

Major Factors Contributing to the Failure of Digitalization in the Public Sector Organizations: An Analysis of the Federal Government of Pakistan

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Abstract

Pakistan is a developing country with rather traditional and outdated models of governance that does not effectively correspond to the postmodern practices of electronic and digitalized governance. A majority of initiatives aimed towards incorporation of Information Communication Technology (ICT) in the public sector are not satisfactorily implemented and do not bear positive impacts for improving public service. The purpose of this paper to analyze and understand the factors the contribute to the failure in implementation of the initiatives and projects aimed to incorporate ICT and digitalization in the public sector of Pakistan. The paper scrutinizes this state of affairs through interviews and survey questionnaires targeted towards high ranking officials of the public sector and associated government departments and authorities. This paper is of quantitative nature and has been facilitated through interviews, surveys and questionnaires. The findings demonstrate that despite considerable continued efforts, prevailing predicaments of inflexible red tape, paucity of financial resources, incompetence of public sector staff and unstable political scenario are factors that hinder the progress of digitalization. This is a major gap identified in this paper. Furthermore, the paper also suggests and recommends practical solutions to cope with these problems, including political solutions and recommendations for financial problems.

Keywords: Digitalization, ICT, Governance, Public Sector.

Introduction

The most significant aspect of the government of any country is its obligation to serve the public interest and facilitate the citizens of the country. In the postmodern world of emerging technologies, the incorporation of digitalization and innovation in the affairs of the government and the public sector has aided monumentally in achieving better efficiency and providing better services. Many developing countries today have their government operations digitized so that they may offer public services to their citizens more swiftly (Ahmed & Khan, 2020). This digital ecosystem is expanding rapidly and has the potential to ease many of the information constraints that affect government policies and operations, thereby allowing significant improvements in fiscal-

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financial management, the design of tax and expenditure policies, revenue administration and enforcement, and the delivery of public services (de Mello & Ter-Minassian, 2020). This, in return, helps improve the trust of the public in their government, and at the same time makes government more transparent and thus more accountable (Rebecca, 2016).

However, the need for digitalization is yet accompanied by a plethora of challenges and impediments that may hamper the implementation or slacken the corresponding desired results. Findings show that the coherent digitization of government processes experiences many odds, including insufficient ICT infrastructure perpetuated by prevailing working conditions in the ministries. Unauthorized access by a section of the employee's further burdens the implementation. Shortage of highly trained ICT professionals (ICT literacy) suggests that access and uptake are compounded by a lack of capacity resulting in low adoption with the aggregated outcomes of Poor collaboration between users and the Digital divide among end users (Kauma et al., 2022). There is a dire need to identify these issues as to move forwards towards implementing a digitalized system of governance as well as incorporating ICT in the public sector for better facilitation of the citizens.

The process of digitalization is incredibly inconvenient in developing countries, such as Pakistan, due to a myriad of factors, such as political and economic instability and pressure from external and internal actors. A report by McKinsey states that as much as 70 percent of initiatives for digitalization in developing countries fail. By failure it means either they could not be completed in time or were never sustained if completed (Wayan, 2011). Hence, it can be said that the traditional Weberian bureaucratic structures still pose a hindrance to the productive implementation of ICT in the public sector. This article shall scrutinize the reasons and factors that contribute to the failure of digitalization initiatives in Pakistan while suggesting measures to refrain from it and achieve better and more successful incorporation of ICT. This study aims to explore the reasons why government sector organizations and departments are not able to progressively incorporate ICTs and move towards a system of efficient digitalization. Adopting a pragmatic approach and considering the ground-level factors in accordance with the viewpoints and deliberations of the officials of the public sector, we work on identifying the major persisting problems as well as presenting viable and practical solutions. This study, therefore, is of theoretical and applicative significance for policymakers and officials as well as for researchers in extending the literature forward for meaningful contributions in terms of digitalizing public services in Pakistan.

The article is divided into sections as follows. Followed by the introduction, the second section provides a background of the present literature, highlighting the need and significance of digital governance for a country. Section three outlines the methodology. The fourth section mentions in detail the findings of the study with empirical evidence. The fifth section concludes the article by discussing the gap that future researchers can work on, succeeded by the last chapter of recommendations and solutions.

Literature Review

Digitalization – the Necessity of Time

The recent advancements in technology, especially in the 21st century, one of the cornerstones of connectivity and facilitation in the world is the advent of digitalization. Traditionalism is being challenged and a transition towards a more digitalized and technology driven approach has become an utmost necessity. Solutions provided by technology are becoming more accessible and commonly implemented in everyday practices, which enables competition on a global level,

meaning not only for multinational organizations, but individuals can be involved in social and activities on a global scale (Jamil, 2021).

Digital connectivity remains at the heart of a country's economic and social progress through connecting people, government, and business altogether in real time to achieve sustainable development in diverse sectors (Zuti, 2018). It is especially important for the developing countries to catch up with the first world in introducing digitalization and incorporation of ICTs in their agendas in order to facilitate the public as well as create meaningful progress on a national and international level. Nations that are not able to digitalize fast enough confront the issue of digital inequalities (Jamil, 2021c).

Need for Digitalization in the Public Sector

When the governments are not able to handle multitudes of requests, and the public sector departments are organizations cannot keep up with the constant influx of public demands and issues, backlogs develop, and government activity is severely hampered, which in turn results in poor service and the citizens do not get their issues resolved. Technology and digitization play a huge role in enabling these departments to deal with high amounts of requests, and for them to swiftly offer services efficiently on time, to curb any grievances among citizens and to avoid any distrust in their government (Ahmed & Khan, 2020). Digitization enables governments to offer improved, efficient, effective, responsive and swift service delivery to citizens via digital public services portals (Linders et al., 2018). Consequently, not only the masses are served and assisted, but also the corresponding results aid in improving the overall security and economy of the country. Few of the significant benefits that implementation of digitalized systems and approaches for the government and public sector are as follows:

Cornerstone of Good Governance

In the modern world, digitalization is extremely necessary to maintain good governance. Experts have defined that good governance can be achieved through a transition from the traditional and confined bureaucratic structures of governments towards a flexible and technology driven approach marked by systems of digital platforms and online services. It is commonly argued that digitalization represents an advanced level of e-government procedures, which allows governments to improve their effectiveness and efficiency (Irani et al., 2008). For example, for several years many public administrations have been offering services that can be accessed from a telephone or a computer, which allows them to better manage their tasks and improve the quality of their service offer, as well as to improve the well-being of citizens (Wandaogo, 2022).

Improved Transparency, Accountability and Efficiency

Integration of ICTs into the system in the public sector and in the affairs of the government demonstrates an online presence of the data and information, leading to increased transparency and accountability of the government towards the citizens. Ultimately, the pressure of performance also increases. For example, digital platforms in many countries around the world showcase the government tax expenditures for the citizens publicly. This creates a sense of accountability among government country institutions, where expenditures can be analyzed by any citizen of the country, thus government tries to become better to acquire approval of the public (Djamen, 2018). Digitalization and integration of ICTs results in better efficiency and productive results for the internal processes of public sector departments which can, in return, provide better and improved public services. All of these improvements come together to ultimately result in improved

economics of a country where performance of institutions are the biggest factors that contribute to the fate of any Country, and Technology and Digitization can go a long way in doing just that (Bernhard et al., 2018; Turban et al., 2018).

Factors Affecting the Digitalization Processes and Initiatives

There are myriad factors that affect government digitization at multiple levels and there has been work related to listing all of these factors, however, they are all generalized factors taken from generic environments with general management in play. Such factors, as will be listed forward, greatly impact the initiation, operations and implementation of measures and projects of digitalization, each in its own capacity. The digitalization in the government institutions and those of the public sector are enlisted as follows in three levels identified from the works of Richard Heeks and others (Dobrolyubova et al., 2020; Heeks, 2003; Shkreli & Çomo, 2018).

Holistic Factors (High Level)

At the highest level, all these factors and the causes for them come under three major folds of complexity (Nielsen, 2014).

- Political Complexity
- Organizational Complexity
- Technical Complexity

Generic Factors (Mid-Level)

At the middle level, all the corresponding factors can be categorized in four different dimensions as follows (Anthopoulos et al., 2016).

- Environment: Organizational cultural factors
- Scope: Constraints of time, skill and budget
- Customer: End users, benefactors
- Execution: Change Management, Training of personnel

Particular Factors (Low Level)

There is a plethora of factors at the ground level that affect the digitalization in the public sector. Some of these factors are listed below:

- Technology—Affinity and compatibility
- Objectives—Organizational norms and values
- Willingness of the staff—Working staff on the new system
- Information—Pragmatism in system design
- The skill level of staff—Training and ability to operate new systems
- Management structure—Bureaucracy, red tape, Weberian hierarchies
- Processes—Integration of the new system

Methodology

Research Design

This research is conducted in the Federal public sector of Pakistan, encompassing a myriad public sector organization, departments, authorities and agencies. Pakistan is a developing country with a plethora of social, economic and political problems, a prime of which is an underdeveloped

system of governance. The network of governance in Pakistan is rather antiquated and based on classic Weberian models and red tape structures.

The efforts of digitization have garnered quite some attention in the past decade in the procedures and operations of the government and public sector. Although the government is making considerable efforts to move towards a system of digitalization, yet the pace is still slow in terms of efficiency and results.

The major existing problem lies in the implementation. Academics and researchers have postulated that a substantial percentage of projects and initiatives fail in terms of bearing efficacious results due to a multiple of different reasons including financial and funding issues, red tapism, political instability, transfer of senior government officials, infrastructure and compatibility issues, and lack of IT experts among others.

Questionnaire Design, Sample and Feedback Analysis

The previous section indicates the range of factors that impede and hinder the implementation and progress of digitalization in public sector and government. In order to identify the factors that hold true in this circumstance, interviews were conducted, and afterwards questionnaires were distributed among officials of the public sector departments and authorities.

The questionnaire included relevant questions such as – how significant on a range of 0-5 (lowest to highest) are these factors for causing failure of government sector digitalization. The questionnaire further provided a few factors that were to be identified by the officials in terms of their intensity in affecting the system of digital governance, including change in political government, financial constraints and others. A particular example of the questions in the questionnaire is attached in the Appendix A. The questionnaire was created on Google's Online Forms due to its feasibility and efficiency in gathering and analyzing the data.

For this purpose, office visits were conducted throughout the Federal Capital for interviewing high ranking government officials and bureaucrats and after the interviews, questionnaires were provided to them.

A total of 28 officials were contacted, out of which 21 agreed for interviews and filled the questionnaire. All of the information was gathered and plotted in graphs, demonstrating the intensity of each of the factors in terms of their effects on failure of digitalization in the government sector.

Findings

The surveys and interviews conducted incorporated high ranking officials from government ministries and multiple associated departments and organizations, including Ministry of Religious Affairs and Interfaith Harmony, Ministry of Planning Development & Special Initiatives, National Database & Registration Authority (NADRA), Federal Investigation Agency (FIA), Federal Board of Revenue (FBR), State Bank of Pakistan, Zarai Taraqati Bank Limited (ZTBL), Pakistan Post Office and Quaid e Azam University Islamabad among others. This procedure remains feasible due to the fact that public sector organizations at the federal level possess similar features, corporate norms and practices as well as related duties of the key persons and officials.

After the analyzation of the results, it was concluded that the answers from all the respondents were unanimous up to a considerable extent in terms of indicating the factors that prove fatal for the processes of digitalization in Pakistan. The results were almost as expected; however, a few new aspects were uncovered that have not previously been scrutinized. The details of the findings are discussed as follows.

Efforts for Digitalization

The respondents, across various factions, were asked on how long had their departments been working on incorporating initiatives and procedures of digitalization in their system. The answers are illustrated as follows:

Figure 1: Number of Years of Working on Digitalization

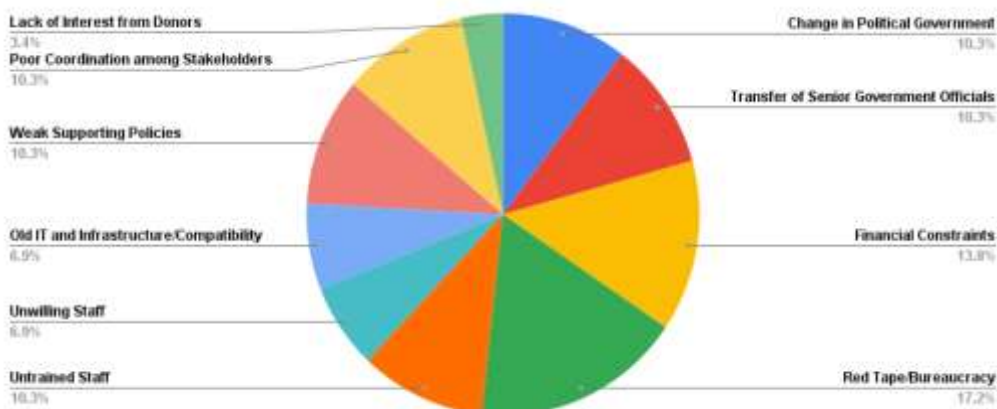


Figure 1 demonstrates that a considerable number of departments have been working on digitalizing their system for almost a decade now, with others since over half a decade. This is a display of the fact that governmental efforts into incorporating digitalization in the public sector are significant, yet results have not been as much as expected. There is a multitude of reasons for this, which are defined as next, in accordance with the responses obtained through the research.

Ratio of Intensity of Factors

The factors identified mainly include financial constraints, inability and incompetence of the staff, change in the political government, bureaucratic structures and others. The intensity of the effect of these factors on failure of efficient digitalization is demonstrated in figure 2.

Figure 2: Ratio of the Effect of Factors on Failure of Digitalization



According to the results of the survey, it is evident that the most persistent and unanimously accepted reason causing the failure of effective digitalization is the current bureaucratic system based on highly ordered Weberian structures of rigid red tapism. The second most common factor is the hurdle of finances, described as lack of proper funding, corruption within and among the departments, economic regression and fraudulent outsourcing, which will be discussed afterwards. The results are demonstrated in the following table:

Table 1: Factors of failure and their percentage effect

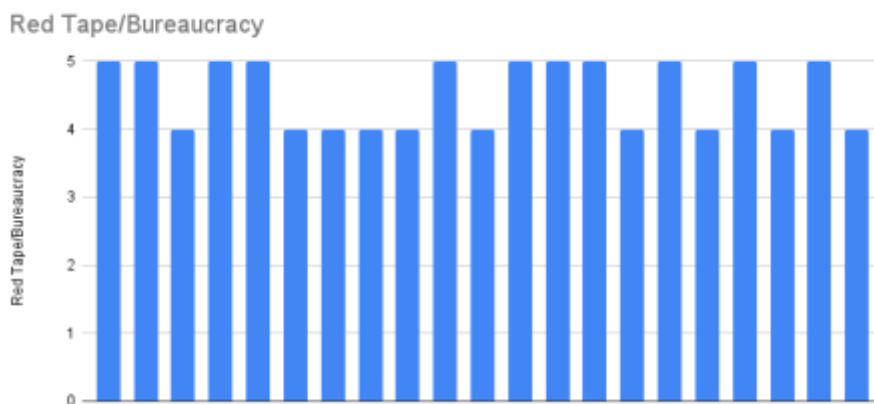
Factor of Failure	Percentage of Effect
Lack of interest of donors	3.4%
Poor Coordination among stakeholders	10.3%
Weak supporting policies	10.3%
Old IT and infrastructure/compatibility	6.9%
Unwilling staff	6.9%
Untrained staff	10.3%
Change in political government	10.3%
Transfer of senior officials	10.3%
Financial constraints	13.8%
Red tape/bureaucracy	17.2%

In the interviews, most of the officials agreed that the current hierarchical structure of bureaucracy – marked by improper democratization and based on classic models which are of less relevance in the postmodern world – is a prime reason why digitalization efforts. However, continuing for over a decade now, cannot seem to reach a decisive efficiency.

Red Tape/Bureaucracy

Figure 3 displays the responses of officials in terms of stating the intensity of red tapism on failure of implementation of digitalization, on a scale of 0 to 5 indicating lowest to highest. It is evident that respondents have marked this as the highest common factor in this regard constituting the most common answer, as illustrated already in figure 2.

Figure 3: Role of red tapism in failure of digitalization (Survey responses)

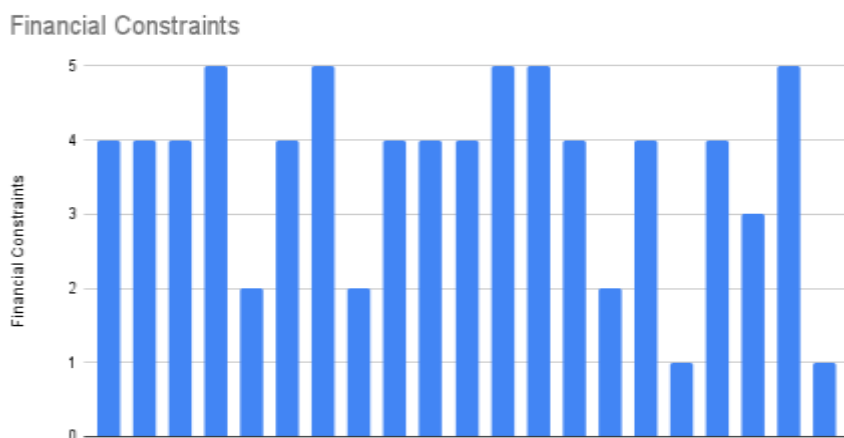


The intensive and strict system of bureaucracy in terms of officials, networking, current practices and systems and accepted rules and regulations proves itself not only difficult to change but also fails to effectively induce and embrace new ideas and practices. Therefore, the efforts to induce ICT into the current system proves harder than expected.

Financial constraints

The factor with the second highest percentage of unanimity was that of financial constraints. The results are shown in Figure 4 as follows.

Figure 3: Effect of Financial Constraints on Failure of Digitalization (Survey Responses)



Although efforts are being made for digitalization, a major hindrance that leads to inefficiency in various aspects is lack of proper finances. Pakistan is a developing country with a relatively weak economy; therefore, the budget does not allocate much for improving the governance structures. The incorporation of ICT into governance and public service is a feature that is not appropriately funded, and the departments and organizations cannot proceed suitable without finances. Furthermore, the lack of Public Private Partnership is also a reason financial hurdles are not being able to overcome.

Conclusion

In accordance with the data gathered through surveys and interviews, it can be concluded that there are a number of factors leading to failure of implementation vis a vis initiatives and practices of public sector digitalization, some of which were previously unknown and had not been incorporated in research literature.

There have been substantial efforts for digitalization in Pakistan but an abundance of factors proving an obstacle in the progress of implementation of these initiatives and projects.

Firstly, the research has concluded that most of the departments and organizations of the public sector have been working on digitalization for almost a decade now. Secondly, it is evident that the constraints of red tape and current bureaucratic structures have the highest influence on the model of digitalization in public sector due to the strict curtailments of the system. Even if the initiatives for digitalization and E-governance are worked on, if the bureaucracy is not either efficient enough or sincere to their duties, the implementation cannot succeed.

Also, the second most prevailing factor with a high impact is that of financial constraints. Monetary issues curb the possibilities of achieving desired results of digitalization and incorporation of ICT into the public sector. In a country with compromised economic conditions like Pakistan, there is no adequate allocation of funds for digitalization and incorporation of ICT in the public sector. Also, programs contingent on funds are seen to fail due to issues of corruption within the departments, outsourcing of funds for personal purposes and lack of financial transparency. Other major factors include change in political government; an unstable democratic structure with short-lasting and unsteady governments leads to failure of most new projects. It is further concluded that unwillingness and utter inability of the staff in public sectors also proves a hindrance in proper implementation.

We recognize several limitations for this study. Firstly, there are scores of organizations and authorities of public sector on the federal level, out of which this study has targeted and analyzed 21; therefore, an opportunity lies here for future researchers to conduct the analysis on a greater scope. Furthermore, our study recognizes concepts of digitalization and ICT on a generalized level and does not contain a detailed comparison of the specific technologies being used in the organizations. This leaves a gap for future researchers to identify the technological aspects in detail and conduct a rather quantitative and in depth research in this regard.

Recommendations

Pertaining to the findings of the study and current state of affairs, some recommendations are listed that, when considered in implementation of digitalization in public sector, may bear high efficiency and desirable results.

- The policies and initiatives of digitalization for the public sector should be formulated after a buy-in from the political sector as well as the bureaucracy as to keep them on one page in terms of implementation of such policies.
- Funding should be increased for ICT programs for the public sector. This can be done by either allocating enough finances for this purpose into the yearly budget or collaborating with the industries and private sector in Public Private Partnerships.
- Programs of awareness may be conducted through committees and organizations which may incorporate the need and significance of digitalization for the public sector as well as training for the employees and public servants.

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