, 2022). Similarly, collaborative innovation involving multiple stakeholders can foster a sense of ownership and accountability, ensuring the sustainability of re-engineered processes (Ojasalo & Kähäri, 2018).

II. THE CURRENT SITUATION

The public sector in Tanzania has been undergoing various reforms aimed at improving service delivery mechanisms. However, challenges such as bureaucratic inefficiencies, lack of transparency, and inadequate technological infrastructure hinder effective service delivery (Mwakasangula & Mwita, 2021). The advent of digital technologies presents an opportunity for the public sector to enhance service delivery through online platforms. Previous studies have shown that effective online service delivery can lead to increased customer satisfaction and improved service quality (Maemunah et al., 2023).

The analysis of components for BPR implementation in the public sector aimed at identifying important components which is to be used as foundation for development of a framework for effective business process re-engineering (BPR) aimed at enhancing online service delivery in the public sector of Tanzania is rooted in a complex historical context of public sector reforms, particularly in the health sector. Over the past three decades, Tanzania has experienced significant transformations driven by New Public Management (NPM) principles, which sought to address inefficiencies and corruption within public services (Lameck, 2023). These reforms emphasized decentralization, the introduction of market-oriented practices, and the establishment of performance measurement systems to improve service delivery (Sulle, 2010).

Historically, the Tanzanian public health sector has undergone various reforms aimed at improving access and quality of services. The introduction of cost-sharing mechanisms in the 1990s, for instance, was intended to enhance revenue generation and service availability (Masanyiwa et al., 2013). However, these reforms have often been met with challenges, including inadequate infrastructure and resistance to change, which have hindered the effective implementation of BPR strategies (Hanson, 2000).

The need for a systematic approach to re-engineering business processes in this sector has become increasingly apparent, particularly as the demand for online service delivery has surged due to technological advancements and the need for improved health service accessibility (Githendu et al., 2020). The concept of BPR itself is characterized by a radical rethinking of business processes to achieve dramatic improvements in critical measures of performance, such as cost, quality, service, and speed (Akhavan et al., 2006). In the context of Tanzania's public health sector, BPR can facilitate the redesign of workflows and processes to better meet the needs of citizens, particularly in light of the increasing reliance on digital platforms for service delivery (Al-Anqoudi et al., 2021).

The integration of information technology (IT) into BPR initiatives is crucial, as it allows for the automation of processes and the enhancement of data management capabilities, which are essential for effective decision-making and service delivery (Abubakar & Palisuri, 2019). Moreover, the successful implementation of BPR in the Tanzanian public sector requires a comprehensive understanding of organizational culture and the alignment of BPR initiatives with existing strategies (Siagian et al., 2017). Research indicates that organizations that foster a supportive culture are more likely to achieve successful BPR outcomes, as they can better adapt to the changes introduced by re-engineering efforts (Hashem, 2019). Additionally, the involvement of stakeholders, including health professionals and the community, is vital to ensure that the re-engineering processes are responsive to the actual needs of the population (Sirili et al., 2019).

The development of a framework for effective BPR in Tanzania's public health sector must consider the historical context of reforms, the integration of IT, and the importance of organizational culture and stakeholder engagement. By addressing these factors, Tanzania can enhance its online service delivery, ultimately improving health outcomes for its citizens.

The Tanzanian public sector has undergone significant reforms aimed at improving service delivery to meet the growing demands of the population. Among these reforms is the adoption of Business Process Re-engineering (BPR), a strategic approach that seeks to fundamentally redesign business processes to achieve improvements in critical performance measures such as cost, quality and speed (Davenport & Short, 1990). The push for effective BPR in Tanzania's public sector is driven by the need to improve efficiency and service delivery, especially in sectors such as health, education, and transport that serve the majority of the population (URT, 2016).

Information Technology (IT) plays a pivotal role in facilitating BPR by automating processes and creating a more streamlined flow of information within public institutions (Hammer, 1990). In Tanzania, however, the integration of IT has faced challenges due to the slow adoption of modern technologies, limited resources, and the need for continuous capacity building (Msanjila & Mbaruku, 2019). These issues highlight the importance of developing a robust framework for BPR that not only incorporates technological advancements but also aligns with the existing organizational culture and operational realities of the public sector.

Additionally, stakeholder engagement, including employees, management, and citizens, is crucial to the successful implementation of BPR initiatives. Resistance to change, lack of ownership, and limited communication are common barriers to reform processes (Heeks, 2002). Therefore, for BPR to effectively enhance online service delivery in Tanzania's public sector, a well-structured framework must address these organizational challenges while fostering a culture that embraces innovation and continuous improvement.

Given these challenges, there is a pressing need to develop an effective framework for BPR implementation that addresses the unique characteristics and constraints of the Tanzanian public sector. Such a framework should provide actionable guidelines for re-engineering business processes, integrating advanced technologies, and fostering a culture of continuous improvement and innovation. Without addressing these foundational issues, the potential for online service delivery to transform public service accessibility, efficiency, and citizen satisfaction in Tanzania will remain unrealized.

III. LITERATURE REVIEW

BPR involves a radical rethinking of organizational processes to achieve substantial improvements in performance (Davenport & Short, 1990). It emphasizes the need to analyze workflows and processes within and between organizations to optimize end-to-end processes and automate non-value-added tasks. The core principles of BPR include focusing on processes rather than tasks, prioritizing customer needs, and leveraging technology to enable improvements (Hammer, 1990).

The goal of BPR is to eliminate waste, streamline processes, and enhance organizational efficiency and effectiveness (Seher, n.d., 2014).

Business Process Reengineering (BPR) involves several key components, including radical change, process and goal orientation, organizational restructuring, and the utilization of enabling technologies, particularly information technology (IT). Successful BPR implementation requires strong leadership commitment, employee involvement, IT integration, and a culture of continuous improvement (Seher, 2014).

A. *Scholars Theory in Development of business Process Re-Engineering*

The development of Business Process Re-engineering (BPR) has been influenced by various academics who have provided fundamental theories to guide its implementation. One of the earliest and most influential contributions came from Michael Hammer, who is regarded as the pioneer of BPR. Hammer's theory, introduced in his 1990 article "Reengineering Work: Don't Automate, Obliterate," emphasizes the need to fundamentally rethink and redesign business processes rather than simply automating existing ones. He argued that organizations must focus on end-to-end processes that directly add value to the customer, eliminating redundant steps and breaking down functional silos (Hammer, 1990). His theory emphasizes that BPR is not about small improvements, but radical changes that can lead to significant improvements in cost, quality and speed. Similarly, Thomas Davenport and James Short (1990) introduced the idea of aligning information technology (IT) with BPR efforts. They advocated that IT should be used not just as a tool for efficiency, but as an enabler of entirely new business processes that are more customer-centric and responsive. Their theory integrates the strategic role of IT in BPR, highlighting how technologies such as enterprise resource planning (ERP) systems and customer relationship

management (CRM) platforms can reshape business operations by automating and optimizing key work processes (Davenport & Short, 1990).

Another important contribution came from John Kotter, who focused on the human and organizational aspects of BPR. Kotter's Leading Change theory (1995) emphasized the importance of managing resistance to change, fostering a culture of continuous improvement and ensuring strong leadership throughout the BPR process. His theory emphasizes that successful BPR initiatives require not only technological and process changes, but also a change in organizational culture and mindset.

Together, these scholars have shaped the theoretical underpinnings of BPR, advocating a holistic approach that combines radical process redesign, the strategic use of technology, and effective change management. Their theories continue to guide organizations in their efforts to implement BPR and achieve sustainable performance improvement.

➤ *Systems Theory*

This theory explains that organizations are complex systems composed of interrelated parts that work together to achieve common goals. In the context of public sector service delivery, systems theory emphasizes the importance of understanding how various components (e.g., processes, technology, and human resources) interact to influence overall performance. By applying systems theory, public sector organizations can identify inefficiencies and areas for improvement in their service delivery processes (Rudasill et al., 2017).

➤ *Technology Acceptance Model (TAM)*

The TAM is a widely used framework that explains how users come to accept and use technology. It posits that perceived ease of use and perceived usefulness significantly influence users' intentions to adopt new technologies. In the context of online service delivery, understanding the factors that affect user acceptance is crucial for the successful implementation of digital services in the public sector (Frazier et al., 2016).

➤ *Service-Dominant Logic (S-D Logic)*

The Service-Dominant (S-D) Logic framework represents a shift from traditional goods-focused models to one that emphasizes services and the co-creation of value between providers and users. Unlike the conventional view, where value is embedded in a product and transferred to the customer upon purchase, S-D Logic sees value as co-created during the interaction between the service provider and the user. This interaction is dynamic, with both parties playing active roles in defining and delivering value. In this framework, service is viewed as the fundamental basis of exchange, and goods are merely tools or platforms that support the service.

For public sector organizations, S-D Logic is especially relevant because it promotes a collaborative approach to service delivery, recognizing that citizens are not passive recipients of services but rather active participants in shaping

them. This perspective aligns with modern governance models that emphasize citizen engagement, participation, and feedback in public service processes. By involving citizens in the design and delivery of services, public organizations can better understand their needs and expectations, which enhances the relevance, quality, and effectiveness of the services offered. Furthermore, it can lead to more personalized and responsive public services, as the interaction allows for continuous improvement based on real-time feedback from users.

Adopting S-D Logic in the public sector also encourages innovation and flexibility. Rather than adhering to rigid, top-down models of service provision, organizations are encouraged to co-create solutions with their users, fostering a more adaptive and innovative environment. This not only improves service outcomes but also strengthens trust and collaboration between citizens and the government, making public services more user-centered. As a result, public sector entities can be more agile and capable of addressing complex societal challenges, such as health care, education, and infrastructure development, through a more interactive and engaged approach (Vargo & Lusch, 2004; Silverstein, 2014).

➤ *Public Value Theory*

This theory focuses on the value that public services create for society. It emphasizes the importance of aligning public sector activities with the needs and expectations of citizens. By applying public value theory, organizations can assess the impact of their service delivery initiatives and ensure that they contribute positively to societal well-being (Moore, 1995).

➤ *Dynamic Capabilities Framework*

This framework explains an organization's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. In the context of public sector BPR, dynamic capabilities are essential for fostering innovation and adapting to new challenges in service delivery (Teece, 2007) (Kamiya, 2024).

➤ *Knowledge Management Theory*

This theory emphasizes the importance of managing knowledge assets to enhance organizational performance. In the public sector, effective knowledge management practices can facilitate innovation by promoting the sharing of best practices and lessons learned among employees. This is particularly important for organizations undergoing BPR to improve service delivery (Nonaka & Takeuchi, 1995) (Imenda, 2014).

➤ *Stakeholder Theory*

This theory posits that organizations should consider the interests of all stakeholders, not just shareholders, in their decision-making processes. In the public sector, stakeholder theory is crucial for understanding the diverse needs and expectations of citizens, government agencies, and other entities involved in service delivery (Freeman, 1999) (Phan & Ngu, 2017).

- *Management Theory*

This framework provides insights into how organizations can effectively manage change processes. In the context of BPR, understanding the principles of change management is essential for overcoming resistance and ensuring successful implementation of new processes and technologies (Kotter, 1996) (Bedi et al., 2012).

B. *Components of Successful BPR Implementation*

- *Top Management Commitment and Leadership*

Strong leadership is crucial for driving BPR initiatives. Top management must demonstrate commitment by providing clear vision, resources, and support throughout the reengineering process (Grover et al., 1995). In the Tanzanian context, leadership commitment has been identified as a key factor influencing the success of BPR projects (Mlay et al., 2013).

- *Employee Involvement and Change Management*

Engaging employees at all levels fosters ownership and reduces resistance to change. Effective change management strategies, including communication, training, and involvement in decision-making, are essential for successful BPR implementation (Arendt et al., 1995). A study in Tanzania highlighted the importance of employee involvement in enhancing service delivery speed through BPR (Mlay et al., 2013).

- *Information Technology (IT) Infrastructure*

Robust IT infrastructure is a critical enabler of BPR, particularly for online service delivery. The integration of technology facilitates process automation, information sharing, and real-time communication, leading to improved efficiency and service quality (Attaran, 2003). In Tanzania, the adoption of e-government strategies underscores the role of IT in transforming public service delivery (United Republic of Tanzania, 2022)

- *Customer Focus*

Aligning processes to meet the needs of citizens ensures that reengineering efforts enhance service delivery. Incorporating customer feedback and focusing on service quality are essential components of successful BPR initiatives (O'Neill & Sohal, 1999). Research indicates that BPR positively impacts service quality in Tanzanian service organizations (Mlay et al., 2013).

- *Process Analysis and Redesign*

A thorough analysis of existing processes is necessary to identify inefficiencies and areas for improvement. Redesigning processes to eliminate non-value-added activities and streamline workflows is central to BPR (Davenport & Short, 1990). In the public sector, this may involve simplifying procedures, reducing paperwork, and enhancing inter-departmental coordination (c).

- *Conceptual Diagram of Components of BPR towards Effective Online Public Service Delivery in Tanzania*

BPR involves a radical rethinking of organizational processes to achieve substantial improvements in performance (Davenport & Short, 1990). It emphasizes the need to analyze workflows and processes within and between organizations to optimize end-to-end processes and automate non-value-added tasks. The core principles of BPR include focusing on processes rather than tasks, prioritizing customer needs, and leveraging technology to enable improvements (Hammer, 1990).

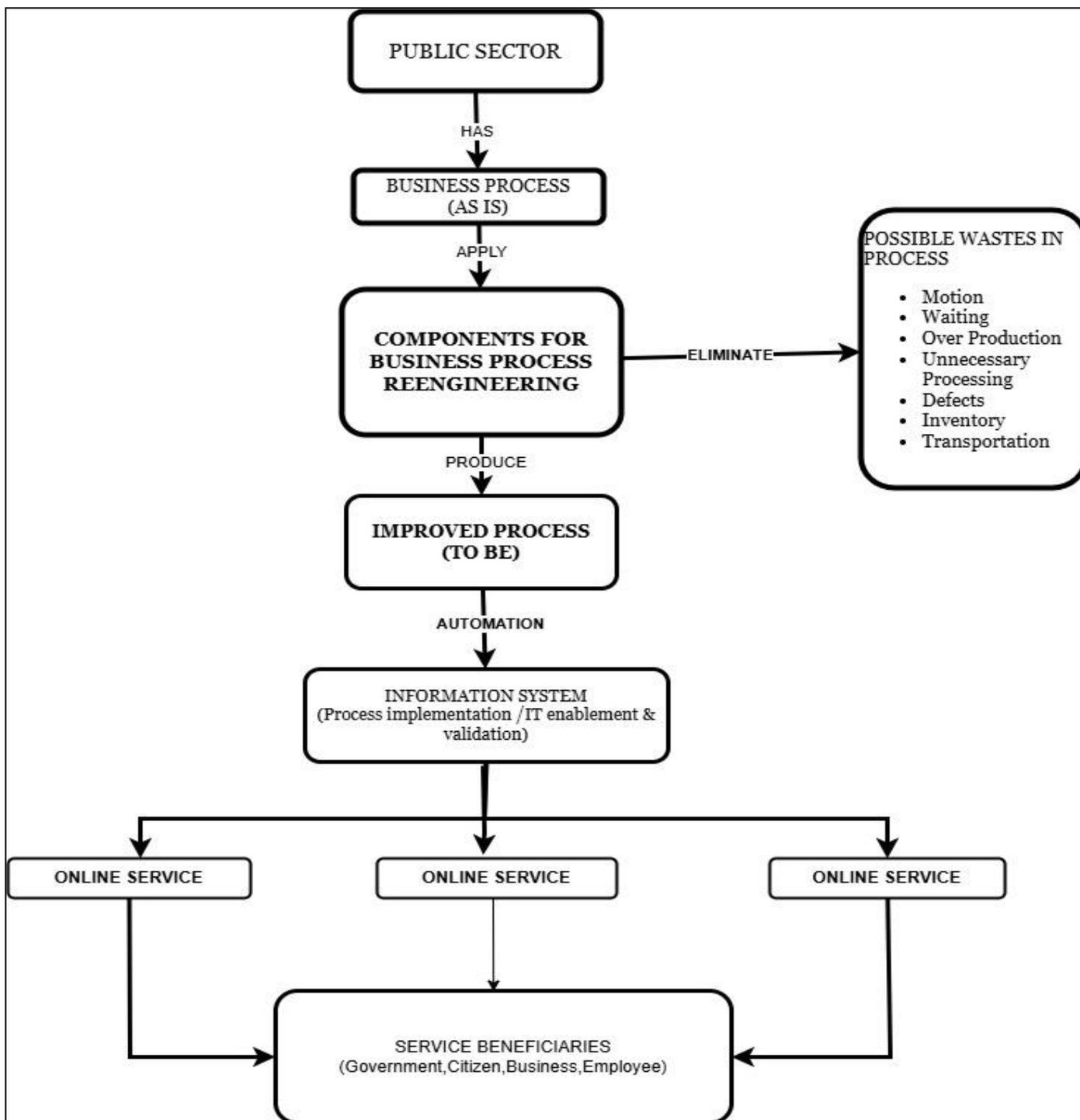


Fig 1: Conceptual Diagram of Components of BPR towards Effective Online Public Service Delivery in Tanzania

The conceptual framework for Business Process Re-engineering (BPR) in facilitating online service delivery within the public sector focuses on systematically improving service efficiency and effectiveness. It begins by assessing the public sector, which is the environment where services are delivered. The aim is to improve outdated methods by transitioning to modern, streamlined processes. This starts with analyzing the current business processes used by public sector organizations to identify inefficiencies or areas in need of improvement. These processes are then re-engineered to meet the demands of digital service delivery.

Key components of Business Process Re-engineering must be considered to ensure success. These components include stakeholder involvement, management support, IT infrastructure, and change management. These factors help ensure that the BPR initiative is supported, comprehensive, and aligned with technological advancements. The next step involves designing an improved process that eliminates inefficiencies and bottlenecks, resulting in smoother and faster workflows. By doing this, the public sector can enhance the way services are delivered.

Automation plays a crucial role in BPR, as it involves automating routine tasks to increase efficiency, reduce human error, and free up staff for more complex tasks. Alongside this, a strong information system supports these processes, ensuring the smooth flow of data and communication. These systems help public sector organizations manage the entire service delivery process more effectively. After re-engineering and automating, the next step is process implementation, where the new workflows and technologies are applied to real-world operations.

IT Enablement and validation ensure that the new processes work as intended. Information technology provides the infrastructure needed for online services, and regular validation ensures that the processes continue to meet the desired goals through feedback and adjustments. The ultimate result of these efforts is online service delivery, transforming traditional, manual service methods into digital platforms that are accessible to the public at any time.

The beneficiaries of this process are multiple stakeholders. The government benefits from increased efficiency, cost savings, and better transparency. Citizens experience faster and more accessible public services, eliminating the need for in-person visits to government offices. Businesses enjoy smoother interactions with public agencies, reducing paperwork and administrative burdens, while employees benefit by focusing on more valuable work as automation takes over routine tasks. In summary, this conceptual framework for BPR focuses on rethinking and redesigning public sector processes, with IT and automation at its core, to improve the overall service delivery for all involved parties.

IV. APPROACH AND DESIGN OF THE STUDY

The study was conducted with 9 public institutions selected using purposive sampling, which aimed at public organizations where most of the business processes are automated and citizens can access them via online systems. This ensures that the sample directly reflects the phenomenon under investigation. The effectiveness of purposive sampling lies in its ability to enhance the accuracy and trustworthiness of research findings. Campbell et al. and Elshaer & Augustyn (2016) emphasize that this sampling technique allows researchers to focus on specific criteria that are critical to the research objectives, thereby improving the rigor of the study.

The Workers Compensation Fund (WCF), Tanzania Communications Regulatory Authority (TCRA), National Health Insurance Fund (NHIF), Business Registrations and Licensing Agency (BRELA), Tanzania Bureau of Standards (TBS), e-Government Authority (eGA), Public Procurement Regulatory Authority (PPRA), Land Transport Regulatory Authority (LATRA), and Public Service Social Security Fund (PSSSF) were the public organizations where the study was conducted. These organizations have transformed and automated most of their business processes using ICT, ensuring that the study directly reflects the phenomenon under investigation.

The effectiveness of purposive sampling lies in its ability to enhance the accuracy and reliability of research findings. Campbell et al. and Elshaer & Augustyn (2016) emphasize that this sampling technique enables researchers to focus on specific criteria critical to the research objectives, thereby improving the study's rigor.

Furthermore, the study involves a total of 110 employees from public organizations, including ICT personnel, managers, directors, and business process owners. This selection is based on the fact that these stakeholders are actively involved in various Information Systems development projects conducted in the selected public institutions.

➤ *Design of the Study*

A quantitative research design is employed to facilitate the systematic collection and analysis of data related to BPR implementation and its impact on online service delivery. This design is characterized by the use of structured surveys and statistical analysis to quantify relationships between variables. The study will utilize a cross-sectional design, allowing for the collection of data at a single point in time from a sample of public sector employees. This design is appropriate for capturing the current state of BPR initiatives and their perceived effectiveness in enhancing service delivery. According to Creswell (2014), cross-sectional designs are effective for providing a snapshot of a population at a specific time, making them suitable for exploratory research in public administration (Schutte, 2023). Furthermore, the design provided flexibility in accessing information, enabling multiple techniques during data collection, such as interviews, focus group discussions online survey and questionnaires.

➤ *Sampling Techniques, Data Collection Technique*

In conducting this study on the implementation of Business Process Reengineering (BPR) in the public sector, purposive sampling was deliberately chosen as the most appropriate sampling technique. Purposive sampling allows for the selection of participants and organizations based on specific criteria that are directly relevant to the research objectives. This approach ensures that the sample includes stakeholders who are actively involved in BPR initiatives and Information Systems development projects, such as ICT personnel, managers, directors, and business process owners. Therefore below table describe the criteria for sampling in each category.

Table 1: Sampling Techniques, Data Collection Technique

Sample Group	Source	Method of Selection	Expected Output	Total Number of Sample in Each institution
Public Institutions	List of public institutions from President’s Office Public Service Managements anfd Good Government(PO-PSMGG)	Purposive Sampling	List of public institution that involved in BPR initiative and provide online services to citizen	9
Business Process Owners	Selected from online services implemented in selected public institutions	Purposive Sampling	Business Process owners can share their involvement in the implementation of BPR in their business processes and describe their experiences.	4
IT Expert(Officers)	Selected from online services implemented in selected public institutions	Purposive Sampling	Best practices on how implementation of BPR are being carried out, technological aspects on implementation of online services.	6
IT Directors and Managers	Selected from online services implemented in selected public institutions	Purposive Sampling	Best practices on how implementation of BPR are being carried out, technological aspects on implementation of online services.	3

Thus, in each of the 9 public institutions, there were 4 Business Process Owners (totaling 36), 9 IT Experts/Officers (totaling 54), and 3 IT Directors and Managers (totaling 27). This resulted in a combined total of 117 participants involved in the study.

V. PROBLEM ANALYSIS

The Government of Tanzania enacted the e-Government Act No.10 of 2019, established the e-Government Authority (e-GA) as a public institution responsible for overseeing, coordinating, and promoting e-Government initiatives. The e-GA is also tasked with enforcing e-Government-related policies, laws, regulations, standards, and guidelines within public institutions. One of the major areas which has been insisted by the authority to public institutions is to ensure that they re-engineer their business process before applying ICT. The authority insisted on documenting existing business

processes, analyzing them to determine areas to be optimized for performance enhancement, performing re-engineering, and documenting new revised processes. Subsequently, they advocated for the application of ICT on the improved business processes.

Despite guidelines and significant investments in ICT and the implementation of various information systems, Tanzania's public sector has struggled to achieve the desired improvements in service delivery. The Government of Tanzania has acknowledged the need for effective BPR to enhance the efficiency and quality of public services. However, the lack of a standardized components for to be considered for BPR implementation has led to inconsistent and often unsuccessful outcomes of the United Republic of Tanzania e.Gov act 2020. However, what is currently practiced is the automation of processes as they are.

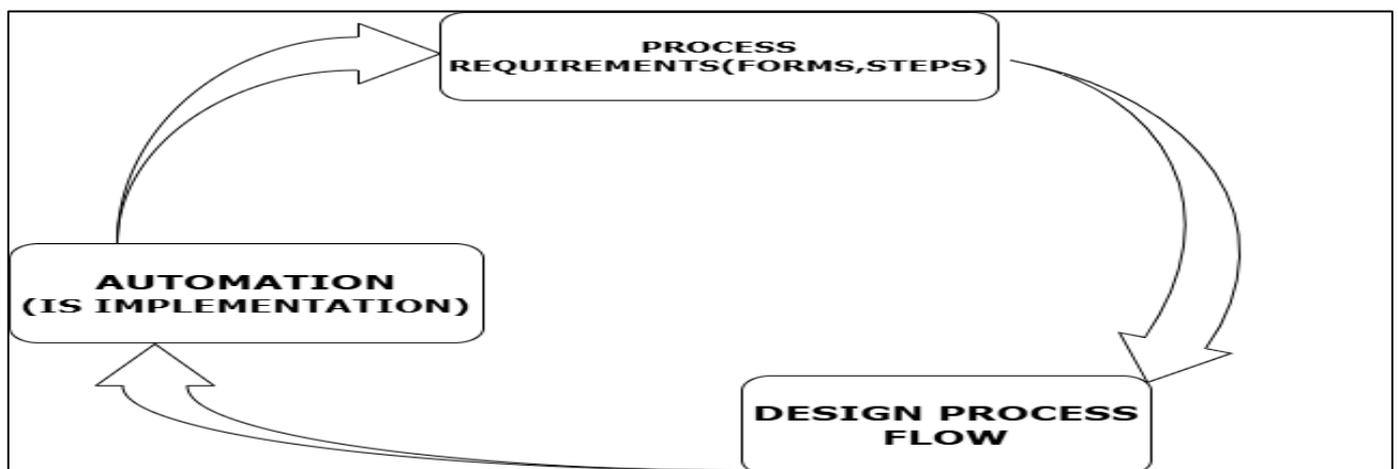


Fig 2: Current Information Systems Implementation

Public organizations in Tanzania face several key issues in their Business Process Re-engineering (BPR) initiatives, including a lack of a standardized framework leading to varied and often unsatisfactory outcomes, inconsistent BPR practices due to the absence of a unified approach, and significant differences in methodologies and tools used across institutions. Additionally, limited ICT integration results in many public sector processes remaining manual or partially automated, preventing the full potential of ICT from being leveraged to streamline operations and improve service delivery. There is also a pressing need to shift towards more customer-centric service delivery, ensuring accessibility and efficiency for all citizens. Furthermore, Tanzania's goal of reaching Level 4 of the e-Government Maturity Model, which represents complete transformation and integration of public services, is hindered by current practices that do not adequately support.

➤ *The Comparison between the Public Sectors of Europe and Africa*

Particularly in the context of Business Process Re-engineering (BPR) and online service delivery, reveals significant disparities in operational efficiency, technological adoption, and service accessibility. In Europe, public sector reforms have often been characterized by a strong emphasis on digital transformation, driven by robust infrastructure and a commitment to transparency and accountability (Rao et al., 2018). European countries have successfully integrated BPR into their public services, leveraging technology to streamline processes, enhance citizen engagement, and improve service delivery outcomes. For instance, the European Union's Digital Single Market strategy aims to ensure that public services are accessible online, fostering cross-border cooperation and efficiency (Kanyangarara et al., 2017).

In contrast, the African public sector, including countries like Tanzania, Uganda, and Kenya, faces unique challenges that complicate the implementation of BPR and online service delivery. Many African nations grapple with limited resources, inadequate infrastructure, and varying levels of technological literacy among the population (Haemmerli et al., 2018). Despite these challenges, there has been a growing recognition of the importance of BPR in enhancing service delivery within the public sector.

For example, the use of non-state providers (NSPs) in countries like Tanzania has been critical in addressing service delivery gaps, particularly in health care, where public sector capacity is often limited (Rao et al., 2018). This reliance on NSPs highlights the necessity for innovative approaches to service delivery, including the adoption of online platforms to facilitate access to health services. Focusing on East Africa, Tanzania, Uganda, and Kenya have made strides in utilizing online service delivery in their public sectors, albeit at different paces and scales. Kenya has emerged as a leader in digital government initiatives, with the implementation of the eCitizen platform, which allows citizens to access various government services online (Newton et al., 2017). This platform has significantly improved service delivery efficiency and transparency, setting a benchmark for neighboring countries. Uganda has also made progress with its e-Government initiatives, although challenges such as internet connectivity and digital literacy persist (René, 2022). Tanzania, while making efforts to enhance online service delivery, still faces significant hurdles, including infrastructural deficits and bureaucratic inertia that can impede the effective implementation of BPR strategies (Adeyemi et al., 2021). In summary, while Europe has leveraged BPR and online service delivery to enhance public sector efficiency, African countries, particularly in East Africa, are navigating a complex landscape marked by both opportunities and challenges. Kenya stands out as a front-runner in adopting online services, followed by Uganda and Tanzania, which are still working to overcome barriers to effective digital transformation in their public sectors.

VI. RESULT FINDINGS

The study identified several critical components necessary for the successful implementation of Business Process Re-engineering (BPR) in the Tanzanian public sector, including Organizational Readiness, leadership commitment, stakeholder engagement, Information Technology and infrastructure, Customer/Citizen Centric, change management strategies, and Legal and Policy Reform. These components play a crucial role in ensuring a smooth transition from traditional processes to more efficient, technology-driven workflows, ultimately enhancing service delivery, operational efficiency, and transparency in public institutions.

A. Challenge and Gaps Hindering the Effectiveness of Online Service Delivery in Tanzania's Public Sector

Table 2: Challenge and Gaps Hindering the Effectiveness of Online Service Delivery in Tanzania's Public Sector

S/N	Variables (Key Challenge and Gaps blocking BPR (n=117))	YES N (%)	NO N (%)
1	Cost and Resource Management	86(73.50%)	31(26.50%)
2	Regulatory and Compliance Issues	75(64.10%)	42(35.90%)
3	Service Quality Gaps	47(40.17%)	70(59.83%)
4	Technological Integration	61(52.14%)	56(47.86%)
5	Customer Service and Communication	98(83.76%)	19(16.24%)
6	Process Standardization and Automation	88(75.21%)	29(24.79%)
7	Weak Legal and Policy Frameworks	60(51.28%)	57(48.72%)
8	Process Complexity and Bureaucracy	90(76.92%)	27(23.08%)
9	Lack of Stakeholder Engagement	107(91.45%)	10(8.55%)
10	Limited Funding and Investment	97(82.91%)	20(17.09%)

11	Resistance to Change	62(52.99%)	55(47.01%)
12	Adaptability and Continuous Improvement	40(34.19%)	77(65.81%)

Source: from Field Data (2024)

- **Cost and Resource Management:** A significant majority of respondents (73.50%) identified cost and resource management as a key challenge in delivering effective online services. This highlights the difficulty in allocating sufficient financial resources and managing human and technological resources efficiently. Only 26.50% of respondents did not view this as a major issue, underscoring that resource management is a critical area requiring attention to improve service delivery.
- **Regulatory and Compliance Challenges,** a notable 64.10% of respondents identified regulatory and compliance issues as a significant hurdle. This indicates that aligning with legal requirements and adhering to regulations pose considerable challenges in delivering effective online services. While 35.90% of respondents did not view this as a primary concern, the majority opinion highlights the need for improved regulatory frameworks and more robust compliance mechanisms.
- **Service Quality Gaps:** Service quality gaps were identified as a challenge by 40.17% of respondents, while 59.83% did not view this as a significant issue. This indicates that while service quality is a concern for some, it may not be the most pressing challenge for the majority. However, addressing these gaps remains critical for maintaining customer satisfaction and trust.
- **Technological Integration:** Technological integration was highlighted as a challenge by 52.14% of respondents. This suggests that integrating various technological systems and platforms is a significant issue for a considerable portion of respondents. The remaining 47.86% did not see this as a major concern, but the need for seamless technological integration is evident.
- **Customer Service and Communication:** A large majority (83.76%) of respondents identified customer service and communication as a critical challenge. This underscores the importance of effective communication and customer support in delivering online services. Only 16.24% did not view this as a major issue, emphasizing the need for improved customer service strategies.
- **Process Standardization and Automation:** Process standardization and automation were identified as significant challenges by 75.21% of respondents. This indicates that establishing standardized processes and automating workflows are crucial areas that require attention. The remaining 24.79% did not see this as a major concern, but the majority opinion highlights the importance of process improvement.
- **Weak Legal and Policy Frameworks:** Weak legal and policy frameworks were noted as a challenge by 51.28% of respondents. This suggests that the lack of robust legal and policy structures is a concern for a significant portion of respondents. The remaining 48.72% did not view this as a major issue, but the need for stronger frameworks is evident.
- **Process Complexity and Bureaucracy:** Process complexity and bureaucracy were highlighted as major challenges by 76.92% of respondents. This indicates that simplifying processes and reducing bureaucracy are critical for improving service delivery. Only 23.08% did not see this as a significant issue, emphasizing the need for more streamlined and efficient processes.
- **Lack of Stakeholder Engagement:** An overwhelming majority (91.45%) of respondents identified the lack of stakeholder engagement as a significant challenge. This underscores the importance of engaging stakeholders effectively in the service delivery process. Only 8.55% did not view this as a major issue, highlighting the need for better stakeholder engagement strategies.
- **Limited Funding and Investment:** Limited funding and investment were identified as a key challenge by 82.91% of respondents. This suggests that securing adequate funding and investment is essential for improving online service delivery. Only 17.09% did not see this as a major concern, but the majority opinion underscores the need for better financial support.
- **Resistance to Change:** Resistance to change was noted as a challenge by 52.99% of respondents. This indicates that overcoming resistance to new technologies and processes is a significant concern for a considerable portion of respondents. The remaining 47.01% did not view this as a major issue, but the need for effective change management is evident.
- **Adaptability and Continuous Improvement:** Adaptability and continuous improvement were identified as a challenge by 34.19% of respondents, while 65.81% did not view this as a significant issue. This suggests that while adaptability is important, it may not be seen as the most pressing challenge by the majority. However, continuously improving processes and adapting to changing needs remains crucial for effective service delivery.

The challenges outlined above serve as a foundation for proposing key components of Business Process Reengineering (BPR) implementation in the public sector, particularly aimed at enhancing online service delivery in Tanzania. Addressing these challenges will enable the public sector to improve the efficiency, effectiveness, and overall customer satisfaction of its online services.

B. Familiar about the Component of Business Process Re-engineering (BPR)

Table 3: Familiar about the Component of Business Process Re-Engineering (BPR)

Suggested Component	FREQUENCY	PERCENTAGE
Stakeholders Engagement	25	21.37%
Leadership Commitment and Support	25	21.37%
Customer/Citizen Centric	13	11.11%
Information Technology and Infrastructure	25	21.37%
Change Management Strategies	3	2.56%
Legal and Policy Reform	6	5.13%
Organizational Readiness	20	17.09%
TOTAL	117	100%

Source: From Field Data (2024)

The table provides an overview of respondents' familiarity with various components of Business Process Re-engineering (BPR). Table 3 above, shows key factors that contribute to the successful implementation of BPR initiatives.

As shown above, stakeholder engagement has been highlighted by 21.37% of respondents as a critical component of Business Process Reengineering (BPR). Engaging stakeholders, including employees, customers, and citizens, ensures that their needs and concerns are addressed throughout the BPR process. This involvement is essential for securing buy-in and support, which ultimately leads to more successful implementation and improved outcomes in online service delivery.

The study identified that 21.37% of respondents agreed that leadership commitment and support are pivotal in driving Business Process Reengineering (BPR) initiatives. Strong leadership provides the necessary resources, sets a clear vision, and aligns organizational goals to ensure the success of re-engineering efforts. Leaders also play a key role in overcoming resistance to change and maintaining momentum for long-term process and service delivery improvements.

A customer/citizen-centric has been endorsed by 11.11% of respondents as a key component of Business Process Reengineering (BPR). Prioritizing the needs and preferences of end-users ensures that re-engineered processes deliver value and enhance satisfaction. This approach helps design processes that are more responsive and aligned with customer expectations, ultimately improving service quality and fostering stronger relationships with end-users.

Also, 21.37% of respondents pinpoint information technology and infrastructure as essential for successful Business Process Reengineering (BPR). Modern IT systems and infrastructure enable the automation, integration, and optimization of processes, making them more efficient and adaptable. Investing in the right technology ensures that re-engineered processes can meet evolving demands, supporting scalability and innovation in service delivery.

Change Management Strategies: Identified by only 2.56% of respondents, effective change management is vital

for the success of Business Process Reengineering (BPR). It helps overcome resistance, ensures smooth transitions, and sustains changes over time. This involves clear communication, training, and support for employees affected by re-engineering efforts, enabling the organization to adapt to new processes and technologies without disruption.

Also, 5.13% of respondents highlight legal and policy reform as a necessary component of Business Process Reengineering (BPR). Reforming laws, regulations, and policies to align with re-engineered processes ensures compliance and removes implementation barriers. This reform creates an enabling environment for BPR initiatives, allowing organizations to operate more efficiently within the legal framework.

Organizational readiness, highlighted by 17.09% of respondents, is vital for the successful implementation of Business Process Reengineering (BPR). It involves assessing and preparing the organization for the changes that re-engineering will introduce, including evaluating the organization's culture, capabilities, and resources to ensure it can effectively implement and sustain re-engineered processes, thereby minimizing disruptions and maximizing the benefits of change.

Generally, Stakeholders Involvement, Leadership Commitment and Support, and Information Technology and Infrastructure are the most recognized components, each receiving 21% of responses. This indicates that respondents are highly aware of the importance of engaging stakeholders, securing Leadership Commitment and Support, and Technology and Infrastructure in BPR efforts. Customer/Citizen Centric and Organization Readiness are also notable components with scores between 10% and 21% this implies that respondents recognizing the significance of customer-focused approaches and Organization Readiness to drive BPR projects.

Change Management Strategies and Legal and Policy Reform was identified by below 6% of respondents, reflecting the moderate recognition of Change Management Strategies and Legal and Policy Reform role's in enabling effective Business process transformations.

C. Components of BPR Adoption Framework

Table 4: Components of BPR Adoption framework

S/N	Variables. (Key Components of BPR Framework(n=117))	YES N (%)	NO N (%)
1	Stakeholders Engagement	106(90.60%)	11(9.40%)
2	Leadership Commitment and Support	105(89.74%)	12(10.25%)
3	Organizational Readiness	77(65.81%)	40(34.18%)
4	Customer/Citizen Centric	61(52.14%)	56(47.86%)
5	Information Technology and Infrastructure	108(92.30%)	9(7.70%)
6	Change Management Strategies	98(83.76%)	19(16.24%)
7	Legal and Policy Reform	60(51.28%)	57(48.72%)

A significant 106 respondents (90.60%) identified Stakeholder Engagement as a critical component of the BPR process for online service delivery, highlighting its importance in addressing the needs and concerns of various internal and external stakeholders, including employees, management, and citizens. Conversely, 11 respondents (9.40%) chose "NO," indicating that a small minority view stakeholder engagement as non-essential, possibly due to competing organizational priorities or limited engagement practices.

- **Leadership Commitment and Support:** 105 respondents (87.74%) selected "YES," indicating that this component ranks very highly. This suggests that the overwhelming majority of respondents recognize the crucial role that top management plays in providing resources, leadership, and guidance to drive the BPR initiative. On the other hand, 12 respondents (10.25%) selected "NO," with only a few not viewing top management support as a key component, potentially reflecting specific organizational contexts where leadership is less involved.
- **Organizational Readiness:** A majority of respondents (77, or 65.81%) selected "YES," highlighting the belief that the readiness of people within an organization is essential for successful BPR, as it can enhance workflow efficiency and communication. However, 40 respondents (34.18%) selected "NO," indicating that some consider organizational readiness unnecessary or insufficient for effective BPR implementation.
- **Customer/Citizen Centricity:** Out of the respondents, 61 (52.14%) selected "YES," indicating that slightly more than half recognize the importance of customer-centric approaches. This suggests a belief that prioritizing end-users (or citizens) in service design enhances the relevance and quality of service delivery. However, 56 respondents (47.86%) selected "NO," revealing that a significant portion does not view customer focus as a top priority in BPR efforts. This could be attributed to a greater emphasis on internal operational priorities.
- **Information Technology and Infrastructure:** A total of 108 respondents (92.30%) selected "YES," showing that the majority acknowledge the importance of a robust IT infrastructure for supporting re-engineered processes. This is essential for enabling automation, efficient data processing, and seamless online service delivery.

However, 9 respondents (7.70%) selected "NO," indicating that a small group does not view IT infrastructure as a critical factor. This may stem from the belief that their current infrastructure is adequate or that other priorities are more pressing.

- **Change Management Strategies:** A significant 98 respondents (83.76%) selected "YES," highlighting that the vast majority acknowledge the importance of effectively managing organizational change for the success of BPR initiatives. Effective change management is essential for minimizing resistance and ensuring a smooth transition to new processes. However, 19 respondents (16.24%) selected "NO," indicating that some may not view change management as a significant challenge, possibly due to their organization's culture or previous experiences with process changes.
- **Legal and Policy Reform:** A total of 60 respondents (51.28%) selected "YES," emphasizing the belief that supportive legal and policy frameworks are vital for BPR initiatives. These frameworks provide a structured approach to process changes and ensure alignment with organizational objectives. Conversely, 57 respondents (48.72%) selected "NO," suggesting that some do not view legal and policy reforms as critical to BPR success. This perspective may arise from the flexibility of existing policies or the presence of guidelines that already support the process.

Implementing BPR in Tanzania's public sector faces several challenges

Resistance to Change: Cultural resistance and fear of job loss can hinder BPR efforts. Addressing these concerns through effective change management is crucial (Mlay et al., 2013).

Limited Resources: Constraints in financial and human resources can impede the development and maintenance of necessary IT infrastructure (Heeks, 2002).

Regulatory and Bureaucratic Hurdles: Rigid regulations and bureaucratic procedures can slow down the implementation of reengineered processes (Mutahaba & Kiragu, 2002).

D. Proposed Framework Representing Components for BPR for Online Public Service Delivery

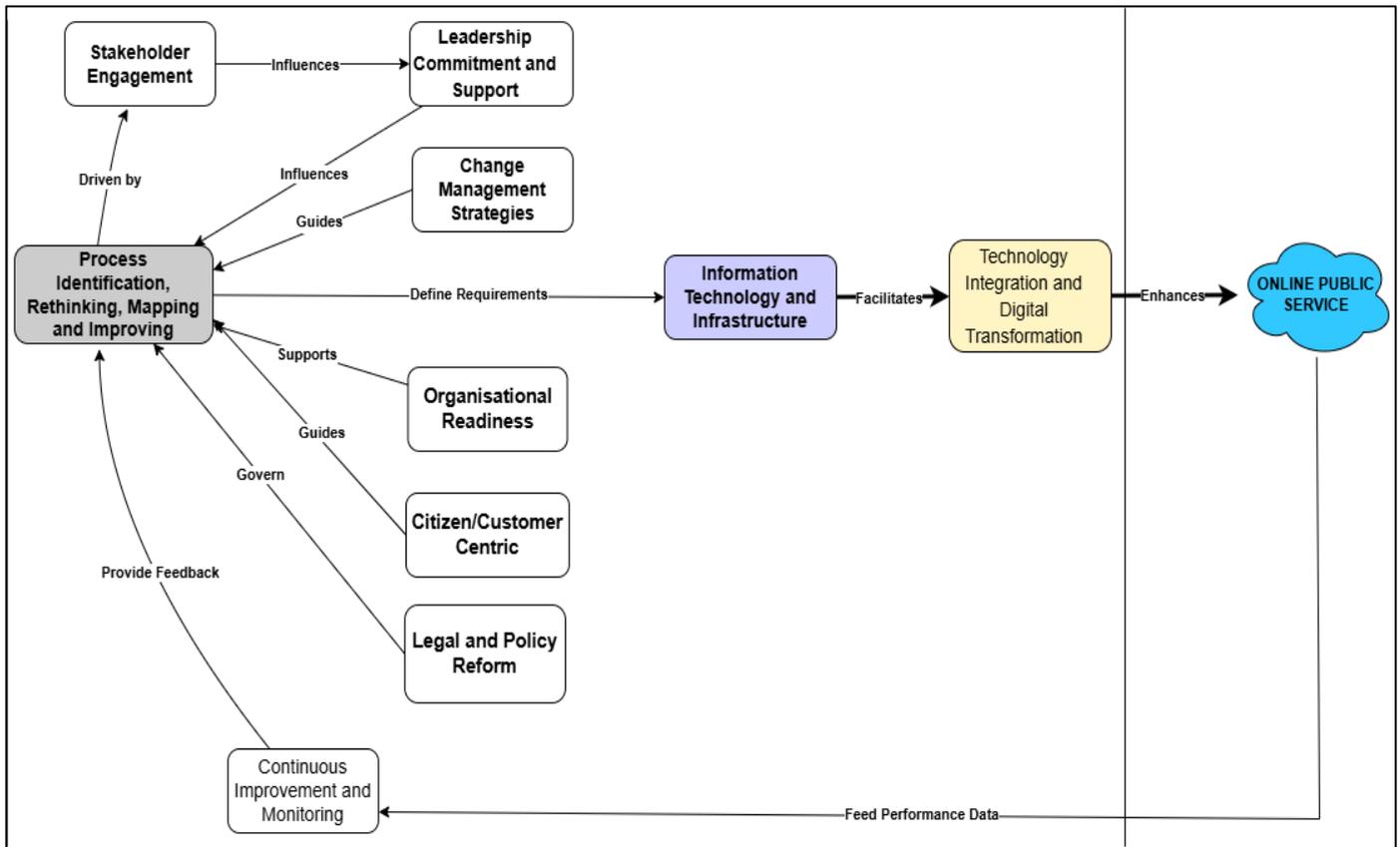


Fig 3: Key Components for Effective Business Process Reengineering in Online Public Service Delivery

The diagram illustrates how the components of Business Process Reengineering (BPR) contribute to the proposed framework designed to improve online public service

delivery. It highlights the essential components and their interconnections, which are necessary to drive effective digital transformation in public services.

Table 5: Key Components for Effective Business Process Reengineering in Online Public Service Delivery and their Roles

S/N	Component	Role	Connection
	Stakeholder Engagement	Actively involves stakeholders to secure their participation and support throughout the Business Process Reengineering (BPR) process	Influences Leadership Commitment and Support. Drives Process Identification, Reengineering, Mapping, and Improving.
	Leadership Commitment and Support	Ensures that leadership is committed to the BPR initiative, providing necessary resources and support	Influences Process identification, Reengineering, Mapping, and Improvement; Influences Change Management Strategies Support IT and Infrastructure
	Change Management Strategies	Develops comprehensive strategies to effectively manage the transformational changes introduced by Business Process Reengineering (BPR), ensuring smooth transitions and alignment with organizational goals.	Guides the identification, Reengineering, Mapping, and Improvement of processes.
	Process Identification, Reengineering, Mapping, and Improving	Identifies, reengineers, maps, and improves processes to enhance both efficiency and effectiveness	Defines Requirements for Information Technology and Infrastructure. Supported by Organizational Readiness. Governed by Legal and Policy Reform.

			Guided by Citizen/Customer Centric approach. Receives Feedback from Continuous Improvement and Monitoring.
	Organizational Readiness	Ensures that the organization is prepared for the changes introduced by BPR.	Supports Process Identification, Reengineering, Mapping, and Improving Information Technology and Infrastructure
	Citizen/Customer Centric	Focuses on understanding and addressing the diverse needs and preferences of citizens and customers, ensuring that services are tailored to meet their expectations and enhance their overall experience.	Guides Process Identification, Reengineering, Mapping, and Improving
	Legal and Policy Reform	Ensures that legal and policy frameworks fully support the BPR initiatives.	Governs Process Identification, Reengineering, Mapping, and Improving
	Continuous Improvement and Monitoring	Ensures continuous improvement and monitoring of the BPR process	Provides Feedback to Process Identification, Reengineering, Mapping, and Improving.
	Information Technology and Infrastructure	Provides the necessary IT and infrastructure support to facilitate BPR	Facilitates Technology Integration and Digital Transformation
	Technology Integration and Digital Transformation	Integrates technology and drives digital transformation effectively.	Enhances Online Public Service
	Online Public Service	The ultimate goal of the BPR process is to deliver effective online public services	Feeds Performance Data back into Continuous Improvement and Monitoring

Together, above components create a dynamic and responsive system that not only meets but exceeds expectations for efficient and user-centric service delivery. By adopting this framework, public service organizations can achieve significant advancements in service quality and citizen satisfaction, paving the way for a more effective and digitally integrated public service landscape.

VII. CONCLUSION

The study on the Analysis of Components for BPR Implementation in the Public Sector: Focusing on Improving Online Service Delivery in Tanzania, revealed key findings across multiple dimensions. These included identifying critical components for successful BPR implementation, uncovering challenges and gaps in current online service delivery processes, and assessing the impact of existing systems on efficiency and user satisfaction.

A. Key Components for BPR Implementation in the Public Sector, Focusing on Online Service Delivery in Tanzania

The findings emphasized the importance of Stakeholder Engagement, Leadership Commitment and Support, Organizational Readiness, Customer/Citizen-Centric Approaches, Information Technology and Infrastructure, Change Management Strategies, and Legal and Policy Reform as critical components for successful BPR initiatives. These elements collectively ensure that re-engineered processes align with organizational goals and meet the needs of citizens. Leadership drives organizational and process change, while Information Technology integration facilitates automation and efficiency in online

service delivery. Stakeholder involvement and organizational readiness were identified as vital for fostering acceptance and adaptability to new systems, addressing gaps in online service delivery.

The study reveals significant gaps in the Tanzanian public sectors online service delivery systems. Limited ICT infrastructure, especially in rural areas, resistance to change among public servants, and inadequate digital literacy among citizens were cited as persistent challenges. These factors contribute to inefficiencies, undermining the potential of online services to enhance accessibility and satisfaction. However, implementing the identified components will help minimize these challenges.

Online service delivery has shown promise in improving public service efficiency despite these challenges. Respondents noted reductions in processing times, enhanced accessibility, and increased transparency as major benefits. However, inconsistent system reliability and varying user satisfaction levels highlight the need for continuous improvement and system monitoring.

B. Recommendation

By recognizing the importance of streamlining organizational business processes to improve public service delivery through online platforms, the Government of Tanzania has instructed all public organizations to identify and analyze their business processes. Public organizations must identify, document, analyze, and determine which processes can be automated to enhance public service delivery. This involves conducting a thorough assessment of

existing workflows to pinpoint inefficiencies and areas where automation can significantly improve productivity and service quality.

To achieve this, it is essential to have a comprehensive framework that serves as a guideline for assessing and improving organizational business processes. This framework should outline best practices, provide tools for analysis, and offer a structured approach to reengineering processes.

The components identified in this study—process mapping, stakeholder engagement, leadership commitment and support, organizational readiness, customer/citizen-centric approaches, information technology and infrastructure, change management strategies, and legal and policy reform—can serve as the foundation for improving organizational processes. By leveraging these components and utilizing ICT to automate processes, public service delivery can be significantly enhanced. Implementing a Business Process Reengineering (BPR) framework focused on online service delivery will streamline operations, ensuring that public services are delivered more efficiently and effectively. This approach enables public organizations to enhance transparency, reduce processing times, and improve overall citizen satisfaction. Furthermore, the framework supports continuous improvement by incorporating feedback mechanisms and regular reviews, ensuring that processes remain relevant and effective over the long term.

C. Future Works

Future studies may focus on several promising avenues for enhancing Business Process Reengineering (BPR) in the context of online public service delivery by identifying and integrating crucial components. Looking ahead, there are numerous opportunities to improve the BPR framework by incorporating additional elements such as customer feedback systems, real-time analytics, and predictive modeling. These enhancements would provide deeper insights and more tailored solutions for improving public services. Additionally, further research could investigate the incorporation of emerging technologies like Artificial Intelligence (AI), Machine Learning (ML), Blockchain, and the Internet of Things (IoT). These technologies have the potential to revolutionize organizational processes by automating complex decision-making, enhancing security and transparency, and providing real-time data and insights. Furthermore, leveraging advanced analytics and big data technologies could offer profound insights into organizational processes, customer behavior, and market trends, enabling data-driven decisions that significantly improve both efficiency and effectiveness in public service delivery. Such research would not only validate these approaches but also guide the adaptation of BPR frameworks to meet the evolving demands of the digital era.

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