Identifying Project Management Practices and Principles for Public–Private Partnerships in Housing Projects: The Case of Tanzania

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Abstract: Despite the advocated benefits of Public–Private Partnerships (PPPs) such as alleviating the housing problems within the developing countries, the PPP implementation process is fraught with several challenges; including project management (PM) related ones. Tanzania, like many developing countries, has higher PPP projects termination rates in comparison to the global average. This suggests a lack of effective PM practices and principles integration. To bridge that knowledge gap, this study applies the theoretical lenses of innovation diffusion theory (IDT) to identify the extent of integration of PM practices and principles during the implementation of PPPs in Tanzanian housing projects. A qualitative approach comprising 10 semi-structured interviews was conducted among PPP practitioners. Directed content analysis was employed for the analysis. Based on frequency of citations, 14 PPPs sustainable PM practices and principles for PPPs implementation are identified. The three most relevant practices and principles were: official and unofficial site visits, documenting the inspections, and site meetings. Assessing the actual work done against the schedule of works was identified as the prevalent project performance of PPP. The results are expected to further nurture an improved appreciation of the best integration PM practices and principles associated with successfully implementing PPPs in housing projects.

Keywords: project management; practices; principles; public–private partnership; innovation diffusion; housing projects; Tanzania; developing countries

1. Introduction

According to Abede [1], nearly half (50%) of the whole urban stock in Tanzania is composed of informal housing. As a result, Tanzania, as with most emerging economies, and sub-Saharan African (SAA) countries, it has the majority of its urban population proportion living in informal settlements. Most developing countries like Tanzania, have failed to keep up with the growing population. This problem is further exacerbated housing supply issues, and declining spending on in both private and public sector services. As a result, public–private partnership (PPP) strategies are the alternative options for redressing this problem in most developing countries including Tanzania. More so, earlier Tanzanian studies such as [2,3] had previously highlighted the problem. More recently, the implementation of these PPPs has been well thought-out and the next best option to delivering housing as a public service [3–7]. All these interventions are due to this widening gap in the supply of housing. Nonetheless, notwithstanding the implementation of PPPs in housing provision, the dominant difficulties remain unsolved. One example of this is evident in the study by Romero [7] that observed that these challenges affect the delivery of sustainable development outcomes.
To mitigate population growth and subsequent consequences of shortage of housing, as with many governments in developing countries, Tanzania has been stimulated to adopt PPPs strategies which are considered as widespread solutions to delivering housing projects which are considered as affordable and low cost particularly for those on low incomes [8]. However, the Tanzanian government has not been able to deliver these housing projects. Despite this failure, caution is warranted when undertaking PPPs. According to Moskalyk [6], in contrast to traditional procurement process, the implementation of PPPs can be quite challenging. Notably, a huge amount of time is associated with a number of implementation activities such as preparation, training, and experience. The appropriate monitoring and management skills should also be taken into consideration. However, Tanzania, like most developing and emerging economies, is inundated with project management (PM) problems. Similarly, PM is among the challenges identified as facing developing countries with projects failing to meet budget and schedule expectations [9]. Additionally, there are limited studies focusing on the PPP implementation phase [10]. Likewise, within the Tanzanian context, some recent studies such as [11] acknowledged several challenges associated with PPP application. Of the 19 challenges identified, the majority of the highly ranked were PM related with knowledge, planning, contractual, monitoring and PP issues highly featured. These challenges are consistent with previous studies in several developed and developing countries. For example, Australia [12,13], Hong Kong [13], UK [13], Malaysia [14], Tanzania [15,16] and Lebanon [17].

Given the above background and building on renewed calls and classification of seven research themes for more research on PPPs [18], there is clearly a need for undertaking more PPPs empirical studies. Consequently, in reaction to the research agenda emergent from the knowledge gap as identified, namely 'PPPs project evaluation' and 'PPPs performance indicators', which are the fifth and seventh themes respectively, the research objectives are twofold: (1) identification of the extent of integration of PM practices and principles during the implementation of Tanzanian PPPs within the housing projects; and (2) map the identified PM practices and principles to the stages of innovation and PPP lifecycle. The results of this study further nurture an enhanced interpretation of the best integration project management practices and principles for successfully implementing PPPs in housing projects. More so, the identification of the PPPs project management practices and principles provides the opportunity of designing measures to attain the less prevalent ones. Consequently, the outcomes of this study might result in enhanced performance outcomes within the Tanzanian housing sector and economy renowned for its early terminations of PPPs project. The outcomes presented are also pertinent with the context of developing countries particularly those in SAA sharing similar economic conditions that may aspire to undertake further research by examining the applicability of these PM practices and principles. This research would not assist the emerging countries such as Tanzania with formulating and management of PPPs, but as indicated and drawing upon [19] assertions enhance the Tanzanian societal outcomes.

The following is the structure of the paper: Firstly, comprehensive reviews of literature on sustainable PM practices and principles for PPP implementation within housing projects from both within developed and developing economics is undertaken. Then, the conceptualization of the innovation diffusion theoretical lens is proposed. Next, semi-structured interviews with PPP practitioners to identify the relevant PM practices and principles are undertaken. Directed content analysis is used for the data analysis. Lastly, the results and conclusions are drawn by the paper.

2. Conceptualization and Theoretical Basis: Innovation Diffusion Theory

Drawing upon the approach undertaken by [15] study which used a few theoretical perspectives including Gidden’s structuration theory to investigate the PPP challenges, in formulating the current study’s objectives, the innovation diffusion theory was used as the interpretive lens to examine the theoretical problem around innovation (as in PPPs) and knowledge of PM practices and principles. This section provides an overview of the IDT as well as its appropriateness for the study. According the studies by [20–22], the Innovation Diffusion Theory strives for explaining in what way original
concepts, products, and practices are embraced by specific societal group members. Accordingly, there are four stages that should be followed for the adoption of innovation: (1) awareness; (2) decision to adopt (or reject); (3) initial use; and (4) continued use. Likewise, [23] proposed and identified innovation, communication channel, time, and social system as the main elements of IDT. In contrast, the earlier study of [24] identified (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation as five stages of the innovation adoption process. Therefore, our present study used this theory to aid and conceptualize the change processes when new technologies or PPPs (to be more precise) are adopted and diffused through Tanzanian public and private sector organisations. Such an approach of applying and conceptualizing the Diffusion of Innovation Theory was employed by [25] within the health care organisations. However, there are limited studies in the construction industry and specifically the housing sector that have applied innovation diffusion theory as the basis of understanding how PM practices and principles are incorporated as ‘innovation’ during PPPs implementation. Except for one study [26] which used the main facets of innovation within the architecture, engineering, and construction (AEC) context as the basis for proposing an integrated conceptual model. Equally, the IDT theory has been applied in blog website and information studies [27], and corporate and economic competitiveness [28]. In PPPs, this has noticeably been in e-commerce. For example, [19] used the theory to explain how intangible critical success factors (CSFs) define the results of PPPs in e-governance. In other areas, one study [29] used the theory to investigate obstacles, drivers, and strategies that influence the implementation of innovation. Likewise, Obbwegeser and Muller [30] undertook a structured review on innovation in public procurement. For a detailed summary of the theoretical foundations of PPPs research as undertaken in different disciplines, [31] classified the application of the different PPP theories into the following six main theoretical foundations: (1) nature and rationales for PPPs; (2) merit and worth of PPPs; (3) PPP research methods; (4) decisions to undertake PPPs, (5) PPP regulation and guidance; and (6) ex-post evaluations of PPPs; and social theories around the four categories as follows: (1) construction management; (2) public administration; (3) urban studies; and (4) economics development. The absence of the IDT from this study is quite evident. Notwithstanding the omission, the two theories around ‘Sustainable development theory’ and ‘performance ex-post evaluations of PPPs’ were apparent. In summation, within the context of this study, innovation diffusion theory (IDT) is well suited for our study because the main purpose is to seek the ‘knowledge’ and ‘opinions’ of Tanzanian PPP practitioners around the integration of PM principles and practices with the delivery of housing projects using PPPs. As stated by [20], an idea which appears new can be considered as innovation. In Tanzania, PPPs are, relatively, in an infancy stage [15] and can thus be considered as an innovation. The study by [20] further confirmed that, this ‘idea’ can be an opinion, technology, or knowledge. Therefore, given the main purpose of the as outline above, the IDT theory is justified for our study.

3. Literature Review

3.1. Principles of PPP Project Implementation

To enable investigation into identification of the extent of integration of PM practices and principles during the PPPs housing projects implementation in Tanzania, the prevailing PM principles and practices were conceptualized, and several studies reviewed. The summary of the selected studies [6,32], are presented in Table 1 which enables the listing of the identified principles, as well as categorization or mapping into common themes. In addition, due to the PM principles and practices focused nature of the study, the following ten key concepts and project management body of knowledge (PMBOK) areas as identified by the Project Management Institute [33] were included: (1) project integration; (2) project scope; (3) project schedule; (4) project cost; (5) project quality; (6) project resource; (7) project communication; (8) project risk; (9) project procurement; and (10) project stakeholder.
Table 1. List of Public–private Partnerships (PPP) principles and mapped emergent themes.

| No. | Author | PPP Principles | Emergent Themes |
|-----|--------|----------------|-----------------|
| 1   | [32]   | 1. Availability of PPP institutional/legal framework | Through their examination of these eight principles, 3 themes emerged: (1) Enabling environment; (2) PPP skills and awareness; (3) Meeting output specifications. Both the ‘themes’ and ‘principles’ are comparable to CSFs identified in previous studies associated with challenges to PPPs [11] | |
|     |        | 2. Availability of PPP policy and implementation units | | |
|     |        | 3. Perception of private finance objectives | | |
|     |        | 4. Perception of risk allocation and contractor’s compensation | | |
|     |        | 5. Perception of value-for-money | | |
|     |        | 6. PPP process transparency and disclosure | | |
|     |        | 7. Standardization of PPP procedures and contracts | | |
|     |        | 8. Performance specification and method specification | | |

| 2   | [6]    | 1. The interest of the public is supreme | Likewise, in this et, the following 3 themes emerged: (1) Satisfying the need of the public; (2) Measuring output specification; and (3) Measuring project viability. These too are comparable to the challenges and benefits of PPPs as well as potential CSFs identified in previous studies to PPPs [11,32,33] | |
|     |        | 2. Good practices must be maintained throughout the life of the project | | |
|     |        | 3. PPP project should be carefully planned and defined in scope, size and objectives | | |
|     |        | 4. Measuring the viability of the project against the criteria set by the initiating partner | | |
|     |        | 5. The PPP model selected should offer value for money (VfM) | | |
|     |        | 6. Competitive, transparent and fair tendering process | | |
|     |        | 7. For an urban sector PPP project, must mirror the needs of the community | | |
|     |        | 8. Adequate management of the project throughout the agreement period as stated in the contract | | |

Of the above identified PMBOK areas, project risk management is identified as having the potential of optimizing the chances of project success [33]. More so, previous and recent studies such as [8,31] have aligned effective risk management and resources allocations with positive project implementation for the duration of the project lifecycle. However, several studies such as [8,31,34–37] have highlighted the impact of ineffective risk management particularly in underdeveloped PPP markets in emerging economies as affecting stakeholder ability around risk decision-making, appropriate response strategy, and resources allocation. For example, the study by [37] identified construction time and cost overrun among those risk factors influencing public–private partnership (PPP) implementation within the water supply projects. As a result, PPP provides a mechanism for shared risks with the private sector renowned for better management of the risk than the public sector [36]. Other areas of PM performance related issues that can improve PPP delivery includes sustainability performance appraisal [35].

For example, [32] carried a comprehensive analysis of the UK and British Columbia’s PPP program structure, procurement processes, initiatives, VfM assessment reports, contracts formation and documentation, PPPs critical success factors, and PPPs limitations. During that analysis, the study identified eight principles as significant for PPPs project implementation. Nevertheless, the same study by [32] further affirmed that, two important components need to be established and these are; a PPPs unit to oversee the implementation activities and a legal framework (law, policies, and regulations).

Some time management related principles or CSFs for PPPs implementation are also evident in literature [38–43]. For example, within the context of Malaysia, “ample time to evaluate proposal” was among the CSFs in housing projects identified by [39] study. Similarly, within the African context, [43], identified ‘accurate project identification and technical feasibility’ in a Ghanaian study whereas within the Nigerian context, [41] study around the success factors and their suitability for joint venture construction related projects in Nigeria acknowledged the 6 PM factors out of the following eighteen success factors: (1) communication; (2) management control; (3) coordination; (4) effective human resource management; (5) criteria for partner selection; and (6) knowledge transfer. Procurement related PM factors were also evident in the study by [41] which employed survey questionnaires to elicit opinions of the professionals working for government agencies, public, and private institutions in Nigeria, regarding the CSFs necessary for infrastructure delivery. The following 3 out of seventeen CSFs emerged: (1) competitive procurement process, (2) thorough and realistic assessment of the cost and benefits, and (3) transparency in the procurement process.
3.2. Desirable CSFs for Project Management Projects and PPPs

While the focus of this study is on PPPs, there is growing evidence of the willingness of the World Bank to support and fund PPP projects in several developing countries [44]. As such, any CSFs associated with PM and World Bank funded types of projects such as International Development Projects are worth restating here. For example, [45] identified ‘selecting the right project team’ among the CSFs for international development projects. Likewise, [6] identified eight key principles that PPPs should embrace in their implementation to increase the chances of their success (see Table 1). The PPPs principles from both studies have shown some similarities and differences however, the aspect of VfM and adequate procurement process in terms of competition, transparency, and fairness was identified in both studies hence, demonstrating the significance of these two principles. Additionally, it is observed that the identified principles by both scholars are closely related and like the suggested CSFs of PPPs which increases their reliability and validity. Further examination of Table 1 show that “meeting output specification” was common theme in both studies while the other themes complement each other and agree with previous studies (see Table 1). Meeting output specification is also acknowledged within the one of the ten PMBOK areas namely ‘Project quality management’ [33]. Accordingly, this is achieved by having a precise statement of the needs to be satisfied and the essential characteristics that are required ([33], p. 723). More so, the rationale for identifying these CSFs was to map them to the appropriate phases of the PPPs life cycle. Accordingly, Hueskes et al. [46] notes that the PPP lifecycle comprises the following four phases: “project identification”, “detailed preparation”, “procurement”, and “project implementation”. Having discussed the general overview of PPPs, the next section presents a brief discussion of PPPs implementation specifically in the Tanzanian context (the study area) to reveal its state of the art.

3.3. Contextual Background—Tanzanian Specific PPPs

The Tanzanian construction industry is characterized by poor project performance. According to Kikwasi [47], this poor performance is due to the application conventional procurement methods thus not meeting the cost and time requirements. The adoption of PPPs in the Tanzanian construction industry and mainly the housing sector is still relatively in its infancy stage. This is notwithstanding the fact that two of the Tanzanian public sector organisations, the National Housing Cooperation (NHC) and National Social Security Fund (NSSF) have implemented PPPs as another housing delivery tactic since the 1980s and 1990s in form of joint ventures (JVs) prior to the formulation of PPPs policies, guidelines and the Acts [11]. However, despite the efforts in enacting the JVs, according to the ([15], p. 26), Tanzania’s infrastructure is still worse than neighboring Southern Africa Development Community (SADC) countries, such as Zambia’s and Uganda’s, and substantially worse than Kenya’s and Rwanda’s in terms of its impact on competitiveness. The implication of this ‘infancy stage’ of PPPs suggests that the majority of the stakeholders might have limited experience in PPPs and those regulations and norms guiding actions may not be proven ([48], p. 65).

The main contributing aspect is as previously noted in the study by Kavishe et al. [11], namely that it has been the inadequate PPPs legal framework for guiding the application for projects as such and insufficient skills and knowledge in planning, procurement, and management of PPPs projects (Ibid). Despite the absence of the legal framework PPPs existed as far back in 1980s and 1990s but it has mostly been undertaken through the privatization program and mainly involved in direct service delivery [16]. In the last ten years, they were few new investments in physical infrastructure, with a few exceptions in power and communications sector however there has been little success to these projects [15,16]. Most Tanzanian PPPs schemes were shorter because, most of them were in the form of concession. For example, the Kilimanjaro International Airport (Bowers & Khorakian) signed a 25-year concession agreement with Kilimanjaro Airports Development Company (KADCO) in 1998 and the Port of Dar es Salaam awarded a 10-year concession (2000–2010) to the Tanzania International Container Terminal Services (TICTS). Both projects were unsuccessful as they were undertaken in the absence of PPPs guidelines. This was proved in an empirical study by [49] and non-empirical
studies [16,50] that identified main challenges for the unsuccessful implementation of these PPPs in Tanzania.

Kavishe and An [51] investigated the major challenges hindering housing PPPs in Tanzania. The research method adopted was a mixed methods approach comprising a questionnaire survey with a sample of 28 respondents and 13 semi-structured interviewees. Among the 19 challenges identified, the highly ranked (top three) were related to PM as follows: inadequate PPPs skills and knowledge leading to poor planning and application; poor PPPs contract and tender documents; and inadequate project management and monitoring by public sector. Other PM related challenges included ‘inadequate feasibility study’, ‘inexperienced private partner’, ‘unequal qualifications and contributions of expertise’ and, ‘insufficient capacity in procurement and negotiations’. Proper risk allocation has also been identified a strategic long-term problem facing PPP projects [34].

Therefore, from the literature individual countries have different perceptions around the best PM practices associated with implementing PPPs in affordable housing scheme projects, and in some respect the drivers or CSFs affecting the adoption or implementation of PPPs. Furthermore, from the review of studies undertaken by [52], it is very evident that except for Nigeria and Egypt, and more recently Ghana [36], they are very few studies undertaken aimed at the identification and integration of PM practices and principles within the African context, and particularly Sub-Saharan Africa (SAA). The only Tanzanian specific studies on PPPs have been around the successes and constraints of improving PPPs in health services delivery in Tanzania [49]; and PPP implementation challenges within the construction housing [51,53]; critical success factors [39]; and driving forces for PPP [54]. As recommended by ([18], pp. 26–27), knowledge and understanding of the PPP’s project evaluation mechanisms as well as performance indicators beyond the preparation and procurement phases would assist practitioners to be educated with the CSFs for applying imminent PPP projects thus decreasing the setback concerning its application. In addition, given the high termination rates of PPPs projects in Tanzania [15], there is clearly a need for undertaking more PPP empirical studies around the integration of PM aspects within the housing PPPs project implementation process. Consequently, in response to the identified knowledge gaps, this study seeks to assess and investigate issues around the Tanzanian practitioners’ understanding of the extent of integration of PM aspects within the PPPs implementation process or adoption within the Tanzanian affordable housing schemes.

Most importantly, this research has synergies with sustainability as evidenced by the previous supporting literature [55–57]. For example, Chileshe [56] adopted the definition of ‘sustainability’ in relation to communities that are planned, built or modified to promote sustainable living. Likewise, the notion of providing affordable housing particularly within the context of the developing countries is aimed at meeting the requirements of the 2030 Agenda for Sustainable Development Goals (SDG) and associated Goal 11 namely, “Make cities and human settlements inclusive, safe, resilient, and sustainable”. These goals are underpinned by seminal definitions by the Brundtland Commission of ‘sustainability’ and ‘sustainable development’ as the process that ‘meets the needs of the present without compromising the ability of future generations to meet their own needs’ World Commission on Environment and Development (WCED) [56]. Therefore, the effective adoption and implementation of the PM practices and principles have a role in supporting the necessary processes encapsulated within the definition. Finally, there has been a push to incorporate sustainability into project management [57,58]. For example, the seminal study of Abidin and Pasquire [57] highlighted the synergies between sustainability and construction project management by examining the potential for value management (VM) as a means of identifying and addressing sustainability issues during the early construction stages. Our present study also seeks to address some aspects of PM practices and principles across the PPP lifecycle. Finally, the recent study by Kivila et al. [58] defined sustainable using the commonly understood components of economic, environmental, and social, also known as triple bottom. The study also lent support to sustainability as a vital and important project goal. Based on the above summary, the relevance of our current study to sustainability is evident.
4. Materials and Methods

This study adopted and selected a methodology appropriate to investigating and assessing the readiness of Tanzanian practitioners for PPPs adoption, and secondly, identifying the extent of integration of PM practices and principles during the implementation process of PPPs for affordable housing schemes delivery in Tanzania. The research framework as utilised in this study (see Figure 1) was adapted from Chileshe et al. [59]. This was comprised of six steps as illustrated in Figure 1. More so, the sampling and data collection techniques including the analysis and reporting are like previous studies [11,38,39]. The major difference is the focus of each individual study.

Figure 1. The research framework (Adapted from [59]).

4.1. Research Design

Following on the recommendations of [60], the preferred data collection method was qualitative in nature. Accordingly, this involved using the semi-structured interviews. As noted by Axinn and Pearce [60], this approach has the noted benefit of generating information which is very detailed. The second benefit of using semi-structured interviews is the ability of having none pre-conceived dimensions, aspects or issues. In so doing, the arising flexibility would allow questions that could easily be explored [61]. In addition, other studies such as [61] highlight the suitability and usefulness of using semi-structured interviews as effective when the main objective is premised on seeking and acquiring the interviewees (people) views on several attitudinal aspects such as emotions, experiences and feelings.

4.2. Selection of respondents

However, it is nevertheless worth pointing out that, as noted by the World Bank [15], Tanzania, like most developing countries in sub-Saharan Africa are currently in their infancy stages with regards the adoption and implementation of the PPPs. Consequently, as recommended by Maxwell (2005 cited in [62]); the preferred approach of identifying and selecting the interviewees was criterion-based. Therefore, the sector-type criterion remained applied. This required the interviewees to either have been from the public or private sectors. The criterions were further extended around other sectors and
background and involvement with PPP housing projects in their capacity as contractors, consultants, or financier. This criterion-based approach is like that of [33] as the population strata was the same. Thirdly, based due to the relative infancy of Tanzanian PPPs, the sampling approach adopted for this study was purposive in nature with the selection of the interviewees based on that very reason of the Tanzanian PPPs being in relative embryonic stage or new to the practitioners. As indicated above, belonging to the Tanzanian housing projects within the private and public sectors was one of the main selection criteria adopted for the interviewees.

4.3. Interview Protocol

The interview protocol adopted for this study was based on Qu and Dumay [63] guidance as developed for preparing interview. Consequently, the questions were designed to interrogate issues and understand the contextual aspects such as the sustainable project management aspects (i.e., practices and principles) for the PPPs implementation. The key focus was to gain insights into issues concerning interviewees experience and opinions on the research questions [61]. Table 2 summarises the ‘PM related’ questions as posed and their accompanying probes where appropriate. These are subsequently mapped to the stages of innovation and PPPs project life cycle as defined by [46]. In additional to that, recent studies such as [48] have decomposed the PPPs life cycle into the following four key phases: identification, procurement, design/construct, and operate/maintain.

Table 2. Project management themes and typical interview questions—mapping to stages of innovation and PPP project life cycle.

| No | Theme                                      | Typical Interview Questions                                                                 | Stages of Adoption | PPP Project Life Cycle |
|----|-------------------------------------------|-------------------------------------------------------------------------------------------|--------------------|------------------------|
| 1  | Management and monitoring                 | How did you manage and monitor the PPP affordable housing schemes projects?                | IU                 | Project implementation phase |
| 2  | Performance management                    | Did you carry out performance measurements?                                                | IU                 | Project implementation phase |
|    | Probe: How did measure the performance?   |                                                                                           |                    |                        |
| 3  | Post implementation and operational aspects| After building the project, how did you operate the project?                              | CU                 | Closing                |

Notes: 1 Adoption of innovation stages based on Rogers [20–22] Diffusion of Innovation Theory; * IU = Initial Use; and CU = Continued Use; 2,3 PPP project life cycle based on [46]. 4 According to Tomatzkyetal (1990 cited in [26]), the innovation related literature singled out ‘diffusion’ and ‘implementation’ among the major processes for innovation. These processes are deemed to occur during the initial and continued use stages described in the stages above. According to Parker et al. [64], the project lifecycle of international development (ID) projects can be classified into the following phases: (1) conceptualization, (2) planning, (3) implementing, and (4) closing.

The above translation of the ‘typical interview questions’ into ‘themes’ as demonstrated in Table 2 allowed the explanation of the ‘unit of analysis’. According to Rossman and Rallis (2012 cited in Creswell [65]), the process where data is organized through different methods such as having the text in chunks or segments of images is defined as coding. This can further be supplemented with written words which would be classified as categories, and normally undertaken in the margins. Creswell [65] further classifies the coding process into the following different types: (1) axial; (2) open; and (3) selective coding. The above classification involves the selection of categories and positing in within theoretical model (axial coding); generation of categories of information (opening coding); and explicating a story from interconnections among the categories (selective coding). The initial coding can also start from either a theoretical perspective or prior studies and researchers could then establish the themes during the data analysis [65]. Our study employed the directed content analysis for the interview transcripts. Several PPP related qualitative studies such as [66] have previously adopted the types of coding. The same study by Almarri and Abuhijleh [66] recommended that the undertaking content analysis through the coding process could further be enabled through the identification of the initial basic unit of text.
4.4. Data Collection, Confirmation Procedure, and Analysis

As can be seen from Figure 1, undertaking of the interviews which were semi-structured in nature was conducted in the second step within the research framework. Consequently, during the period of July and August 2016, this process involving 10 interviewees was undertaken in Dar-es-Salaam, Tanzania. The foremost motivation and justification for conducting the interview in this geographic city setting, namely Dar es Salaam was the easier accessibility for obtaining the required information and data. These population strata for the semi-structured interviews were mostly drawn from the following sector and groupings: (1) public and private sectors; (2) education and academia; and (3) consultants and PPP advisors. The key interviewees were management staff and researchers of these sectors. The main objective was to obtain their insight into the PPPHP practice. Despite the sample size of 10 interviewees being considered as small, according to [67], this meets the threshold of between 5–50 interviews. More so, this is also deemed as appropriate for saturation purposes. On that basis, the sample size can be regarded as adequate. The literature is also replete with qualitative studies that had employed semi-structured interviews having smaller sizes. For instance, the study by Chileshe et al. [59] had only 8 interviewees. Likewise, the recent comparative PPP study by [68] aimed at examining the implementation practices of Ghana and Hong Kong has a combined sample size of ten PPP practitioners, with eight in Ghana and two in Hong Kong. Furthermore, as acknowledged by [68], that small samples are not uncommon for qualitative research (i.e., interviews) in PPP studies. Secondly, several studies such as [69–71]; have conceptualized and operationalised saturation in different ways. For example, [69,70] highlighted the difficulties associated with defining the concept of saturation in qualitative research, with [70] further presenting different models of saturation and their associated focus (i.e., sampling, analysis, and data collection). Likewise, studies such as [71] have pointed out the importance of the depth of the data in qualitative research over the size of the sample (i.e., the numbers of interviewees). Therefore, the above studies support our sample size of interviewees as being adequate for data saturation model [71]. The semi-structured interviews as conducted took approximately between 45 and 100 min.

According to Creswell [65], qualitative research should employ a few strategies for ensuring the validation of the process. One of the strategies identified is that of ‘member checking’ which verifies the accuracy of the data as collected. Drawing on those recommendations by [65], examination of Figure 1, namely the research framework included the process and steps of ‘checking’ and ‘confirmation’. The combined processes, which were cyclical and interactive in nature, were nested between the semi-structured interviews (step 2) and data analysis (step 3) and formed the method of ‘checking’ and ‘confirmation’. Therefore, following the description provided by [65], the ‘member checking’ or ‘participation checks’ in additional to the ‘validation’ were undertaken on the transcribed interviews. The above approaches are similar to those employed in earlier literature such as Ardichvilli et al. [72]; Chileshe et al. [59]. This process of ‘validation’ and ‘participation checks’ involved obtaining the permission of the interviewees, agreement on the exactness, and their response or feedback on the interview. To achieve the above method, the transcripts were emailed to the interviewees. Accordingly, the collected interview data resulted in an improved validity and reliability. Content analysis technique was the adopted for the qualitative data. The rationale selecting this technique was due to its usage in several qualitative related PPP studies. For example, Zawawi et al. [73] used the same approach. The study employed content analysis as the basis of the qualitative data analysis. Drawing on the recommendations of Almarri and Abuhijleh ([66], p. 157), the main emphasis of the directed content analysis approach was around the coding. Accordingly, the initial coding needed to commence from a theory, and in this study, the Diffusion of Innovation Theory, or based on the previous findings. Following from this, the third step of the research framework (see Figure 1), namely, the data analysis would enable the researchers to have their findings or frameworks supported through the established themes. Additionally, drawing on previous studies such as ([25], p. 209), the theoretical framework of innovation diffusion as suggested by Rogers [20–22] was used to guide the emergent process of thematic analysis. Accordingly, the various innovation phases of diffusion and implementation
(i.e., awareness, decision to adopt/reject, initial use, and continued use) were used as the basis of having the key components of the theory description.

4.4.1. Individual Characteristics

Table 3 provides the interviewee’s profile according to the following individual attributes: Interviewees position as held (i.e., designation), education and experience levels. Examination of Table 3 shows that most interviewees had a strong education background, varying ranges of experience and designation backgrounds. For instance, education-wise, the majority (80%) of the interviewees have Master’s degree which is much higher than the first degree, with others having the highest academic qualification of the Doctor of Philosophy (PhD). Experience-wise, there was equally a fair spread of that with half (50%) of the interviewee having over 15 years of experience. The remainder were distributed as follows: 2 had 11–15 years; one had 6–10 years, and the remaining 2 having less than 5 years of experience.

Table 3. Interviewees profile—individual attributes.

| Interviewee | Designation of Respondents | Experience in Current Position | Education Level   |
|-------------|----------------------------|-------------------------------|-------------------|
| A           | Managing director          | 11–15 years                   | Master’s degree   |
| B           | Senior Legal Officer       | <5 years (4 years)            | Master’s degree   |
| C           | Assistant Legal officer    | <5 years (1 year)             | Master’s degree   |
| D           | CEO                        | 11–15 years (12 years)        | Master’s degree   |
| E           | Project manager            | >5 years                      | Master’s degree   |
| F           | PPP Clerk of Works         | >15 years                     | Master’s degree   |
| G           | Managing Director          | >15 years                     | Ph.D. in Economics|
| H           | Project Manager            | >15 years                     | Master’s degree   |
| I           | Associate Professor        | >15 years (20 years)          | Ph.D.             |
| J           | Acting Director            | 6–10 years                    | Master’s degree   |

4.4.2. Organisational Characteristics

The organisation attributes of the participants (i.e., interviewees) are summarised in Table 4. The results demonstrate that most (60%) of the interviewees were drawn from the public sector. In contrast, the minority with an equal number (n = 2, 20%) were private partners and other stakeholders. This broad representation is significant as the stakeholder involvement in the PPP life cycle varies over time [72].

Demographics: Except for Interviewees I and J, the reminder of the interviewees demonstrated a higher level of experience in PPPs housing projects. While experience of the interviewee is cardinal in criterion-based selection approach, Table 3 shows that Interviewee I was drawn from academic sector with focus on teaching, consultancy, and research. However, while this highlights the inadequate PPP experience around housing projects, it is not uncommon for Tanzanian academics to be involved in several consultancy projects. Therefore, the academic and research background, complemented by potential consultancy roles in PPP projects, could qualify as adequate understanding to comment on PPPs associated issues. Likewise, the inexperience among the Tanzanian practitioners in general is due to PPPs being in relative infancy. More so, as observed by [15], the Tanzanian regulatory bodies which are responsible for monitoring the regulatory aspects have been having been in existence since 2012 [15].

Type of PPP contract: Table 4 shows that the ‘Design and Build’ was the preferred PPP contract as evidenced by 70% of the Tanzanian practitioners having used it. The second preference was Build-Operate-Transfer (BOT) type of PPP contracts. However, there was a limited usage of Turnkey contracts. The limited usage of the concepts of BOT or build, own, operates, and transfers (BOOT) are further supported by literature. For instance, the study by [12] identified these contracts as being very complex arrangements. Despite this limited application, the ‘Build-Operate-Transfer’ is still regarded as another form of PPPs [73]. The notable finding from Table 4 is that, from the PM perspective,
the Tanzanian practitioners should give due consideration to the nature of contract type chosen. According to studies such as [46], the sustainability outcomes of the project [such as PPP] can be influenced dependent on the PPP contract due to their ability to provide a different incentive structure. While this study did not differentiate the PM practices and principles for PPPs, according to the contract type, this [contract] is considered as a significant influence in PPPs contract termination [74]. Secondly, Table 4 further highlights the variation in the types of PPP contracts which suggests the fitting of various project circumstances as appropriate contract types are essential in adopting PPPs [75].

Table 4. Interviewee’s profile—Organisational attributes.

| Interviewee | Current Position | Implementing PPPHP | Experience (Years) | Type of PPP Contract |
|-------------|-----------------|--------------------|-------------------|---------------------|
| A           | Public partner  | Yes                | >10               | BOT and TURNKEY     |
| B           | Public partner  | Yes                | >10               | BOT and DB          |
| C           | Public partner  | Yes                | 1–2               | BOT and DB          |
| D           | Public partner  | Yes                | 1–2               | DB                  |
| E           | Public partner  | Yes                | >10               | DB                  |
| F           | Consultant      | Yes                | 1–2               | DB                  |
| G           | Private Partner | Yes                | 1–2               | DB                  |
| H           | Public partner  | Yes                | >10               | BOT and DB          |
| I           | Teaching/Consultant | No                | No *              | N/A                 |
| J           | PPP advisor     | No                 | N/A               | N/A                 |

Notes: * Experience of PPPs in waste collection; 1 Position within the Built Environment field; 2 Experience based on involvement with a few PPP housing projects; 3 Contracts as adopted in their organisations where BOT = Build-Operate-Transfer; and DB = Design and Build; PPPHP = Public–private partnership housing projects.

Respondent’s designation: Examination of Table 4 highlights the skewedness of the sample towards the public sector partners. The findings further show that the private partners were rather limited as evidenced by the 30% of the interviewees as being drawn from that sector. Despite, the limited private partners, the results should be interpreted as broadly representing the stakeholders involved in PPPs. As pointed out by the study by [74], the public, private sectors, and whether they are for profit and not for profit as well as the fact that the state agencies and multilateral donor agencies are normally the stakeholders involved in PPPs. Secondly, the inclusion of the PPP advisor (Interviewee J) was necessary to determine their involvement in the public–private partnerships housing projects (PPPHP) projects since their responsibility is to oversee by advising and approving the PPP projects [15]. The above interviewees’ information is useful because it describes the characteristics of the sample and how relevant the sample is to the study which confirms the consistency and soundness of the information gained from them. To overcome this limitation, the literature review was used to validate the observations and findings.

5. Results and Discussion

This results and discussion section are divided in two main sections (see Figure 1) around the ‘identification of the PM practices and principles’ and emergent ‘project management themes’. The second section is further sub divided into the following three areas: management and monitoring of the PPP projects, performance management, and post implementation and operational aspects.

5.1. Project Management Practices and Principles for PPPs Implementation

From Figure 1, the fifth step in the research framework was associated with the ‘identification of PM practices and principles’. It was also deemed as important to identify the project management aspects such as monitoring, performance measures and operational issues for the PPPs affordable housing scheme projects to tap in the Tanzanian experience. For example, the World Bank [44] pointed to the need of firstly identifying PPPs projects within the wider setting of the public asset management process as a prerequisite for success. Similarly, the linkages between project success factors and CSFs
for PPPs have being explored and demonstrated in literature [76]. Therefore, in achieving one of the study objectives, namely to identify the extent of integration of PM practices and principles during the application of PPP-enabled housing project schemes in Tanzania, the interview participants were asked several PM practices and principles integration based on the themes as indicated in Table 2. The results of the interviewee’s responses were summarized and are displayed in Table 5.

Examination of Table 5 shows a total of 14 PM practices and principles as being identified by the interviewees. Based on the frequency of citations, the most three prevalent practices and principles were as follows: Official and unofficial site visits and inspections (n = 5); documenting the inspections (reports) (n = 4); and site meetings (n = 3). Having a consultant manager to receive all PPPs project reports was mentioned twice and the remaining 10 practices and principles (71.42%) were cited once. It is outside the scope of this study to deliberate all these PM practices and principles. However, the higher citation of this PM practice and principle of ‘unofficial site visits and inspections’ is consistent with literature [15,77]. However, this monitoring aspect through the inspections would require the full manager’s attention [78].

### Table 5. Summary of project management practices and principles adopted during the implementation of the PPP housing projects.

| No. | Project Management Practices and Principles                                                                 | Interviewees 1 | Interviewees 2 | Interviewees 3 | Interviewees 4 | Interviewees 5 | Interviewees 6 | Interviewees 7 | Interviewees 8 | Interviewees 9 | Interviewees 10 | Interviewees 11 | Interviewees 12 | Interviewees 13 | Interviewees 14 |
|-----|-------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1   | Undertaking checks and balance from design to construction stage                                           | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 2   | Site meetings                                                                                               | ✓               | ✓              |                |                |                |                |                |                |                |                |                |                |                |                |
| 3   | Official and unofficial site visits and inspections                                                        | ✓               | ✓              | ✓              |                |                |                |                |                |                |                |                |                |                |                |
| 4   | Having a consultant manager to receive all PPP project reports                                              | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 5   | Coordinated team (Quantity surveyors, architects, and engineers) to oversee the project                     | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 6   | Some projects have public partner consultants to oversee and manage the project                            | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 7   | NHC managing the project to a very lesser extent as majority left to private partner                        | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 8   | Engagement of a competent engineer to visit and inspect the site on daily basis                             | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 9   | Steering committee meeting every three months unless there is an emergency                                 | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 10  | Board meetings                                                                                                | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 11  | Government representatives inspecting the works at some intervals (irregular)                               | ✓               |                |                |                |                |                |                |                |                |                |                |                |                |                |
| 12  | Assessing the actual work done against the schedule of works                                              |                | ✓              |                |                |                |                |                |                |                |                |                |                |                |                |
| 13  | Preparation of projects and submission to the PPP technical committee                                      |                |                | ✓              |                |                |                |                |                |                |                |                |                |                |                |
| 14  | Documenting the site inspections (Reports)                                                                  |                |                |                | ✓              | ✓              | ✓              | ✓              | ✓              |                |                |                |                |                |                |

**Total:** 6 2 1 7 2 1 2 3 0 0 24

**Notes:** 1 For detailed information on the designation and profile of interviewees, refer to Table 4; Interviews I and J ended after 45 and 60 min respectively, as such did not address the project management issues aspect of the interview; 2 Interviewee D referred to undertaking site inspections twice a month; 3 The irregular inspections are similar to ‘unofficial site inspections’; 4 Based on the frequency of mention by the interviewees; 5 Denotes public sector partners. NHC: National Housing Cooperation; a Denotes private partners.

In summary, the identification of the 14 PM practices and principles as illustrated in Table 4 is indicative that the Tanzanian PPP practitioners are cognizant of the good practices need to be maintained during the PPP project life cycle [6] However, further examination of Table 5 highlights the lack of awareness of these PM practices and principles amongst the interviewees as evidenced by number of citations. This further affirms [24] assertion regarding the ‘knowledge’ stage of the innovation stage when innovation is first exposed to the individual, but the individual still lacks
information about the innovation. The results confirm the lack of information or knowledge amongst the Tanzanian PPP practitioners about the PM practices and principles.

5.2. Project Management Themes

5.2.1. Management and Monitoring of the PPP Projects

To ascertain the engagement and management and monitoring of PPPs projects, the following question was posed: “How did you manage and monitor the PPPs project?” Examination of Table 6 reveals that management and monitoring of the PPPs projects were mostly around the assessment of the actual work done against the schedule of works.

Interviewee D acknowledged their lack of project management skills by outsourcing this aspect of management and monitoring as evidenced from the following comment:

[...] being a private partner and Economist by profession, I did not have Construction project management skills. Therefore, I looked for a competent Engineer to visit and inspect the site on daily basis. [...] .

(Interviewee D)

The above comments by Interviewee D provide further evidence of the Tanzanian practitioners as being in the first phase of innovation process associated by using the PM themes, namely that of ‘knowledge’ as envisaged by [24]. For example, this stage is defined by [24] study as where ‘the individual is first exposed to an innovation but lacks information about the innovation [24]’. During this stage the individual can be considered as not yet been stimulated to discover more data about the innovation’. While there might be no evidence of whether the Interviewee D had not yet sought out the necessary knowledge to enhance the skills, Interviewee D lacked the necessary information which would have enhance the construction project management skills.

The importance of adequate knowledge and skills has also been acknowledged in previous PPP related studies. For instance, studies such as [78] using the views of the European Union delegation to Ethiopia identified ‘competency of the project planners’, ‘adequate knowledge and skills’ and ‘competency of project managers’ among the CSFs for the planning, implementing, and closing phases respectively. However, the above observations by Interviewee D further highlight the need of knowledge sharing between the private and public sector as recommended by [79,80].

Some aspects of site inspections irrespective of whether official or unofficial were practiced by most of the Interviewees A, B, C, G, and H. Some of the interviewees went further by documenting this evidence as explained by Interviewee G:

[...] I gave motivation to the structural site engineer to make him come and inspect the project frequently. After this he had to write a report on each stage which was filed for future reference in case of anything and this made him to be committed and true to the work inspected and report written by him [...] .

The above findings reveal the lack of detailed clarity on the other specific mechanism for PPP evaluation among the Tanzanian practitioners. However, the plausible explanations for this might be due to the lack of existing law which provide details or specific procedures on evaluation and monitoring of PPP projects. The above findings are consistent with literature as the importance of management and monitoring of PPP projects has also been acknowledged in previous PPP related studies. For instance, studies such as [81] which conducted investigations into the degree to which the challenges associated with procurement capacity in the Nigerian nation setting affected the efficiency of infrastructure procurement by public agencies. Of the 30 challenges identified, the highly ranked challenges included the following: ‘ineffective auditing, monitoring, and evaluation’. Likewise, other studies such as [15] have identified lack of (or poor) evaluation as precursor to unsolicited proposals.
5.2.2. Performance Management

According to [46], the last stage of the PPPs life cycle is the project implementation phases. This phase is characterized with the formulation of the output specifications. According to [46], the mean reason for this formulation is to enable the evaluation of performance, as well as monitoring and enforcement. Therefore, to ascertain the performance management of PPPs projects, the following question was posed: “Did you carry out performance measurement?” This was followed with probe question of “how did you measure the performance?” Drawing upon the approach of [8], the performance management and associated success criteria are grounded on the developmental mutual objectives, which includes achieving contract schedule (time), budget (cost), specifications (quality). More so, the identified criterion of time, cost, and quality are integral, and form part of the following PMBOK management areas, project schedule, project cost, and project quality management respectively [33]. The performance metrics or indicators as also consistent with earlier PPP associated studies. For instance, in emerging economies context, the study by Kowfie et al. [43] used metrics such as satisfied parties, affordable housing, delivery on time and budget, and quality outcomes as measures of performance. Therefore, the underlying motivation for this question was to ascertain the extent that the interviewees had in integrating the performance management innovative aspects as suggested by [24]. For example, [24] defined and described the fourth stage of the innovation adoption as that of ‘implementation’ which was characterized by the individual (i.e., a Tanzanian PPP practitioner) employing the novelty to a changeable degree dependent on the position. This phase is individually focused as the determination of the usefulness of the innovation as conducted by the individual. In addition, the exploration of further information about the innovation takes place. The results of the interviewees’ responses were summarized and are illustrated in Table 6.

From the results, it is evident that a total of 4 performance management approaches or strategies were identified by the interviewees. While both Interviewees A and B provided generic answers by referring to assessing the actual work done against the schedule of works, in contrast Interviewee C was more specific around the criteria used for the performance management and commented:

“Yes, by assessing the actual work done using time, cost and quality. But in case of poor performance it was very hard to rectify the situations and at the end some projects remained stalled or incomplete for a longer period”.

Whereas Interviewee D did not specifically pinpoint the techniques, nevertheless reference was made to the approaches (how) and noted:

“Yes, by daily site visits and inspection by the Private partner engineer. But also, Government representatives inspected the works at some intervals (irregular)”.

Similarly, Interviewee F also provided comments around the daily inspection approaches and noted:

By inspecting the works on daily basis and writing and filing reports which were [I] submitted to the project manager on monthly basis. Therefore, any technical failures or weaknesses were identified early enough.

| Performance Management Approach | Interviewees | No |
|---------------------------------|--------------|----|
| Assessing the actual work done against the schedule of works | √ | √ | √ | √ | 4 |
| Assessing the actual work done using time, cost and quality | √ | 1 |
| Daily inspection of works | √ | 1 |
| Assessing the progress of the work by both partners | √ | 1 |
| Total | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 7 |

Notes: * Denotes public sector partners; 1 For detailed information on the designation or profile of the interviewees, please refer to Table 4, and for sector wise, see Table 5.
The above observations by Interviewees A, B, D, and F provide further evidence of the Tanzanian PPP practitioners acknowledging some of the usefulness of the innovation in form of the performance management approaches associated with the fifth stage of the innovation process, namely that of ‘implementation’ as envisaged by [24]. In particular, the observations by Interviewees D and F around inspections are very consistent with prior studies on PM monitoring. For instance, according to the PMI [33], monitoring and controlling of project works and performing integrated change control forms part of the PMBOK area of ‘project integration management’. Other PPP related studies within the context of developing countries have equally identified ‘ineffective auditing, monitoring, and evaluation’ among the highly ranked challenges inhibiting public infrastructure procurement [81], whereas both studies by [82,83] identified monitoring among the CSFs for World Bank projects. Evidence of ‘certification’ was equally acknowledged by Interviewee G as follows: “By assessing the progress of the work by both partners also involving certified engineers to inspect the work on every stage”. The overall performance management observations by the Interviewees are also very consistent with previous studies. For example, with regards the first approach in Table 6 ([15], p. 37), they equally recommended the testing of milestones as a mechanism for helping overcome the PPP implementation constraints. Similarly, construction time and cost overruns whilst defined as a project risks have been identified as “top-ranked” amongst the risks affecting the application of PPP in emerging economies [37], and among the key concepts of PMBOK areas [35]. Similar time and cost related risk factors affecting PPP low-cost housing projects include the ‘lack of cost control’ and ‘inability to manage lead time’ [8].

According to Parker et al. [64], a study, which was aimed at the development of a PPP framework for novices from emerging economies, identified ‘performance management’ among the items in PPP practice from best practice. In is also encouraging to note that the performance management approaches (see Table 6) were characterized by monitoring and evaluation aspects. This observation is also consistent with previous PPP studies on developmental phases and projects. For instance, [48] identified the final phase of the PPP life cycle (i.e., operate/maintain) as historically including asset monitoring, performance measures, benchmarking, and secondary transactions. Likewise, [82] attributed the project success of the World Bank funded projects due to the linkages with inspection which is also known as “supervision”. Although World Bank projects are considered as International development projects, despite the acknowledged differences in literature, they nevertheless do share similarities with PPPs in several areas such as the project success criteria and project lifecycle phases [82].

While ‘assessing the progress of the work by both partners’ was among the least cited performance management approach, the importance of engaging the different stakeholders throughout PPP project life cycle is well acknowledged in literature [35,48]. The same argument extends to the identification of the traditionally accepted iron triangle measures time, cost and quality within the ‘assessing the actual work done using time, cost and quality’ performance management approach [79]. However, as opined by [78], consideration should also be provided to other performance measures such as transparency or accountability. Finally, the above findings further provide some evidence of the evidence of the [20,21,23] Diffusion of Innovation Theory within initial use (IU) stage when dealing with the ‘management and monitoring’ and ‘performance management’ aspects of the themes as identified in Table 2.

5.2.3. Post Implementation and Operational Aspects

According to Atkinson (1999 cited in ([83], p. 322), project process can be separated into three stages, namely the delivery stage and associated process of “doing it right”, post-delivery stages focused on the system and “getting it right”, and post-delivery stages focused on the benefits and “getting them right”. Likewise, this phase which is equivalent to the project implementation phase
and the closing phase of the ID projects [58], lessons learned could be drawn as these are necessary for contract management [40]. The need for post-contract management such as capturing lessons learned and evaluating performance are also acknowledged in literature [30]; and finally, lessons learned have also previously been identified as significant essentials of organization learning knowledge transfer [84]. Recent studies such as [85] have highlighted the effectiveness of this closing phase as being influenced by the conceptualization and planning stages of the PPP life cycle, whereas [86] recommended that skills of public sector teams be checked using a baseline and reference standard. Accordingly, this benchmarking could be underpinned by an effective knowledge management system. Most importantly, the same study emphasized the need for establishing the measures for reporting the project’s achievement and accomplishment.

Examination of Table 2 highlights the synergies between the ‘post implementation and operations aspects’ and the ‘continued usage’ as suggested by Roger’s Diffusion of Innovation Theory. The post implementation and operational aspects could be equated to the second and third stages of which of which are future growth and success of public and private sector organizations would result from the successful development of projects [9]. As illustrated in Table 3, the following question was posed: After building the project, how did you operate the project? Interviewee A stated that:

“[... ] NHC had a share of 25% in most projects this being the value of the land while the partner had a share of 75%. The PPP contract lasts forever ... There is a possibility of the private partner operating the property and pay NHC rent or each operating its own units within the property [... ]”

In support of this view, Interviewee B agreed that private partners have been operating some of the properties which is easier, reliable and convenient however we have some projects which we operate ourselves on our own. Interviewee C expressed similar sentiments and explained the following:

“Majority of properties are operated by private partners and then pay us our portion/share. This way it has helped we concentrate into other things”.

The remaining responses by Interviewees D through J are summarised in Table 7. With the exception of Interviewee F who acknowledged the property as being still not completed, there was common thread in the responses premised on the private partner managing the properties among the remaining Interviewees D, E, G, and H. In contrast, the remaining Interviewees I and J did not respond to this question as the interview was completed earlier than planned. However, the above findings around the ‘private partner’ being responsible are hardly surprising as in DB type of contracts (see Table 4), the duties are normally delegated to the private sector during the operate stage of the PPP model ([87], p. 98).

**Table 7. Summary of post implementation and operational responses.**

| Interviewee Code | Response to Post Implementation and Operational Aspects |
|------------------|--------------------------------------------------------|
| D                | The private partner operates the whole project, but each partner receives his share after maintenance and operation costs have been deducted |
| E                | Private partners have been operating the properties and pay us our percentage (%) share of the project |
| F                | It is still on its early stages of construction hence it’s not measurable yet. |
| G                | The whole project is managed by private partner and the National Housing Corporation (NHC) is paid its share on the agreed time frame |
| H                | Private partners have been operating the projects |
| I*               | - |
| J*               | - |

**Notes:** * Interviewees I and J did not provide any answers to this question as the interviews were completed earlier than planned.
The poor PM performance as identified by the Interviewees related to the traditional PM iron triangle of time, cost, and quality is consistent with literature on PM challenges facing developing countries [15,18,38,86,87]. For example, the study by the World Bank [15] identified inadequate project management by the public sector among the challenges affecting PPP delivery. Similarly, the recent study by Akintoye and Kumaraswamy [18] provided evidence suggesting that most of the future growth and success of public and private sectors would only result from successful development of projects. The same study further depicted and categorized the failed projects under the following umbrella dimensions: (1) inefficient projects; (2) weak impact on customers/stakeholder; (3) unsuccessful business/or unsuccessful development strategy; and (4) unsustainable potential. Within the specific Tanzanian context, several studies such as [38] and [86,87] have linked poor performance of PPP delivery to ineffective application of PM principles and practices. For example, the study by Kavishe et al. [38] associated the application of conventional procurement method delivery with the poor delivery of projects using the pre-estimated time and cost. Likewise, the studies by [86,87] identified the lack of necessary PM skills amongst the Tanzanian professionals among the causes for the poor performance. The same studies by [87,88] have further demonstrated the potential of having the Tanzanian practitioners collaborating with foreign contractors. Accordingly, this collaboration acts as a mechanism for Tanzanian practitioners to acquire further skills, particular the PM related ones.

In summary, the highlighted issues around post implementation and operational aspects are consistent with literature. For instance, Interviewee F assertion around the lack of ‘measurement’ during the early phases of construction is supported by [48] study, which states that the ‘design/construction’ phase of the PPP project mostly includes a large portion of financial activities. Secondly, the role of the private partners around the operational aspects of the project (Interviewees D, E, F, G and H) further confirms the assertion by the [15] regarding their [private partners] role in the development process such as financing and delivering public service, particularly within the context of developing countries.

6. Conclusions

A qualitative approach, comprising a number of interviews which were semi-structured in nature was employed in this study aimed at identifying the extent of integration of PM practices and principles during the application of PPP-enabled housing projects in Tanzania. Our present study had the ability to “integrate the PM practices and principles” conceptualized using Roger’s Theory of Innovation Diffusion [20–22]. Based on the frequency of citations, a total of 14 PPP project management practices and principles (see Table 5) were identified. The three most prevalent practices and principles were as follows: (1) Official and unofficial site visits and inspections (n = 5); (2) documenting the inspection reports (n = 4); and (3) site meetings. Regarding the PM approaches, assessing the actual work done against the schedule of works was identified as the most prevalent project performance of PPP. The findings further highlighted the lack of PM skills as affecting the overall management and monitoring of the PPPs projects. The post implementation and operation aspects of the PPPs also highlighted several issues around the responsibility of operating the housing properties.

The following implications for PPPs practitioners, policy makers, and government are highlighted: First, by identifying the PM practices and principles, the Tanzanian PPPs practitioners drawn from both private and public sectors would be supported in successfully implementing PPPs in housing projects. Secondly, identifying the PPPs project management practices and principles can provide the opportunity of designing measures to attain the less prevalent ones. Drawing upon the earlier observations by [88,89], the recommendations of this research is that, where possible, those (Tanzanian PPP stakeholders) pursuing to expand their integration of PM practices and principles into the delivery and implementation of PPP housing projects should consider collaborating with foreign contractors through joint ventures as vehicles for delivery of PPPs. Such an approach would also provide platforms for addressing the knowledge and skills issues as identified in this study. As noted by [26], there are synergies between innovation diffusion and knowledge management.
To the authors’ best knowledge, the findings of the present study are the first housing specific qualitative study which addresses several issues affecting PPPs, and those seeking the identification of the integration extent of PM practices and principles during the application of housing projects delivery using PPPs in Tanzania. Additionally, the findings also build on the PPPs research agenda as advocated by [18] regarding the need for undertaking more research that broadens to PPPs stages other than preparation and procurement, but operational as well. This was achieved by seeking practices and performance management aspects during the operation stage as well as post completion (see Table 3). The other key contributions to knowledge include: bridging the literature gap as this qualitative study, which is among the first that identifies the integration of PM practices and principles during the implementation of PPP in housing projects within developing country context, such as Tanzania.

The main theoretical contributions of this study are premised on the definitions of ‘contribution’ as put forward by [90,91]. For example, the study by Colquitt and Zapata-Phelan [91] developed taxonomy for capturing the various facets of the theoretical contribution: along the axis of ‘building new theory’ and ‘testing existing theory’. In contrast, Whetten [90] conceptualized ‘theoretical contribution’ as having the following four essential elements: what, how, and why. Therefore, this study contributes to the ‘what’ component of the theory by ascertaining the relevant PM practices and principles for the implementation of PPPs when delivering housing projects in Tanzania. Secondly, the theoretical contribution is also premised on the ‘what’ component as applied to the identification of the ‘performance management approaches’ as applied to the delivery of PPP housing projects. From the theory testing perspective, as pointed out by [91], empirical articles can make a theoretical contribution through theory testing. This study used the innovation diffusion theory as advocated by [20–24] to identify the extent of integration of PM practices and principles during the implementation of PPPs related with transfer of Tanzanian housing projects. Additionally, the study mapped the significant findings to the innovation stages as identified by [20–24]. The study highlighted and confirmed the engagement and application of the attributes associated with ‘knowledge’ and ‘implementation’ stages of the innovation diffusion stages among the Tanzanian PPP practitioners.

6.1. Limitations

A number of the study’s limitations are acknowledged. Firstly, the study is premised on the qualitative data largely drawn on the views of the Tanzanian housing practitioners drawn from both the private and public sectors. Therefore, their knowledge and views on the identification of the extent of integration of PM practices and principles during the implementation of PPPs in Tanzanian housing projects should be treated with caution as these are more localised to the Tanzanian context. In light of the noted limitation, the generalization of the findings to similar or different sectors situated in other emerging economies or similar geographical locations such as neighbouring counties (i.e., Kenya, Zambia, and Malawi) or South African Development Communities might not be applicable. In addition, as observed by [92], when seeking to test the applicable of systems and practices drawn from the Western world such as PPPs, their effectiveness should consider the cultural environments of the local context. More so, the literature is replete with studies highlighting the problems of skills among practitioners in development countries. Therefore, the issue of the varying capacity building levels should be taken into consideration. For instance, the PM practices and principles could be different in other countries. The second limitation is of sampling in nature. Whilst the empirical findings of the interviews are acknowledged, the sample size of ten interviewees was rather limited. The newness or rather infancy stage of the PPPs in Tanzania as acknowledged by [15] has a contributory effect on the limited sample size. Notwithstanding that limitation, this is compensated by depth of the study as highlighted by Burmeister and Aitken [71]. As illustrated in Tables 3 and 4, the interviewees possessed sufficient knowledge based on their academic qualifications and levels of education as well as PPP experience. Consequently, the identified knowledge and experience contributed to some higher levels of PPP awareness thus enabling the research questions to be informed by information which was both reliable and valid.
6.2. Structured Framework for Future Studies

Based on the above conclusions and limitations, the following four key issues contextualized as structured framework for future studies are presented:

First, arising from the study being qualitative in nature, and therefore unable to establish the empirical relationships amongst the identified PM practices and principles, future studies could employ quantitative approaches with questionnaire survey as the data collection methods. This would enable the perception of the Tanzanian practitioners regarding the identified PPPs project management practices and principles; and secondly the usage of rigorous statistics analysis such as factor and correlation analysis. In particular, the factor analysis would lead the identification and categorization of desirable PM practices and principles. Secondly, future quantitative studies could form the basis of the mapping of the identified PM practices and principles across the PPP lifecycle. Such an approach would lead to the identification of their prevalence and incidence across the PPP lifecycle and provide avenues for the development of the appropriate training where these practices might be lacking.

Thirdly, the performance management approaches as employed in our current study could be broadened to include sustainability performance indicators. Such an approach would enable future studies to develop sustainability frameworks for assessing the effectiveness of PPP-enabled projects within housing sectors in emerging economies. Such an approach would contribute to informing the development of basic sustainability guidelines. According to Rwelamila and Ogunlana [9], despite the informal sector being the biggest producer of housing stock, these guidelines have been found to be lacking in most developing countries. Fourth, and finally, examination of Table 1 showed that there was a limited acknowledgement of the relevant PM practices and principles. Therefore, drawing upon similar recommendations by studies such as [88,93] undertaken in developing countries like Tanzania and Iran, there is a clear need of raising the awareness of the importance of these PM practices and principles. Future studies could pursue the extent the integration of these crucial PMBOK areas within the curricula of higher institutions of learning. Such an approach would ensure that the future graduates had the desirable PM skills. For practitioners, the relevant PM knowledge could be enhanced through training programs.

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