





Complexities and Challenges of Multi-stakeholder Involvement in Digital Transformation in the Global South: The Machine-Readable Passport Project in Bangladesh

Ahmed Imran^(✉)  and Safiya Okai-Ugbaje 

School of Information Technology and Systems, University of Canberra, Canberra, Australia
ahmed.imran@canberra.edu.au

Abstract. Digital transformation initiatives must meet specific demands, mainly to improve existing processes or provide a more efficient way to address a problem or situation. When such interventions are required for large projects in the public sector, the involvement of multiple stakeholder groups becomes inevitable. The literature indicates that this often leads to complex stakeholder interrelations and conflicting interests because of diverse perspectives and power dynamics. This paper presents the case of a machine-readable passport project whose purpose was to automate the passport transaction process in Bangladesh; that involved multiple organisations with diverse portfolios from the public and private sectors. Although considerable success was achieved, it was not without challenges because of the complex power dynamics and the sociocultural and political environments of the various stakeholder groups involved. Using the salience model, this study examined stakeholder relations, interests, and power plays and provides rich insight into the complexities and challenges of the stakeholder relationships. Data were collected from a series of interviews, focus group discussion, and observations of participants during the early stage of the project. The findings suggest that information and communications technology innovation, implementation, and organisational change in developing countries is deeply rooted in sociocultural and organisational norms, vested interests, and power politics at multiple levels. In addition to contributing to new knowledge in digital transformation interventions in developing countries, the study has policy implications and practical lessons for designers and implementers working in developing countries.

Keywords: Complex ICT projects · Digital transformation · ICT for development · Public sector · Salience model · Stakeholder management · Digital inequality

1 Introduction

Despite some variations in the definition of a stakeholder, it is predominantly anchored in Freeman's definition [1] of stakeholders as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (p. 46). Over time, this definition has evolved beyond referring to organisational settings to include a variety of contexts and disciplines, including project management. Hence, it is generally agreed that a stakeholder is anyone who can affect or is affected by the process of a project, its outcome, or both [2, 3]. Due to their growing demands and complexities, most large IT interventions require diverse stakeholder groups. As a result, it becomes necessary to consider the interests of those groups and their effects on the project [4, 5]. This promotes transparency, inclusive decision-making, and actions necessary to ensure that the final product meets specifications and achieves the intended objectives; however, it also presents many challenges [6, 7].

The involvement of a diverse range of stakeholders triggers uncertainties and controversies because of complex stakeholder interrelations, power dynamics, and conflicting interests [4, 8, 9]. Stakeholder analysis is a valuable tool in understanding and managing such multi-stakeholder influence and power imbalance [10, 11]. Hence, there is a growing body of literature on stakeholder identification, engagement, and mapping. However, studies that bring together these relevant aspects while considering complex stakeholder interrelations from the context of a developing country such as Bangladesh are scarce. Therefore, the goal of this study was to provide such a perspective by analysing the roles of various stakeholder groups involved in an extensive IT intervention, the machine-readable project (MRP).

The MRP was a large multistakeholder initiative to automate the passport transaction process in Bangladesh. As in many other developing countries, Bangladesh's business entities and government agencies lacked the high proficiency required to deal with paperless transactions such as those in the MRP. The project involved several contextual and noncontractual parties and entities from eight distinct and diverse groups. They comprised Bangladesh military task force's project management office (PMO), ministry of foreign affairs (MOFA), department of immigration and passports (DIP), the special branch (SB) of the police, external vendors (local and multinational), the Sonali Bank (a commercial bank), the prime minister's (PM's) office, and the general public (citizens who apply for passports). Although the project has been rolled out, and still evolving with multiple iterations and phases including a complete biometric e-passport, this paper focuses on the stakeholder interrelations in the course of the project and the challenges encountered, particularly during the initial phases. In addition to technological inadequacies that threaten the success of IT projects in developing countries, the MRP also faced several challenges because of complex stakeholder interrelations and power dynamics and the socio-political influences in Bangladesh, which were exacerbated by a history of unscrupulous and inefficient business practices typical of many such developing countries [12]. These problems often override technological challenges, and thus become crucial to reduce for the ultimate success of IT interventions in developing countries [13, 14]. It is, therefore, imperative that they are effectively managed.

First, this paper contributes to the body of knowledge of complex stakeholder relations in the unique sociocultural context of a developing country. Spangenberg et al.

[15] and Ginige, Amaratunga, and Haigh [16] argued that the increasingly interconnected nature of the diverse portfolios of stakeholders, which is necessary to address societal challenges in the Global South, require stakeholder analysis to identify, assess, and map stakeholder views and interests, along with their power and influence on project execution. Hence, the second contribution of this paper is its examination of how one of the stakeholder analysis tools, the salience model, enables the categorisation and analysis of stakeholders in a complex web where politics and power dynamics are at play. In view of this, Sect. 1.1 describes the theoretical framework adopted by this study. This is followed by the data collection and analysis techniques in Sect. 2 and the findings in Sect. 3. The paper concludes with some reflections and discussions on what the findings mean in terms of the theoretical framework, prior literature, and further research directions.

1.1 Theoretical Framework

Stakeholder analysis provides a strategic pathway to understand, assess, and manage the interests and needs of a diverse range of stakeholders [17, 18], while strategically identifying the roles and responsibilities of each stakeholder and their influence on the project [2, 19]. Accordingly, an array of stakeholder analysis tools and techniques exist. Most of them centre on power versus interest grids [20, 21], providing a basis for prioritising stakeholders based on power and interest while aligning their influence and corresponding effects on project outcomes [20, 22]. Other useful tools include the onion model and 9Cs stakeholder analysis framework for identifying and classifying critical stakeholders [23]; stakeholder categorisation based on descriptive accuracy, instrumental power and normative validity [24]; and the triangle framework to understand stakeholders' expectations and fears [25]. Although these tools and techniques provide valuable strategies to manage stakeholder influence and improve project outcomes, the salience stakeholder model in addition to assessing power, uniquely recognises and emphasises stakeholders' legitimacy and urgency. This enables stakeholder classification based on a recognition of their attributes [26]. This characteristic of the salience model made it an optimal tool for analysing the stakeholders involved in the MRP because of the diverse portfolios of each stakeholder group. Moreover, the salience model has been widely used in information systems research to identify, classify, and prioritise stakeholders based on their possession of one or more attributes and to examine their influence on project outcomes (see, for example, [27, 28], and in the context of developing countries [14, 23, 29]). The findings of these studies suggested that the salience model is an appropriate tool for the MRP project.

1.2 The Salience Model

The salience stakeholder model developed by Mitchell, Agle, and Wood [30] is based on three key attributes: power, legitimacy, and urgency. The framework conceptualizes *power* as the measure of authority a stakeholder has to influence the execution of the project; *legitimacy* as the measure of how much right a stakeholder has to make a request; and *urgency* as the measure of how much immediate action, attention, or response a stakeholder can demand. Based on these, Mitchell, Agle, and Wood [30] defined salience

as the degree of priority given to stakeholders based on their possession of at least one of the three attributes. Building on these, the authors developed a typology that categories stakeholders according to their possession of one, two, or all three attributes. A brief account of different kinds of stakeholders according to Mitchell, Agle, and Wood [30] and their corresponding typology and attributes is given below, followed by a summary (Table 1).

Latent: Stakeholders in this category have only one of the three attributes; hence, they have low salience and are less likely to substantially affect decisions that might affect the project. Latent stakeholders with *power* are in the dormant category; they can impose their demands but have no legitimacy or authority to demand urgency. A stakeholder with only *legitimacy* is considered discretionary; they have the right to make requests but no power to influence the project or demand urgent actions. Finally, stakeholders with only *urgency* can make urgent claims but lack the power or legitimacy to move their claims. However, any latent stakeholder can acquire additional attributes and become more salient.

Expectant: Stakeholders in this category have two of the three attributes. They have moderate salience and a higher probability of influencing the project. Those with *power* and *legitimacy* are called dominant stakeholders due to their influence on vital decision-making processes because they have the legitimacy to make requests and the power to enforce their will. Stakeholders with *urgency* and *legitimacy* are called dependent stakeholders because although they have the right to make claims and demand urgency, they have no power to enforce their will. Finally, there are the dangerous stakeholders, who possess *power* and *urgency* but lack legitimacy. Dangerous stakeholders might be coercive. They must be watched closely and managed cautiously.

Definitive: Stakeholders in this category have all three attributes and therefore have high salience. They have the legitimacy to make requests, the power to enforce change, and the authority to demand urgency.

Table 1. Stakeholder categorisation in accordance with the salience model (based on Mitchell, Agle, and Wood [30])

Stakeholder class and salience degree	Attributes	Typology
Latent stakeholders (low salience)	Power	Dormant
	Legitimacy	Discretionary
	Urgency	Demanding
Expectant stakeholders (moderate salience)	Power and legitimacy	Dominant
	Urgency and legitimacy	Dependent
	Power and urgency	Dangerous
Definitive stakeholders (high salience)	Power, legitimacy, and urgency	Definitive

The uniqueness of the salience model in analysing stakeholders according to their influence, as determined by the attribute(s), made it a useful tool to categories and analyse stakeholders involved in the MRP. Accordingly, the research questions this study aimed to answer were:

- What attributes of the salience model are possessed by stakeholders in the MRP project?
- What complexities and challenges, if any, arise from the diverse stakeholder groups involved the MRP project?

2 Methods

Given its exploratory nature, this research employed a qualitative interpretative case study approach to gather and analyse the study's data [31]. Interpretive research helps understand human action in social and organisational contexts and provides deep insights into information systems phenomena [32]. The objective was to generate a variety of disciplinary and stakeholder perspectives that could provide clear understandings and potentially uncover major underlying problems in the MRP project.

2.1 Data Gathering

Data were collected through a series of face-to-face interviews, one focus group discussion (FGD), and on-the-ground observations from September to October 2012. Fifteen semi-structured interviews were done with the relevant and major project stakeholder categories, each lasting 1 to 1½ h. The chosen strategy was to interview a sample of staff members directly involved in the MRP project development who could provide rich insight into the entire project and its associated problems. Although, the project had eight stakeholder groups, data for this study were collected from the four major stakeholders who were responsible for executing the project. The top-level distribution of the interviewees is shown in Table 2.

Table 2. Description of study participants

Major stakeholder group	Typology	No. of participants	Code used in analysis
Department of immigration and passports (DIP)	Dependent	3 (top- and mid-level)	DIP 1 to 3
Project management office (PMO)	Dominant	7 (top-, mid-, and front-level)	PMO 1 to 7
Special branch of police (SB)	Dormant	2 (mid-level)	SB 1 and 2
Vendor groups	Dependent	3 (top- and mid-level)	V 1 to 3

Supplementary and follow-up questions were used to encourage further elaboration or to check the meaning that interviewees associated with certain words they used. However, the aim at all times was to provide opportunities for the interviewees to reveal their experience of the phenomena as fully as possible, without the interviewer introducing any new aspects not previously mentioned by the interviewee.

Next, an FGD involved at least two representatives from the four major stakeholder groups: PMO, DIP, SB, and vendors. The FGD participants were chosen based on their ability to provide different perspectives on the challenges. As such, the FGD provided a commentary and rich insight in addition to the individual face-to-face interviews, and provided an additional platform to exchange and clarify each stakeholder's viewpoints, concerns, and interests. The FGD protocol included the application of a 'nominal group technique' (NGT) to identify and prioritise challenges from each group in a more structured way than discussion alone [33, 34]. The NGT method allowed each person to spend several minutes in silence individually brainstorming all possible challenges without consulting each other and then write the challenges on yellow Post-it notes, one per page. Those were posted on a flip chart visible to the entire group for further grouping and discussion. That process facilitated the analysis of the theme, and formed categories based on clarifications and discussions among participants.

Ethical clearance was obtained following the UNSW's ethical clearance process. All interviews and the FGD were tape recorded, and the recordings were transcribed with the interviewee's permission. However, participant names and clear designations were not revealed, to maintain confidentiality as per the ethical clearance.

2.2 Data Analysis

The qualitative data analysis tool NVivo (version 10.0) was used to store, code and analyse all the qualitative data including the FGD, interviews, and field notes. Analysis followed a grounded, bottom up approach incorporating these steps:

1. English versions of the full interview and FGD transcripts were used as source documents for analysis using NVivo 10.
2. Initial coding schemes were prepared following three coding procedures—selective, axial, and open/emerging codes (from the data based on some transcripts).
3. Coding, memoing, and concept mapping were done using NVivo, and new/emerging codes were added during the process.
4. Node-wise reports were produced after all transcripts were coded, which offered some scope to reorganise the data by changing, merging, and adding codes and categories through a second level of analysis, as shown in Figs. 2 and 3.

Further, an iterative process was followed that involved repeated readings of the transcripts in search of the underlying themes and intentions expressed in them, comparing transcripts for similarities and differences, and looking for key structural relations among the key constructs. As more meaningful key themes and dimensions started to emerge (as shown in Table 3), the analysis shifted to confirmation, contradiction, modification, and filtering of emerging themes following the double hermeneutic circle principle of case study development [31]. That continued until a consistent set of categories emerged,

as shown in Table 3. Direct quotes were used to validate and paint a clear picture of corresponding categories and themes or both.

3 Findings

3.1 Stakeholders

There were eight distinct stakeholder groups who had varying and sometimes conflicting roles.

Department of Immigration and Passports. Under the Bangladesh ministry of home affairs, the DIP is the sole authority to issue, refuse, revoke, withhold, recover, and monitor the use of passports and visas for Bangladesh. The department was responsible for overseeing the entire project because it was directly within its jurisdiction. The DIP headquarters has data centres, passport printing sectors, a disaster recovery site, and 34 regional passport offices across the country. Out of 58 Bangladesh embassies, 28 now also issue MRP visas.

Project Management Office (PMO). A military project management and implementation team headed by a brigadier general was placed under the home ministry on deputation to implement the MRP project, initially for a duration of 2 years. The team included officers with electrical and mechanical engineering backgrounds from the corps of electronics and mechanical engineers, signals, artillery, and other branches, including navy and air force representatives.

Special Branch of Police. The SB is involved in passport issues in two ways: for verification and background checks and for immigration control at all border posts. According to the manual of rules and orders for the working of the district special branch in Bangladesh (1919), the SB is responsible for verifying passport applications. Special branch offices must wait until they receive a hard-copy application. Despite the intricacies of receiving a hard copy from MRP offices, verifying, and reporting back to the MRP offices, the process takes an average of only 8–10 days.

Vendor Groups. The project vendor group was part of a consortium. The original tender bid was won by Irish JV, which comprised Irish Corporation Malaysia as the solution provider, Data Edge limited Bangladesh as the hardware provider, and Polish Security Printing Works as the passport book provider. Irish JV also subcontracted iPeople to provide operational support by ensuring an adequate number of personnel, which Irish JV did not have. To run the day-to-day operation, Irish JV required 700 people but had only 100; they were sourced by iPeople.

Ministry of Foreign Affairs. MOFA staff were involved as stakeholders to ensure execution of the project in line with the ministry's mandate and international best practices. The MOFA controlled not only the issuing of red diplomatic passports, but also issued, managed, and provided manpower for consular services to all missions.

Sonali Bank. This was the only bank designated and authorised to collect and disburse all revenue related to the project, including accepting passport fees from citizens.

Prime Minister. The PM of Bangladesh had the supreme authority and final say about the major decisions, choices, and directions of the project, which might have superseded any activities and arrangements.

Citizens. The citizens of Bangladesh were the primary users and recipients of MRP services.

The eight distinct stakeholder groups had varying and sometimes conflicting roles. As indicated, the DIP was initially responsible for overseeing the entire project because it was directly within its jurisdiction. However, the DIP was sluggish in executing the project. Consequently, the office of the PM, based on the Bangladesh army's previous involvement and success in a very low cost national ID card project (with one-third of the total budget, a rare feat to prepare a voter database for 80 million people within 18 months), decided to give the project implementation responsibility to the Bangladesh armed forces PMO in collaboration with relevant stakeholders. With the appointment of the PMO, the project gained momentum, albeit amid some feelings of lost control and dissatisfaction among the DIP and other stakeholders.

3.2 Stakeholder Saliency

Data analysis showed that all eight stakeholder groups had at least one attribute of the saliency model indicated in Table 1. Stakeholders such as the PMO, SB, MOFA, and DIP had some degree of each of the three attributes based on their fundamental responsibilities and how those roles affected the project directly and indirectly. However, within the purview of the MRP project, only the most prominent attributes with a direct effect on the project implementation and outcome were considered, as shown in Fig. 1.

The Sonali Bank, by virtue of its role in the project, was a discretionary stakeholder. It had the legitimacy to request changes or suggest a more efficient way of processing payments but had no authority to demand that its requests be acted upon urgently or power to impose its will.

The vendors were dependent stakeholders because they had the legitimacy to make requests and were in the position to demand that their requests be acted upon urgently when deemed necessary for the expected project outcome; however, they had no power to enforce their demands.

The SB, on the other hand, seemed to move between various stakeholder categories. By virtue of their fundamental roles in maintaining and enforcing law and order, they had the power to impose their will to instate security requirements and the authority to demand urgency in meeting such requests. This made them dangerous stakeholders. However, in the absence of such threats, they were dormant stakeholders, with only power and no legitimate relation and authority to demand urgency.

The MOFA, by ensuring the execution of the project in line with the ministry's mandate and international best practices, had the power to demand changes and the right to request that their demands be acted upon urgently; hence they were dangerous stakeholders.

The DIP at the inception of the project was the definitive stakeholder because they had the mandate to oversee the project and ensure compliance with global MRPs. However,

changes mandated by the PM's office led the DIP to lose the power attribute, which made them dependent stakeholders for the purpose of the MRP project.

The PMO, on the other hand, acquired power in addition to their legitimacy and hence became dominant stakeholders who influenced vital decision-making processes that led to a positive turnaround in the project implementation and outcome.

The PM was the definitive stakeholder, having all three attributes. Our understanding of the salience model suggested that citizens who apply for the MRP fell into the demanding category because they might make claims and demand that their claims be met urgently. However, in the context of that project, they lacked the power and legitimacy to enforce and move their claims. Figure 1 shows where each identified stakeholder group sat within the salience model.

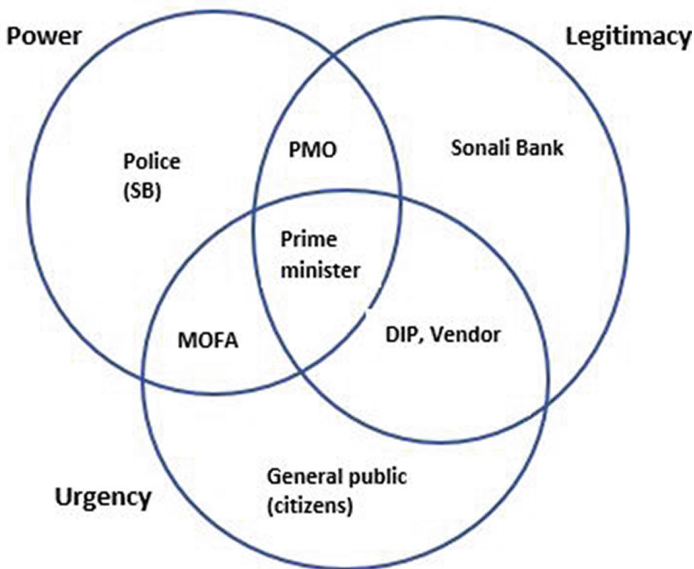


Fig. 1. Stakeholders position on the salience model (adapted from Mitchell, Agle and Wood 1997)

3.3 Complexities and Challenges

In determining how the above classification affected stakeholder interrelations, many challenges were revealed in our findings. Complexities arose mainly from a lack of stakeholder analysis, absence of project management methodologies, lack of planning and change management, different work cultures, and power dynamics. The findings also indicated that most stakeholders did not clearly understand their and other people's roles in the project. This was caused by an ad hoc arrangement with confusion at various levels in the absence of a project document specifying clear roles. Even seeking clarification on those ambiguities appeared risky because they were highly contentious and sensitive issues for different players and groups with varying and unclear power structures. As a

result, various stakeholders other than the project director adopted a dormant, wait-and-see behaviour. The communication gap between the PM’s message and the understanding among important stakeholders was evident. Thus, the MRP project took approximately eight months to make a start. Figures 2 and 3 show some of the themes and categories that emerged from the analysis with NVivo.

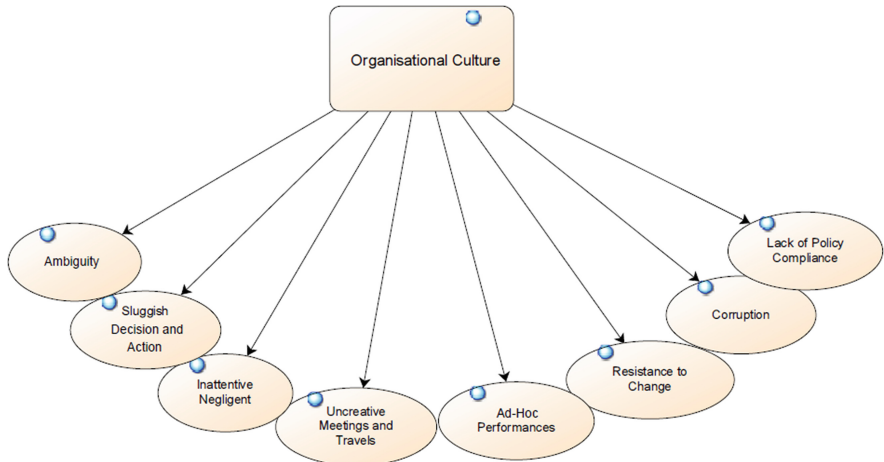


Fig. 2. Project challenges resulting from organisational culture

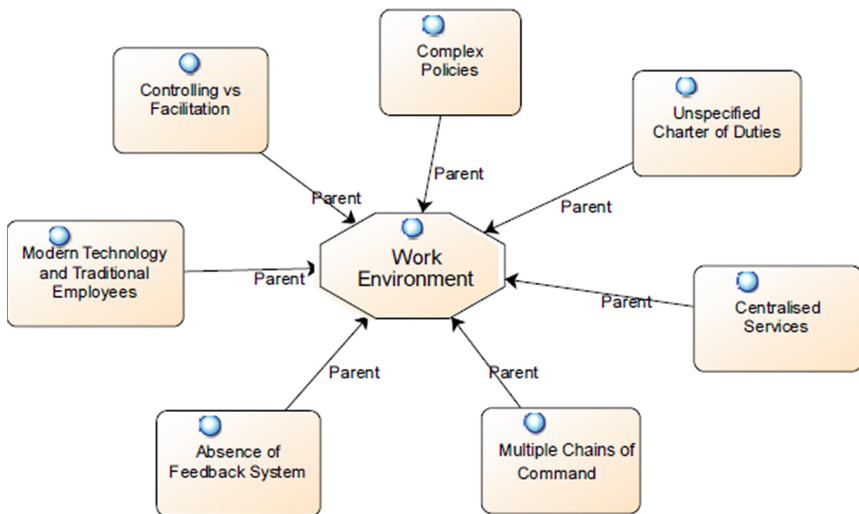


Fig. 3. Challenges from the project work environment

The data trail leading to these categories from interviewee responses were unpacked as follows:

The lack of clarity of each stakeholder's role led to difficult working relations and a sense that vested interests and gains were often prioritised over project goals and outcomes. For example, one respondent (V 2) noted that '*A big number of inefficient government people are enjoying the project but do nothing... the government people have different personal interests (like promotion, appreciation, international trips, etcetera.)*'. An unclear reporting structure, lack of transparency in the business process, and compartmentalised information sharing within various clusters generated a culture of mistrust and power struggle among the stakeholders, as noted by one of the respondents: '*... people were not transparent, they did not want others to access the information that they hold because this would not give them power*' (V 1).

For obvious reasons, the introduction of the PMO run by armed forces was not taken positively by the DIP: It was seen as a demeaning response to their inefficiency and lack of capability to handle the project, where they had to hand over the control of that very lucrative project following the instruction of the PM's office. A perception also prevailed that DIP officials were resistant to change because the automation of passports threatened their very large extra income from the existing paper-based passport issue system. As one of the stakeholders from the DIP said, '*If outsiders get into our organisation, we will not have freedom at our work*' (DIP 3). The army's involvement ended the DIP's full power to be in charge of the project. That was evident in the concern expressed by one of the vendors, who described the DIP as the 'main actors' of the project, felt sidelined, and seemed less interested in the project.

Some form of noncooperation, if not open, was noticed by external vendors as well: '*... now the situation is like that they [DIP people] are happy if something goes wrong in the project, although they do not express them verbally*' (V 2). Stakeholders seemed to be bickering among themselves, and the army also expressed displeasure with the way other departments discharged their responsibilities: '*... we usually work very fast in the military. However, we do not get fast response from ministries and DIP*' (PMO 2). Such complaints were unsurprising given the complex bureaucratic processes that seemed to accompany basic information sharing among departments, leading to unnecessary delays. That was evident in the frustration expressed by one of the project officials (an army person) who complained that a simple task that could be resolved over the phone underwent an unnecessarily long process '*... they send letter after ten days or a month. It takes another few days to reply, and they reply without understanding the issue*' (PMO 1). A focus group participant (SB 1) noted that the unnecessary delays in processing information were not unrelated to a 'show of power' and the need to feel in control, leading to a lack of cooperation and inefficiency. It is believed that the difficult working relations, especially between the army and the DIP, were related to the fundamental shift made by the PM's office, which put the army in charge of the project rather than the DIP. Losing the power attribute would have made the DIP feel threatened and less in control of the project. Unproductive foreign trips and field visits were also stated as another characteristic of the government staff culture. Government officials were described as 'tourists' who went on foreign and local trips without producing reports that could aid institutional learning '*... because they do not have the technical capacity to supervise or understand the issue*' (PMO 5). A more detailed account of the associated challenges

resulting from the identified complexities and their corresponding quotes is shown in Table 3.

Table 3. Complexities and associated challenges in the machine-readable passport project

Complexity	Associated challenges	Corresponding quotes and responses
Lack of stakeholder analysis and project management methodologies	Limited understanding of one's own and other people's roles	<i>'I did not have any prescribed job description. We were not sure if we were under the DIP. Head of DIP and chief of army did not have same understanding on the roles of army when the project started'. (PMO 3)</i>
	Multiple chains of command	<i>'I have two bosses who need to be briefed regularly, in addition to a senior government official who is interested in the project. All of these meetings were not guided by any documentary procedures or formal documentation, and I had to rely on the memory of other people at these meetings as evidence of meeting discussions'. (PMO 3)</i>
	Absence of a defined feedback loop or system	<i>'The government system does not have a feedback system either from general people or junior staff members... email accounts created are not being used, and there is no clear process to get feedback from people if they would like to report something... no internal feedback system'. (PMO 7)</i>
	Unspecified or undocumented duties and tasks	<i>'We were providing service based on verbal understanding, due to bureaucracy... they [government officials] have not been able to make decisions even at this critical time'. (V 2)</i> <i>'... neither the project document nor any of the consultations provided clear directions of the scope of work'. (PMO 4)</i>
Absence of performance and value measurements and metrics	Unproductive meetings and travel	<i>Inter-ministerial meetings were 'fruitless' because they did not have open discussions. Usually, the meetings would end without any fundamental decision. (PMO 6)</i> <i>'... having some cups of tea and biscuits and returning back without any conclusive decision have been our reality'. (PMO 6)</i> <i>'They made numerous foreign trips to different embassies and countries without bringing any constructive inputs to the project'. (V 3)</i>
	Absence of defined obligations and rules	<i>There is nothing called weekly meeting, project management, daily meetings, no one's work is defined, when any problem occurs everybody is pinning their heads (PMO 7)</i>

(continued)

Table 3. (continued)

Complexity	Associated challenges	Corresponding quotes and responses
Different work cultures	Complex bureaucratic processes resulting in sluggish decision-making and actions	<i>As a private organisation, we do not have bureaucratic decision making... we complete planned activities on time with the agreed quality (V 1)</i> <i>Government mechanism is slow to make and implement decisions (DIP 2)</i>
	Different perspectives, work values, and goals	<i>The army has a chain of command, and they follow the order of their bosses without any further delay.</i> <i>However, civil service has complex bureaucratic processes together with some attitudinal issues (PMO 3)</i>
	Nepotism and favouritism rather than due process	<i>'You must take actions if there is a mistake either by your friend or ally. However, they favour some and do not take any action even if the mistake is serious'. (V 1)</i> They do their personal jobs which benefit their family, relatives, friends, in-laws, or neighbours (V 1)
	Strong resistance to change	<i>'The government people although they have exposure and training, would like to maintain status quo and do not like to accommodate the change to their work' (V 2)</i> In the policy, they have a word 'ittadi' (similar to 'etc.')
Gratification and reward	Vested interest	The government people had different personal interests (like promotion, appreciation, international trips, etc.) from the project and did not listen to the recommendations offered by different private companys about the technical and time problems of the project during development of project document (V 2)
	Power dynamics	... because of 'amlatantric jotilota' (red tapism) nobody would like to delegate and share the power that they have been enjoying (SB 2)

4 Discussion and Conclusion

This study used the salience model as a theoretical lens to analyse and understand the influence of the various stakeholder groups involved in the MRP and their effect on the project implementation and outcome. The salience model uniquely classifies stakeholders based on their attributes and considers changes that might arise due to the loss or possession of additional attributes, as well as the diverse interests and (potential) conflicts of stakeholders [35]. Based on this model, this study first identified the attributes possessed by each stakeholder group in the MRP project and their degree of salience, and second, determined the effect of this analysis in managing multiple stakeholders with competing and conflicting interests.

Surprisingly, our findings indicated that despite of the apparent importance of stakeholder analysis to aid successful project implementation [14, 18, 25], no formal analysis was undertaken at the inception of or at any point in the course of the project. Indeed, Şener, Varoğlu, and Karapolatgil [36] noted that the concept of stakeholder analysis is still in its infancy in developing countries. It is believed that the absence of such an analysis was the root cause of the complexities and challenges encountered in the project, given that multi-stakeholder interrelation in itself is a source of project complexity [18]. Conducting a critical stakeholder analysis where the degree of engagement of each stakeholder is considered, along with a detailed engagement guideline and communication plan provides the basis for managing complex stakeholder interrelations [19]. This parallels the findings of Nguyen et al. [18] who argue that ‘involvement’ and ‘participation’ are two key elements for successful stakeholder engagement in complex multi-stakeholder projects. Both elements encourage openness, dialogue, and active engagement in accordance with stakeholder classifications and attributes, mostly amongst stakeholders with power and legitimacy [18].

According to the salience model, stakeholders who have legitimacy have much weight because their influence is based upon their possession of virtues perceived to be desirable, proper, or appropriate [30, p. 869]. Hence, based on its professional portfolio, the bank was an important stakeholder in the MRP project. However, its lack of power or urgency meant it had no right or voice to empower its claims. The PMO, however, gained authority because they acquired power. At the inception of the project, the PMO had only legitimacy. However, a mandate by the definitive stakeholder, the PM’s office, requested that the PMO be given additional responsibility based on their evident success in a previous project and demanded that the request be acted upon urgently. That led the DIP to lose an attribute and the PMO to gain one. The additional responsibility given to the PMO required that they take control of key responsibilities in the passport automation process, which gave them the authority to impose their will on how they believed things should be done. The acquisition of power gave PMO a higher degree of salience, and by becoming dominant stakeholders were more active and empowered to advance their interest for desired outcomes [28, 35]. It is not uncommon for stakeholders to move within different categories [26]. This was evident in the case of the police, whose movements between the dangerous and dormant stakeholder categories were dependent on circumstances. Furthermore, dependent stakeholders, in this case vendors, maintained the same degree of salience throughout the project. The DIP, on the

other hand, seemed to feel threatened because they had lost the power to impose their will.

It is fundamentally assumed that all stakeholder groups and individuals engaged in a project have the same overarching goal of achieving the project objectives despite different notions of how this may be achieved [37]. However, dividing stakeholders into supply and demand stakeholders provides clear and distinct stakeholder categories early on in the project [29]. In this instance, the demand category are stakeholders for whom the project is undertaken, that is, the beneficiaries of the project outcome while the supply category are stakeholders responsible for undertaking the project through funding, design, or implementation [37]. Such categorization provides a concise distinction of stakeholders according to their perceived importance and influence on the project, their salience attributes, and how best to manage stakeholder interrelations. Further categorisation according to degree of salience will help determine a clear chain of command and reporting structure. This is especially important in a situation like the MRP project where stakeholders are directly and indirectly known to each other, either from working together or a perceived understanding of each other's fundamental duties. Although, the project did have a project director, even he seemed unsure of his actual responsibilities within the project during inception period. The current structure and organogram of the public sector organizations in many developing countries, such as Bangladesh, are not adapted to accommodate and manage digital transformation initiatives in the public sector organizations [38]. As a result, the lack of clarity of how the primary responsibilities of stakeholders based on their known portfolios translated into definite duties within the project contributed to the difficult working relations and power struggles in an apparently rigid civil service system inherited from the colonial era.

Nevertheless, the works of De' [37] and Thapa and Sæbø [29] provide evidence of how such categorization of stakeholders in IT projects in developing countries led to transparency, reduced corruption, better management of conflicts, the counteracting of other difficult circumstances such as power struggles, and it essentially clarified what was expected of each stakeholder in the supply category. This would also help to curb accusations of people not doing 'anything' as reported by one of the vendors, and unnecessary delays. Everyone knowing what is expected of the other within the project would make people, even if for the sake of saving face, put the overarching project goals and objectives over personal gains where those are clearly articulated. Overall, the study adds to our understanding of the complexities and hidden problems surrounding digital transformation in developing countries, the solution of which often becomes critical to success [39].

5 Limitations and Further Research Directions

The findings of this study offer practical and theoretical contributions for future projects requiring multi-stakeholder involvements in Bangladesh. This study has highlighted the need for stakeholder analysis at the project's inception. Because the degree of saliency; that is, the number of attributes possessed by each stakeholder, might shift back and forth from the initial analysis as stakeholders lose or acquire attributes [30], stakeholder analysis must be ongoing as the project progresses to ensure the continued balance of stakeholders' influence at different stages of the project implementation [40].

Although the salience model provides a strong basis and useful framework for classifying stakeholders based on their possession of one or more attributes, we agree with the position of Neville, Bell, and Whitwell [41] who argue that recognizing stakeholders based on the presence or absence of attributes is not sufficient. A broader classification should entail determining how much of an attribute a stakeholder possesses. For example, determining the degree of power possessed by stakeholders with that attribute provides a second layer of classification, and by extension a more precise understanding of each stakeholder's influence and their associated impact on the project. Likewise, determining the individual degrees of legitimacy and urgency possessed by each stakeholder may help determine whose claims and requests should be given priority. Hence, this study advocates that future studies should go beyond only recognising the presence or absence of attributes to determining the degree of possession before categorising stakeholders as latent, expectant, or definitive. In addition to these, future studies may consider using a complexity measurement model for a deeper categorisation of complexities resulting from multistakeholder interrelations.

References

1. Freeman, R.E.: *Strategic Management: A Stakeholder Approach*. Pitman, Boston (1984)
2. Huong, F.T.N.: Stakeholder salience and strategy in event tourism (2017). <http://hdl.handle.net/20.500.11937/17396>
3. Joos, H.C., zu Knyphausen-Aufseß, D., Pidun, U.: Project stakeholder management as the integration of stakeholder salience, public participation, and nonmarket strategies. *Schmalenbach Bus. Rev.* **72**(3), 447–477 (2020). <https://doi.org/10.1007/s41464-020-00092-0>
4. Mukherjee, S.: How stakeholder engagement affects IT projects. *Int. J. Innov. Res. Sci. Eng. Technol.* **8**, 3516–3518 (2019). <https://doi.org/10.2139/ssrn.3415959>
5. Todorow, L.: Understanding multi-stakeholder dialogues: the emerging concept of community of practice within a case study involving the UN Global Compact and the UN Principles for Responsible Investment. *Bus. Peace Sustain. Dev.* **2016**, 8–31 (2017)
6. Ayala-Orozco, B., et al.: Challenges and strategies in place-based multi-stakeholder collaboration for sustainability: learning from experiences in the Global South. *Sustain.* **10** (2018). <https://doi.org/10.3390/su10093217>
7. San Cristóbal, J.R., Carral, L., Diaz, E., Fraguera, J.A., Iglesias, G.: Complexity and project management: a general overview. *Complexity* **2018** (2018). <https://doi.org/10.1155/2018/4891286>
8. Pade-Khene, C., et al.: Complexity of stakeholder interaction in applied research. *Ecol. Soc.* **18** (2013). <https://doi.org/10.5751/ES-05405-180213>
9. Metar, U.: Stakeholder engagement in mega projects. https://www.linkedin.com/pulse/stakeholder-engagement-mega-projects-umesh-metar-pmp-pmi-rmp/?trk=public_profile_article_view. Accessed 30 Oct 2021
10. Heravi, A., Coffey, V., Trigunarysyah, B.: Evaluating the level of stakeholder involvement during the project planning processes of building projects. *Int. J. Proj. Manag.* **33**, 985–997 (2015)
11. Kowalska, O., Haniff, A.P.: Stakeholder complexity and the impact on the perceptions of project success. In: 25th International EurOMA Conference, pp. 1–10 (2018)
12. Ovi, I.H.: Bureaucratic lethargy making doing business difficult. <https://www.dhakatribune.com/business/economy/2020/12/18/bureaucratic-lethargy-making-doing-business-difficult>. Accessed 8 Dec 2021

13. Adnan, T.M.: Stakeholder management in complex projects: an empirical case study (2018). <http://jultika.oulu.fi/files/nbnfioulu-201808312685.pdf>
14. Chigona, W., Roode, D., Nazeer, N., Pinnock, B.: Investigating the impact of stakeholder management on the implementation of a public access project: the case of Smart Cape. *South African J. Bus. Manag.* **41**, 39–50 (2010). <https://doi.org/10.4102/sajbmv41i2.517>
15. Spangenberg, J.H., et al.: Doing what with whom? Stakeholder analysis in a large transdisciplinary research project in South-East Asia. *Paddy Water Environ.* **16**(2), 321–337 (2018). <https://doi.org/10.1007/s10333-018-0634-2>
16. Ginige, K., Amaratunga, D., Haigh, R.: Mapping stakeholders associated with societal challenges: a methodological framework. *Procedia Eng.* **212** (2018)
17. Van Niekerk, M.: The applicability and usefulness of the stakeholder strategy matrix for festival management. *Event Manag.* **20**, 165–179 (2016). <https://doi.org/10.3727/152599516X14610017108666>
18. Nguyen, T.S., Mohamed, S., Panuwatwanich, K.: Stakeholder management in complex project: review of contemporary literature. *J. Eng. Proj. Prod. Manag.* **8**, 75–89 (2018). <https://doi.org/10.32738/jepm.201807.0003>
19. Allen, W., Kilvington, M.: Stakeholder analysis. In: Frame, B., Gordon, R., Mortimer, C. (eds.) *Hatched: The Capacity for Sustainable Development*, pp. 249–253 (2010)
20. Bryson, J.M., Patton, M.Q., Bowman, R.A.: Working with evaluation stakeholders: a rationale, step-wise approach and toolkit. *Eval. Program Plann.* **34**, 1–12 (2011). <https://doi.org/10.1016/j.evalprogplan.2010.07.001>
21. Puranik, S., Bremdal, B.A.: Smart system of renewable energy storage based on INtegrated EVs and bAtteries to empower mobile, Distributed and centralised Energy storage in the distribution grid (2017)
22. Slabá, M.: Stakeholder power-interest matrix and stakeholder-responsibility matrix in corporate social responsibility. In: *The 8th International Days of Statistics and Economics*, pp. 1366–1374 (2014)
23. Kipiriri, L., Donya Razavi, S.: Salient stakeholders: using the salience stakeholder model to assess stakeholders' influence in healthcare priority setting. *Heal. Policy OPEN.* **2**, 100048 (2021). <https://doi.org/10.1016/j.hpopen.2021.100048>
24. Donaldson, T., Preston, L.E.: The stakeholder theory of the corporation: concepts, evidence, and implications. *Acad. Manag. Rev.* **20**, 65–91 (1995)
25. Ilinova, A., Cherepovitsyn, A., Evseeva, O.: Stakeholder management: an approach in CCS projects. *Resources* **7**, 1–16 (2018). <https://doi.org/10.3390/resources7040083>
26. Powell, P., Walsh, A.: Whose curriculum is it anyway? Stakeholder salience in the context of degree apprenticeships. *High. Educ. Q.* **72**, 90–106 (2018)
27. Ortega, C.P., Hernandez, M.J., Martí, E.G., Vallejo-Martos, M.: The stakeholder salience model revisited: evidence from Agri-Food cooperatives in Spain. *Sustainability* **11**, 1–14 (2019). <https://doi.org/10.3390/su11030574>
28. Jonsson, N., Yacobucci, I.: A more sustainable society through stakeholder salience: furthering stakeholder theory by exploring identification and prioritization processes with a focus on intraorganizational perceptions in an SME (2019)
29. Thapa, D., Sæbø, Ø.: How to scale ICT4D projects: a salience stakeholder perspective. In: *Proceedings of the 12th International Conference on Social Implications of Computers in Developing Countries, Ocho Rios, Jamaica*, pp. 741–752 (2012)
30. Mitchell, R.K., Agle, B.R., Wood, D.J.: Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts. *Acad. Manag. Rev.* **22**, 853–886 (1997). <https://doi.org/10.5465/AMR.1997.9711022105>
31. Klein, H.K., Myers, M.D.: A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Q.* **23**, 67–93 (1999)

32. Walsham, G.: Doing interpretive research. *Eur. J. Inf. Syst.* **15**, 320–330 (2006)
33. Varga-Atkins, T., Bunyan, N., McIsaac, J., Fewtrell, J.: *The nominal group technique: a practical guide for facilitators* (2011)
34. Søndergaard, E., Ertmann, R.K., Reventlow, S., Lykke, K.: Using a modified nominal group technique to develop general practice. *BMC Fam. Pract.* **19**, 1–9 (2018). <https://doi.org/10.1186/s12875-018-0811-9>
35. Park, H.S., Lee, Y.H.: Exploring a process model for stakeholder management. *Public Relat. J.* **9**, 1–17 (2015)
36. Şener, İ, Varoğlu, A., Karapolatgil, A.A.: Sustainability reports disclosures: who are the most salient stakeholders? *Procedia Soc. Behav. Sci.* **235**, 84–92 (2016). <https://doi.org/10.1016/j.sbspro.2016.11.028>
37. De', R.: E-government systems in developing countries: stakeholders and conflict. In: Wimmer, M.A., Traunmüller, R., Grönlund, Å., Andersen, K.V. (eds.) *EGOV 2005*. LNCS, vol. 3591, pp. 26–37. Springer, Heidelberg (2005). https://doi.org/10.1007/11545156_3
38. Hussain, B., Imran, A., Turner, T.: Key challenges for establishing CIO position in the public sector of LDCs: a case of Bangladesh. Paper presented at the 27th Australasian Conference on Information Systems, Wollongong, 5–7 December 2016
39. Imran, A., Gregor, S.: Uncovering the hidden issues in e-government adoption in a least developed country: the case of Bangladesh. *J. Glob. Inf. Manag.* **18**, 30–56 (2010)
40. Axelsson, K., Melin, U., Lindgren, I.: Stakeholder salience changes in an e-government implementation project. In: Wimmer, M.A., Janssen, M., Scholl, H.J. (eds.) *International Federation for Information Processing*, pp. 237–249 (2013)
41. Neville, B.A., Bell, S.J., Whitwell, G.J.: Stakeholder salience revisited: refining, redefining, and refueling an underdeveloped conceptual tool. *J. Bus. Ethics.* **102**, 357–378 (2011). <https://doi.org/10.1007/s10551-011-0818-9>