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**CHALLENGES OF SUCCESSFUL  
IMPLEMENTATION OF PUBLIC-PRIVATE  
PARTNERSHIP INITIATIVES:  
PERSPECTIVES OF IDENTITY  
MANAGEMENT FIRMS IN NIGERIA AND  
ESTONIA**

Master's Thesis

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## **Author's declaration of originality**

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

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10.05.2021

## **Abstract**

Public-Private Partnerships (PPP) is a means that allows governments to deliver public service utility to their citizens either at reduced cost and higher economies of scale. Public entities rely on either the finances, the experiences, or both from the private entities to deliver public services at a fee or through charging the users of the public service utility. This is a common approach deployed by governments of the world, however, PPP can be marred by challenges that result in project failure. To this end, this study determined the challenges of successful implementation of private-public partnership initiatives, viewing the narrative from the perspectives of identity management firms in Nigeria and Estonia. The principal-agent and partnership extension theories guided this study, as both theories support the idea that government can concede part of its duties to the private sector for better project performance. The qualitative and exploratory research approach was adopted and informants from 8 case firms (3 public and 5 private) were interviewed to obtain the data needed for this study. The first objective investigated and analyzed the challenges that mar successful PPP initiatives and revealed that poor communication, high-risk factors and a lack of commitment ruptured successful PPP, while poor contract framing, as well as political and legal gaps, also affected successful PPP. The second objective which analyzed the importance of factors that ensure successful adoption and implementation of PPP revealed that detailed PPP contracts with appropriate risk allocation and well-defined responsibility sharing were good recipes for PPP success. Also, project monitoring and effective trust and communication networks between PPP partners were identified as breeding grounds for PPP success. The third objective identified curtailment strategies that could constrain the challenges affecting PPP success and revealed that choosing appropriate and relevant PPP models in an enabling environment that allows for contract renegotiation and efficient transfer of risk between parties are PPP barrier curtailment strategies. These findings are important for creating and developing frameworks that would build appropriate structures to facilitate and enhance private sector involvement in identity management PPP.

This thesis is written in English and is Eighty-eight (88) pages long, including five (5) chapters, five (5) figures and nine (9) tables.

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## List of abbreviations and terms

BOO	Build-Own-Operate
BOT	Build-Operate-Transfer
BOOT	Build-Own-Operate-Transfer
DB	Design and Build
DBF	Design–Build–Finance
DNA	Deoxyribonucleic acid
ID	Identification
JV	Joint ventures
MOI	Ministry of Interior
MOU	Memorandum of Understanding
NIMC	National Identity Management Commission
NIN	National Identification Number
OECD	Organisation for Economic Co-operation and Development
PBGB	Police and Border Guard Board
PESTEL	Political, Economic, Social, Technological, Environmental, Legal
PIC	Prior Informed Consent
PPP	Private Public Partnership
UNECE	United Nations Economic Commission for Europe
UNIDO	United Nations Industrial Development Organization

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## **1 Introduction**

The provision of public services to the citizens of a nation is one of the critical functions of government. These services which range from the provision of road infrastructure, education, healthcare, utilities, and other form of direct and indirect services are critical for the functioning of society and the onus rests on the government to ensure the continual supply and management of these services (Al-Hanawi et al., 2020). Several factors may, however, constrain the delivery of these public services, and in most developing nations of the world, these factors are usually limited to financial incapability of the state, due to a limited budget capacity and in some cases, and the inexperience of government on how to effectively ensure the continuous supply of services may mar the operations of public service delivery (Clifton & Duffield, 2006; Klijn et al., 2007). Given these limitations, it is scarcely surprising to see governments of the world explore approaches that offset such constraints, and one of the more common popular approaches involves forming partnerships with private firms to ensure the continual and efficient supply of public services (Al-Hanawi & Qattan, 2019; Osborne, 2000; Rosenau, 2000).

Private public partnership has been one of the vital tools on issues of public governance in the past and contemporary era, owing majorly to the advantages and ease it grants the governments of the world. Its adoption has been used to aid the government in offsetting supply and demand gaps, the pressure of budgetary needs, financial services, fiscal deficit, effective welfare services, and many more public service utilities that exist in the world today (Chowdhury et al., 2011; Kosycarz et al., 2019). These partnerships between the private and public sector have improved not just the efficiency of governance but have also extended the frontiers of what characterizes the relationship between the two parties to improve the efficiency of operation, quality of service delivery, and to constantly innovate the approach that results in effective governance (Kosycarz et al., 2019).

Many studies in literature (Al-Hanawi et al., 2020; Al-Hanawi & Qattan, 2019; Chowdhury et al., 2011; Klijn et al., 2007; Osborne, 2000) have attested to the immense benefits of these partnerships between the private and public sector and how they have

resulted in better services in the power, water, welfare, transport, security, and health sectors.

There are some levels of measurable differences in the success of the different private public partnership (PPP) initiatives (see Dykes and Jones, 2016), and however, positive the outcome of most PPP maybe, not all of such partnerships have been successful. Certain factors may constrain the effectiveness of such partnership, some of which includes – but is not limited to – political climate, environmental situations, finance, culture, needed infrastructure, literacy levels, etc. (Samsor, 2020). Exploring the challenges of successful PPP implementation could reveal insights on how to model solutions that could result in better outcomes for future PPP initiatives.

## **1.1 Problem statement**

The challenges of effective PPP are replete in literature, and while these challenges are often unique to national climates, the perspectives of firms may offer a more focal view about the various factors that constrain their operations on the delivery of public services when they go into partnership with public firms. This is, because, the barriers that inhibit successful implementation and in some cases, successful partnerships, usually converges under 6 major factors which are: economic, environmental, political, technological, legal, and societal barriers (Gunnigan and Rajput, 2005; Zhang, 2005; also see Dykes and Jones, 2016).

For example, from a societal perspective, social discontent for a particular initiative may mar the successful implementation of some PPP initiative. This narrative is particularly evident in Africa, where the historically corrupt nature of past and present governments has created a system of distrust between the people and government that could lead to the delay or total cancellation of some PPP initiatives arising from sceptic views aired by the populace (see Dykes and Jones, 2016). In some other cases, the successful implementation of some PPP initiatives are marred by the absence of a coherent and just legal framework that causes complications and legal disputes that could lead to active projects cancellation if courts rule against said PPP initiative (S. Babatunde et al., 2015; Li et al., 2005; Zhang, 2005).

Technological barriers could also serve as impediments to successful PPP initiatives, especially in cases where the required technological infrastructure needed for effective

implementation are absent. While many studies have characterized the challenges of PPP implementation in the literature, no studies are characterizing the challenges from the view of the firms. Also, most studies conducted on PPP implementation challenges have been constrained to certain geographical borders which gives a limited view and does not allow for cross-context, especially from an intercontinental perspective.

Given these gaps in the literature, this study identified the challenges of successful PPP implementation from the view of identity management firms located in Nigeria and Estonia. The perspectives of the three firms gave a continental perspective to the study. This study addressed the identified research problems using the following research questions:

- What are the issues, problems, and constraints that hinder the performance and success of PPP initiatives?
- What factors facilitate the establishment, performance, and success of PPP initiatives?
- What possible approaches could be used to curtail challenges that hinder the success of PPP initiatives?

## **1.2 Objectives of the study**

The main objective of this study is to identify the challenges of successful PPP implementation from the view of firms located in Nigeria and Estonia. The following sub-objective would help achieve the main objective:

- To investigate and analyze the challenges faced by private and public firms that mar successful PPP implementation in Nigeria and Estonia.
- To understand and analyze the importance of factors that ensure successful adoption and implementation of PPP initiatives in Nigeria and Estonia.
- To identify curtailment strategies that could constrain the challenges affecting successful PPP initiatives.

### **1.3 Significance of the study**

The findings of this study are of benefit to private and public PPP firms to further enhance the implementation of PPP through eliminating and minimizing identified factors that constrain the success of PPP projects. Since the firms in this study are identity management firms, the emerging results would be beneficial for future operations of such firm. Understanding the perceptions from public and private firms is quintessential, because, commitment from contracting parties ensures successful implementation of PPP.

### **1.4 Structure of the thesis**

The thesis comprises five chapters. The first chapter contains the introduction, problem statement, and objectives. This chapter gave a clear view of why the study is important. Chapter 2 give an insight into the literature review of PPP, with further details about the “state of the art” i.e. Identity management. The Methodology for this research is discussed in chapter 3, and the empirical analysis is properly stated in chapter 4 to a great length. Collected data were transcribed and analyzed which made it easier for cross-case analysis to be done. Conclusions were drawn based on this research.

## **2 Literature Review**

This section presents a broad overview of the relevant theories that are important for this study, an overview of PPP, PPP contract types, the barriers to PPP, and the state of the art in identity management.

### **2.1 Theoretical framework**

This study adopts two theoretical positions for this study. These theories are the principal-agent theory and the partnership extension model. The principal-agent framework is appropriate for this study because allows inquiry about the study's objectives to be made by conceptualizing the government sector as the principal representing the public that engages private sector entities for PPP initiatives (Laffont & Tirole, 1993; Martimort & Pouyet, 2008). The partnership model is also necessary, because, it defines the kind of relationship that exists between the private and public entities, and how the relationship influences the outcome of PPP initiatives. These are the rationale for selected theories which are reviewed below.

#### **2.1.1 The Principal-Agent theory**

The principal-agent theory is applied to this study to analyze the plausibility that agency problems may affect PPP initiatives. The theory is used to test the possibility that agency problems may develop during PPP contract agreements. The principal-agent theory is such that tasks are delegated to an agent or agents by a principal such that the agent(s) act for, on behalf, or as a representative of the principal (Brandsma & Adriaensen, 2017). In this study, national identity is considered a property of the state and the state delegates private entities to aid in the collection or management of its citizen's identity. Therefore, the state is the principal and the private entities are the agents.

Usually, principals source for and select agent with the resource capabilities to undertake the assigned task; however, the agent selection process is often difficult, given that a resourceful and capable agent may have other traits, actions, and intention that might hamper the development of the assigned task for which the principal are mostly unaware of (Roach, 2016).

This narrative implies that the agency selection process is usually fallible, given that principals often do not have all of the information required to make optimal selections (Delreux & Adriaensen, 2017). In essence, the relationship between the principal and agent can be deemed asymmetrical given that any selected agent is deemed a successful beneficiary even if it at the expense of the principal.

According to Müller and Turner (2005), the principal is usually unequipped with the right information about the agent and may be unaware of the rationale for choices, actions, and decisions taken by the agent. The principal is usually often unable to diagnose if the decisions of the agent would ultimately be in their favour. For instance, in the identity management system, a principal might be unaware of the reasons why agents choose an identity capture approach, especially if the chosen approach aligns with the implementation realities of the principal.

It is noteworthy to point out that some of the assumptions held by the principal-agent theories are that both parties – principal and agent – have divergent interests that sometimes conflict as each party would naturally advocate for the interest they deem individually important, causing the agent to perform optimally only if their interest and that of the principal are aligned (Delreux & Adriaensen, 2017). In the case of conflicting divergent interests, the agent results in a moral hazard where the principal is often unable to control the decisions of the agent, because, verifying the decisions of the agent is often implausible (Müller & Turner, 2005). Such moral hazards usually stemming from a wrong selection process may mar the outcome of the assigned task and can be harmful especially for tasks with strong incentive value.

The outlined narrative, therefore, suggests that the principal-agent relationship may be faced with challenges that influence the processing, expectations, and outcome of the delegated task, stemming from divergence in interests and behaviour (Delreux & Adriaensen, 2017).

In trying to resolve the challenges of the principal agency theory, Quinn & Jones (1995) argued that a contractual agreement between the agreeing parties is one approach to resolve the challenges of self-interest influencing the outcome of the assigned task. By enforcing a contract, the agent is subjected to bureaucratic control which enables effective collaboration and effectively controls the behaviour of the agent such that the agent finds it hard to deviate from the intended outcome. A contractual agreement, therefore, ensures that the decisions and



actions of the agent are in line with the objectives of the principal (Brandsma & Adriaensen, 2017; Müller & Turner, 2005; Roach, 2016)M.

A critical review of the Quinn and Jones's (1995) solution reveals that having a binding contract may not necessarily lead to an effective and efficient operating contract. This is because, for a contract between the principal and agent to be effective, it must satisfy the interests of the agent in such a manner that the agent is excited to complete the assigned task (Bergen et al., 1992). In addition, the contract should maximize utility such that the principal and the agent derive optimal satisfaction from the contents of the contract. This is because contracts that do not maximize the utility of the agent may result in the problems embedded in Quinn and Jones's (1995) solution. Therefore, the contract must have a reward system that ensures that the agent is motivated to ensure the outcomes of the task suit the objectives and expectations of the principal (Bergen et al., 1992; Saam, 2007).

Effective monitoring and developing sound contracts are critical for an effective principal-agent relationship, because, the actions and decisions of the agent must be properly monitored to ensure that they neither deviate from the details of the contract nor pursue goals that are not in agreement with the objectives of the principal (Müller & Turner, 2005). Developing effective contracts is also quintessential for maximizing the outcomes of the intended objectives, however, there are no standardized contract models that fit all principal-agent relationship situations, therefore, there is a need to constantly develop, refine, and evaluate contracts for each principal-agent relationship (Wright et al., 2001).

The principal agency theory is relevant to this study, because of the nature of PPP contracts and the management structures that are needed to ensure that the goals of the involving parties are symmetrically aligned. The principal agency theory provides a logical forecast for how situations may turn out when public and private entities are placed in a principal-agent scenario. It noteworthy to point out that the principal-agent relationship may be also be affected by external factors, such as the project environment, for this reason, it is necessary to broaden the scope of principal-agent contracts beyond the economics of the principal-agent relationship.

### **2.1.2 The Partnership Extension Model**

This study makes use of the partnership extension model, with the rationale hinged on the fact that: 1. PPP creates structured relationships between two parties – private and public – and defines which of the party shoulders the bulk of the risk associated with project implementation

and how maximum value can be achieved (Aneta & Ewa, 2007). 2. Private sector firms are deemed more efficient than public sector firms in services delivery (Grossi & Thomasson, 2015).

The partnership extension model recognizes the inefficiencies of government in the delivery of public service utilities and the limitations they face i.e. resource limitations, inexperience, incapability, and lack of political will. This model implements some of the principles outlined in the United Nations Industrial Development (UNIDO) partnership model that: public entities must find ways to dialogue and create a working relationship with private entities, to create novel and innovative development approaches (Samii et al., 2002).

Proponents of the partnership extension model argue that the involvement of multiple stakeholders in developmental processes creates multi-dimensional strategies that yield benefits greater than single party involvement (Davis, 2008; Samii et al., 2002). The model highlights that partnership is needed to raise the stake of development and extend the expectations and outcomes of project objectives. Under the model, every stakeholder is allowed to craft novel and innovative means towards social development such that the comparative advantage of each stakeholder can be capitalized upon to improve the efficiency and outcome of development. However, to do this, the various roles and responsibilities of each stakeholder must be adequately understood, along with the implications that come with a failure to deliver on their assigned roles. This helps the stakeholders identify what strategic positions to take that would help them deliver on their roles for the gains of project implementation (Samii et al., 2002).

To ensure the stakeholders deliver on their roles and responsibility, a memorandum of understanding (MOU) that outlines individual commitments is presented before the stakeholders, such that the MOU acts as a legal framework for partnership agreement between the stakeholders and highlights the roles of each stakeholder based on their competency levels (Ladele 2011; Samii et al., 2002). The partnership model also emphasizes high level of performance and results like in the principal-agent model to ensure outcomes are maximized (Swanson & Samy, 2002). Another advantage of the partnership model is that when properly managed, it creates an avenue for knowledge sharing among the stakeholders, allows for the adoption of high-ended innovative solutions, and generates high levels of commitment between all the involved parties.

Despite the advantages of the partnership extension model, it has been criticized for having very poor levels of coordination as the number of stakeholders increase. The high number of involving parties also makes regulation and the flow of information herculean and inadequate (Ladele 2011; Davis, 2008). Issues of sustainability have been associated with the model when applied to processes involving actors who require funds from donors before project execution commences. This is because a lack of donor funds automatically implies project failure, as opposed to when stakeholders converging for project execution to make a profit.

The partnership model is also vital for this study, because, it could help identify gaps in PPP contractual agreements that lead to challenges in PPP identity management initiatives. Identified gaps would be used to model new solutions for future identity management projects.

### **2.1.3 Synthesis of the reviewed theories**

The reviewed theories are converged under certain risk factors associated with PPP initiatives (Table 1). This synthesis is relevant for this study's discourse, because, it defines the point of convergence for the different ideas embedded in the theories and how they help to answer the study's objectives.

Table 1: Synthesis of the reviewed theories outlining possible risk factors associated with the PPP initiatives

<b>Risk factor</b>	<b>Description of risk factors</b>	<b>Theories</b>
Absence of performance monitoring	<ul style="list-style-type: none"> <li>• Project scope and performance requirements are not adequately defined.</li> <li>• No defined penalties for poor project performance.</li> </ul>	Agency theory
	<ul style="list-style-type: none"> <li>▪ Roles are not properly defined leading to project failure.</li> </ul>	Partnership extension theory
Inappropriate vendor selection	<ul style="list-style-type: none"> <li>• Inappropriate and inefficient project conceptualization.</li> <li>• No experience in the type of project to be implemented, or selection of vendors who are experts in other field but lack experience in the current field.</li> </ul>	Agency theory
	<ul style="list-style-type: none"> <li>▪ Partnership formation does not include the right stakeholders.</li> </ul>	Partnership extension theory
Lack of competent management and skilled Information systems resources	<ul style="list-style-type: none"> <li>• No defined protocols to manage the relationship between the principal and agent.</li> <li>• Inefficient collaborative networks.</li> </ul>	Agency theory
	<ul style="list-style-type: none"> <li>▪ No defined system for information sharing.</li> <li>▪ Poor levels of communication among partnering stakeholders</li> </ul>	Partnership extension theory
Moral hazard	<ul style="list-style-type: none"> <li>• Information asymmetry and nondisclosures stemming from poor agent selection.</li> <li>• Agents bargain opportunistically.</li> <li>• High cost of finding a replacement agent (potentially high sunken cost).</li> </ul>	Agency theory
	<ul style="list-style-type: none"> <li>▪ Stakeholders not keeping to MOU binding commitment.</li> </ul>	Partnership extension theory
Lack of strategic planning	<ul style="list-style-type: none"> <li>• There are no prior defined contract opt-out options in case agent performs poorly.</li> <li>• The cost of amending poor performing projects is too high.</li> </ul>	Agency theory
	<ul style="list-style-type: none"> <li>▪ No defined human resource capability development for the long-term.</li> <li>▪ Lack of funding source at project initiation.</li> </ul>	Partnership extension theory

Source : (Author, 2021)

#### **2.1.4 Conclusion on the reviewed theories**

The reviewed theories – the principal-agent theory and the partnership extension model have highlighted the need for contacts and MOUs in PPP models. The theories were also synthesized to highlight the possible risk factors outlined in the theories that are relevant for PPP initiatives. The reviewed theories, however, do not provide information relevant to the type and nature of PPPs in identity management. The theories dwell on the implementation framework but do not highlight the PPP contractual terms and structure. To fill these gaps, the following sections of this review presents a critical understanding of the PPP initiative, a review of different PPP models to identify the appropriate characteristics for a PPP contract in identity management.

### **2.2 Overview of public private partnership**

The following section of the literature review provide an overview of PPP, highlighting the context, definitions, and use of PPPs and the service contract types that are relevant for identity management.

#### **2.2.1 Understanding public private partnership**

The public-private partnership (PPP) concept has been loosely defined in the literature as an institutional arrangement that is facilitated by cooperation between private and public entities aimed at the implementation of projects and services which normally is the duty of the public sector to provide (Hodge & Greve, 2005; Linder, 1999). The initiative which was pioneered by the United Kingdom in 1997 has since been a valuable means to deliver public infrastructure, goods, and services.

The PPP initiative, being designed and implemented using a trade-off mechanism, allowed the government to substitute their increasing financial debt and spending for funding from the private sector in the form of capital investment.

The success of the PPP initiative and its use as a long-term investment option has caused governments around the world to adopt it as a means of reducing the burden of public services projects on the government. It presents a workable approach that allows cooperation of public and private institutions to achieve a common goal that cannot be effectively handled by a single party (Hodge & Greve, n.d.; Linder, 1999). However, while the approach seems fairly straightforward, there is no consensus on a particular definition for PPP. Several definitions have emerged, with each definition tailored to suit the context PPP was implemented. Without

a doubt, the diversity of definitions for the PPP concept can be explained by the different PPP use cases, each having its internal structure, needs, and complexities.

Definition wise, the (OECD, 2012) defines PPP as an accord between governments and private partner entities to deliver a project, such that it meets the profit aims of the private entities and the delivery goals of the government, with the bulk of the associated risk shouldered by the private entities. Ibem (2009) defined PPP as the pooling of resources from private and public institutions to achieve a commonly agreed aim.

Another definition was proposed by Levy (2011) who also defines PPP as a long-term concession agreement between private and public entities. This is such that the burden of design, finance, building, and other infrastructural assets previously financed and operated by the government are transferred to the private partner entities.

Some researchers have classified the PPP initiative as an arrangement between the public and private sector to deliver public value initiatives that the government is unequipped to do (Liu et al., 2016; Reynaers & Grimmelikhuisen, 2015). However, and as earlier stated, the diversity of PPP definitions is based on the notion that needs differ, and for this reason, each PPP definition externalizes the realities of the public needs that births each PPP initiative.

Perry (1998) criticized the non-existence of a unified PPP definition and argued that the diversity of definitions originates from the differences in individual beliefs about what PPP is about, rather than viewing the concept from a critical view to derive meaning. Given Perry's argument, a closer look at the PPP rubric reveals that certain notions cut across PPP definitions.

In essence, authors tend to agree that the PPP initiative involves:

- i. a synergistic agreement between public and private partner entities,
- ii. the facilitation of a public value initiative,
- iii. and risk allotment factors.

For this study, PPP is defined as an arrangement between institutions in the public and private sectors to provide public service utilities. Here, the arrangement is based on the incapability of the government and its institutions to deliver public service initiatives either as a result of inexperience or financial constraints. Such that the experiences and capital funds of private sector entities become crucial for the successful completion of the PPP initiative.

The PPP arrangement involves the parties entering into a legal binding contract with clear definitions of the rights and obligations of the involving parties.

### **2.2.2 Partnership Arrangement in PPP**

The traditional model of public service initiative initially rested entirely on the arms of government, however, the emerging model brought about by the PPP has reduced the burden and shifted a bulk of the responsibility to the private sector (Kosycarz et al., 2019). Within the PPP partnership agreement model, the government purchases the services of the private sector to help deliver public services in a bid to reduce government debt levels and utilize funding from the private sector as capital investments (Zhang, 2005). In addition, the private sector is seen as a more efficient institution in the delivery of service value, since it aims to maximize profit (Chowdhury et al., 2011).

The partnership agreement, therefore, functions to reduce the burden on the government and the private sector gains significant returns from the delivered service value through lease payment or service charges from the end-users. This aligns with the rationale for PPP use defined by Dykes & Jones (2016), that PPP helps fulfil the macroeconomic need for financing public projects, and the expectations that other micro-level benefits would be derived from the public service initiative e.g. the efficiency of the private sector which increases the value for money spent. However, Dykes & Jones (2016) also highlights that often, the need for a PPP initiative stems from the budgetary constraints of the government to deliver public service utilities.

The PPP agreement may take several forms depending on the nature of the needs or problem to be solved by the government. For these reasons, there are several PPP implementation types between the public and private sector parties that are differentiated by the level of involvement each party is committed to, and the levels of risks and responsibilities to be shouldered upon by the private entity. Raivy Namalala Chilala et al. (2017) outlines the following different types of PPP implementation types:

- **Procurement:** Within this initiative, the role of the private sector is to make procurements for the government without being involved in the management or control of the to-be-delivered public service.
- **Management:** Within this initiative, the private sector is often involved in procurement and management of certain aspects of the public project. The government yields a

portion of their management responsibility to the private sector, granting them some level of control.

- **Leasing agreements:** The private sector in this initiative takes a long-term lease of the infrastructure from the government for a defined number of years. During the term of the lease, the private entity has access to all profits accrued from the management of the public service utility.
- **Concession:** The government grants the private the consensual right to finance, manage, operate, and build the public service utility, and the private sector manages and owns the finances that flow in and out of the project all through the period of concession. The concession agreement is usually for a defined period in the long term for which at the end of the concession period, the private firm makes transfers full ownership back to the government. At the end of the concession, the government could take ownership if it has the capabilities to do so, or it puts the project up for another round of bidding.
- **Divestiture:** In this, the government transfers a no recovery right of ownership to the private sector entity, such that there is no point in time the public service utility is transferred back to the government. The private sector becomes the owner of the public service utility for an indefinite period.

These differences in PPP implementation types further supports the argument for a lack of unifying PPP arrangement type, as each type is geared towards a particular aim, method of execution, structure, and level of resources that is available. Some authors in the literature further this discourse by specifying in specific details the differentiating factors that characterize the different PPP agreements. Bouman et al. (2013) and Farquharson & Yescombe (2011) argue that PPP can be differentiated based on the level of private sector involvement, risk factors, the roles the private sectors play, how they are to be paid, the type of assets, and the nature of the proposed project. This is because while some PPP involves financing, management, and building, some involve the upgrade and management of existing assets. These differences exist, because, there is no universal PPP model that can be deployed for all types of projects, and this often poses a problem during the planning stages of a PPP project as public sector institutions are faced with a brick wall of identifying the right PPP contractual type for their projects.

Al-Hanawi et al. (2020) and Liu et al. (2016) highlighted the problems that exist when comparing the different PPP structures in different nations, because, oftentimes, projects with different nomenclature often follow and use the same PPP structure and those with similar



nomenclature follow similar PPP structures. However, Al-Hanawi et al. (2020) argue that this problem exists, because, there are currently no studies in the literature that integrate and converge the PPP literature for each sector and sub-sector to provide a holistic framework for sectorial PPP service delivery. For this reason, there is a lot of divergent views about the different PPP contractual types in the literature and this has generated a lot of controversies and inconsistencies across countries, regions, sectors (Levy, 2011; Raivy Namalala Chilala et al., 2017).

### **2.2.3 PPP contract types and the tenets of an appropriate structure for identity management**

#### **2.2.3.1 Service contract**

In the service contract PPP model, the government hires the services of private sector entities to carry out a specified task for a short-term period (usually 1 – 3 years). These contracts are commissioned to leverage the efficient skills of the private sector, their innovative capacity and resource capabilities (management factors) to deliver public services efficiently. Renda & Schrefler (2006) opined that the service contracts are usually short term and are deployed when the nature of the service to be delivered is clear and defined in the contractual agreement, performance levels can be easily evaluated and the demand level of reasonable.

Under the model, the public entity only concedes a portion of its operations to private sector entities at a pre-determined cost, while it manages the other operations and delivers the needed infrastructure to efficiently run the project (Abdel Aziz, 2007). Also, the performance of the private entity is benchmarked against a yardstick for which it must not fall beneath.

The rewards system of the service contracts defines the level of risk factors associated and which of the partner entities shoulders the bulk of the responsibility, and this comes about in one of two ways (Abdel Aziz, 2007):

1. The private entities get paid for the services it renders to its public partner irrespective of service demand such that the public entity bears the burden of commercial risk that stems from the projects (also see Bouman et al., 2013). In essence, if the project is a commercial failure, the cost is sunk on the budget of the public entity.
2. The private entity is paid according to the level of project performance which may be based on the level of service demand, or the performance utility of the project pegged

against the benchmark defined by the public entity. In this scenario, the private entity bears the bulk of the commercial risk associated with the project.

However, the case may be, service contracts represent a low-risk approach for private sector participation in the development of public utilities and allow the public sector to benefit immensely from the strategic capabilities of the private sectors such as reduced cost without quality loss in project performance (Bouman et al., 2013).

The major critique with service contracts is that they are often unsuitable for scenarios where the aim is to attract capital investments, as it is often assumed that the efficiency of the service contract is likely to be minimized by an immaterialized public financing (Swanson & Samy, 2002). In essence, service contracts are only deemed sustainable if the investment capital remains the responsibility of the public sector.

### **2.2.3.2 Management or Operation and Maintenance Contracts**

This is a PPP agreement where private partner entities render operational and maintenance services on public service utility for a price that is defined by the level of satisfaction derived from the use of the public service utility (Kwak et al., 2009). This is similar to the lease agreement defined before, in that the private entity is awarded an operational license to operate the public service utility at a pre-determined price for the length that the awarded license lasts for. Although, it has been argued that the private entity may receive payment for services provided through annual profit sharing between the contracting parties (Bouman et al., 2013).

This model shared some features with the service contract, in that the required infrastructure and capital investments are provided by the public entity, while operations, management, and maintenance are the duty of the private entity. It has however been argued that while private entities do not provide the initial investment capital, they sometimes provide the capital for operations, management, and maintenance (ADB, 2008).

The risk factors are similar to those of the service contract, in that where the contracts are based on performance benchmarks, the private entity bears the associated risk. However, the risk burden is not based on service demand, rather, it is based on the management performance e.g. depreciation factors associated with management of the public utility (Thomas Ng & Wong, 2007). By basing the rewards system on performance metrics, the public entity is assured of the best value for money spent and very high consumer satisfaction when the public service

utility is consumed. As such, the strength of the management contracts is rested in the gains they derive from private sector management without conceding the public asset to the private sector (ADB, 2008). In cases where the profit margin is higher due to efficient management services, the public sector enjoys all the additional benefits.

The major critique of this model lies in the fact that the contracts are hard to develop by easy to manage, given that the private sector bears the major part of the risk. In addition, private sectors often do not enjoy the required autonomy required for optimal efficiency, and this usually affects expansion planning. The management contracts also does not provide a fixed pricing structure like the build models (ADB, 2008; Bouman et al., 2013).

#### **2.2.3.3 Design and Build (DB)**

In this model, the required infrastructure is designed and built by the private entity at a specified price such that the public entity assumes full control and management of the asset upon completion of the project by the private partner entity (Warner et al., 2008). In this model, any form of over-run risk factor is shouldered by the private entity, however, the public entity shoulders the risk associated with poor project performance.

#### **2.2.3.4 Design–Build–Finance (DBF)**

Under this PPP model, the private entity provides the required capital investment for the public service utility and the public sector pays back through long term payment plan agreements (Gwary et al., 2016). The model is usually used as short-term financing agreements, and the long term payback period – usually 5-7 years – is meant to allow the payment more affordable for the public entity.

#### **2.2.3.5 Build-Operate-Transfer (BOT)**

This model involves the participation of private entities in a manner that the public entity sets performance benchmarks for how the public service utility would be financed, designed, built, and operated for the private entity under a long term concession plan, such that the duration of concession is enough for the private entity to recover its expenses and make a profit (Gwary et al., 2016; Shukla et al., 2016). Unlike the service contract, these contractual agreement is geared at attracting private sector investment to deliver public service utility; however, the model is common among OECD nations and less common among developing countries, because, of the usually high capital cost required to get into the agreement (Warner et al., 2008).

This PPP model is usually deployed when there are high user demands for certain public service utility for which the financial requirement does not fit the realities of the national budget.

#### **2.2.3.6 Build-Own-Operate (BOO)**

This PPP model is similar to the BOT model, except that the private entity owns the public service utility while the public entity provides the avenue for the successful delivery of the project, which could involve subsidies, tax cuts, lower import tariffs, etc. In essence, control and ownership lie with the private entity (Gwary et al., 2016; Warner et al., 2008).

#### **2.2.3.7 Build-Own-Operate-Transfer (BOOT)**

This model has couples the major components of the BOO and BOT models, however, the differentiation factor is that the private entity charges a fee for the period of concession before handing the public utility back to the public entity (Gwary et al., 2016; Warner et al., 2008).

#### **2.2.3.8 Joint ventures**

Joint ventures (JVs) are contractual agreement where private and public entities either co-own a new firm or jointly own an existing firm previously owned by the public entity. In the latter, the public entity sells ownership shares to the private entity and co-own the business. Within this model, risk sharing is equal between the public and private entities, although it often happens that the entity with larger shares takes shoulders the bulk of the risk and takes the bulks of the profit as well (Gwary et al., 2016; Warner et al., 2008).

The uniqueness of the JV agreement is that the private entity does not render services to the government, but rather becomes a semi-public entity, and depending on who owns the bulk of the shares, the enterprise may be deemed mostly private-owned or mostly government-owned enterprise. Joint ventures also tend to operate without the need for a binding contract between the public and private entities (Gwary et al., 2016; Warner et al., 2008).

### **2.3 Barriers to successful PPP initiatives**

The literature has highlighted that despite the positive contributions of PPP to public utility development, PPP initiatives do not always end as success stories (Kwak et al. 2009). Many drivers influence the process of PPP initiatives that sometimes lead to premature termination.

Given the central role of this discourse in the aim of this research, it is necessary to review the barriers that hamper the successful implementation of PPP initiatives.

Several studies have reviewed the barriers to PPP initiatives, however, very few studies have holistically categorized the barriers from a PESTEL (Political, Economic, Social, Technological, Environmental, and Legal) perspective (Babatunde et al., 2014). This is actually because the barriers of PPP are usually defined by the nature of the initiative, as some initiatives (e.g. intangible government services like identity management) may not be influenced or less influenced by some of the PESTEL components. For this reason, this review is contextualized based on how the barriers relate to identity management.

For instance, literature on the environmental, social, and technological factors influencing PPP initiatives are limited in the literature, and for this reason, the reviewed information is constrained by the available information sources in the literature. This review also draws strongly from the reports of Zhang (2005) who categorized the findings of his review partially, from a PESTEL perspective.

### **2.3.1 Political barriers to PPP initiatives**

PPPs generally require a political platform upon which they would successfully thrive, and studies in the literature have established that political influence does have significant effects on PPP initiatives. The political barriers to the PPP initiative is a major barrier and authors have asserted that PPP is to a great extent influenced by the political climate, making it very difficult to separate the entities in PPP debates. (Yescombe, 2007) asserts that, if strategies on how to traverse political barriers are not put in place, it could easily damage the PPP processes. This is because, most PPP projects tend to have a political attachment e.g. politicians using the success of a PPP project for clout so they can sway voters in elections, as politicians often see them as an easy tool they can leverage to easily deliver public service utilities. For this reason, PPP often operates within the arm's length of state politics when they should indeed be less influenced by political factors (Carpintero & Siemiatycki, 2016)

Hodge & Greve (2010) argue that more than often, political actors have used the global paradox to push for certain PPP initiatives that may have negatives when implemented locally. Such political actors often mask the PPP initiative as projects that would yield local gains, either for political clout or for certain benefits they may realize from the implementation of the PPP initiative. However, often outcomes from such motives tend to be two-edged, given that it can serve as a driver or as a barrier for successful PPP projects.

The literature has shown that the decision to implement and pursue some PPP projects are often driven by the net cost of the project on the political economy (Gawel, 2011). In such cases, PPP projects with lesser net political gains are dropped for those with greater political gains, even if the former has potentially higher economic benefits than the latter (Carpintero & Siemiatycki, 2016). For this reason, it is scarcely surprising to see that most high-cost PPP initiatives often have a political interest in driving the implementation of the said project.

The problem with this is that the narrative tends to result in bias where the decision to award a PPP contract is not based on the efficiency of the private actor (as outlined in the agency model) but rather based on potential political gains such as kick-backs, private entities supporting the campaigns of political actors, or other benefits). If such is the foundation of a PPP project, there is little chance the private entity is likely to maximize its commitment and project performance. To resolve this situation, Brinkerhoff & Brinkerhoff (2011) proposed that every PPP initiative should be based on the competence of the parties and potential outcomes of the project, rather than on partisan political interests. This is likely to raise the commitment levels of the involving parties.

Asquith et al. (2015) on the other hand argues that commitment is not enough unless proven through actions. The idea is that a strong political commitment to the implementation of a PPP project must pre-include the assurance of low political risk for the private entities and that the framework for PPP agreement should be fair to the involving parties (Javed et al., 2013; Osei-Kyei & Chan, 2015). The narrative is such that poor political commitment has been identified as a major reason for poorly designed PPP initiative, which more than often eventually affects implementation. Such poor commitment usually stems from a poor social appeal such that decisions about PPP initiatives are sometimes taken without a clear articulation of the people for who the PPP initiative is built (Ypi, 2016).

The extent to which the political climate affects a PPP initiative is also defined by the extent of political control. It is believed that excessive political control may constrain the performance of a project. This is, because, constraints reduces the levels of trust between parties and can easily cause a breakdown of the project. Klijn & Teisman (2003) also argue that control reduced the potentials of mutuality during PPP projects and creates a shift away from mutual dependencies on the competencies of the involving actors to a distinct separation of responsibilities that often affects the innovation of PPP projects.

Scholar in the literature have argues that excessive political control is that PPP projects can often be ended abruptly. An example of this can be made of the Australian government which through excessive control of political force traded off some PPP projects for some other projects (Asquith et al., 2015). The resolving political process that lessens such levels of political control – rotational governments – also has its base, as each government with its criteria and policies may disregard the need for an ongoing PPP project, and shut them down to enforce their own. This usually happens when rotational governments have opposing ideologies (Mouraviev & Kakabadse, 2017).

The recommendation emerging from this review is therefore that the political interests must be aligned with the technical interests' of every PPP initiative. Symmetrical interest would reduce the influence of political interference that affects PPP initiatives.

### **2.3.2 Economic barriers to PPP initiatives**

The economic barriers to PPP initiatives are not as developed as the political barriers, because, the nature of PPP initiatives is geared towards solving problems that originally, are economic. However, economic barriers do influence the implementation of PPP projects that are usually non-economic binding. Given the reviewed PPP types, it can be seen that in some instances (like in the service contract, management contracts, design and build, etc.) where the private entity does not have a financing role, the ability of the public entity to fund the budget may be constrained by economic factors (Al-Hanawi et al., 2020).

Often, governments are under the pressure to deliver public service utilities that they may be financially incapacitated to deliver. This places significant pressure upon them, especially as demand for the service heightens (Dykes & Jones, 2016). The increasing pressure from rising demand and a constrained budget, oftentimes, causes PPP projects to collapse, especially when the time for completion and time needed to make the required funding available is not harmonious (Babatunde et al., 2014). This is often the outcome previously discussed where partners fail to keep up to the end of their agreements in the partnership theory.

Also, PPP projects may be forestalled, by other economic factors such as rising inflation and economic costs, which are significant risk factors that influence the success of any PPP initiative (Al-Hanawi et al., 2020). Rising inflation cost may cause the cost of project financing to double an initial agreement price, such that the ability of the funding party becomes constrained due to new market developments. In such situations, the lack of alternatives or cost

reduction methods would forestall the project until the required funds are released. This is particularly relevant for PPP agreements like identity management where the bulk of the execution rests on the strategic capabilities of the building party and project financing.

In addition, in some PPP partnership agreements where the public entity is the major funding body, the public entity may fail to conduct a proper financial feasibility study, leading to financial projections that are often untrue and volatile (Dykes & Jones, 2016). This lack of a structured plan could also hamper the possibility that external funders would be willing to invest in the project.

### **2.3.3 Environmental, Social, and Technological barriers to PPP initiatives**

The barriers of PPP initiatives can also be viewed from environmental, social, and technological perspectives. Although the intangible nature of identity management does not lend itself to environmental challenges, there are social and technological challenges that serve as barriers to successful implementation.

Social barriers usually emerge from situations of public distrust. The narrative is such that if the citizens of a state do not trust the government enough to represent their intent truthfully, it may constrain their intention to use the delivered public utility when it is made available, especially when alternatives exist (Zhang, 2005). From the reviewed theories, it has been established that PPP project failure may stem from very low to no demand of the constructed public service utility, as such, the project may have been built, developed, and managed properly, but public rejection of the utility would make it a failure.

In some other cases, social barriers can stem from scenarios where the expectations of the public conflicts with the delivery of the government. For example, if the advocacy for a PPP initiative is driven by the notion that the service would eventually be rendered for free, should the government decide to charge a fee for the said public utility, this might cause advocacy against use because of conflicting expectations (Babatunde et al., 2014). Although most of the social barriers tend to emerge from conflicting resolutions between the government and the people, there are scenarios where the public distrusts a private entity, based on prior knowledge about the entity delivering sub-optimal services, or delivering services that serve the interest of the government only (Al-Hanawi et al., 2020; Babatunde et al., 2015).



Technological barriers also hamper the successful implementation of PPP initiatives. The idea is that if the needed infrastructure for a particular PPP initiative is lacking, and there is no provision within the contract to develop the needed infrastructure, it may constrain the possibility that the PPP initiative would be successfully implemented (Zhang, 2005). However, technological barriers often emerge from improperly conducted feasibility studies. It is normally expected that before a PPP initiative is initiated, the ingredients for its success should be available.

#### **2.3.4 Legal barriers to PPP initiatives**

Legal perspective in PPP development is quintessential, because, PPP agreements must be protected by a legal framework. PPPs without a defined legal framework may make it hard for them to thrive, particularly when the perspective of the people is at variance with the government, causing series of lawsuits that can forestall or terminate the PPP project (Rankin et al., 2016).

In the previous example on social factors, activism might arise when the expectation of the people that the delivery of a public service utility would be made available for free clashes with the government's decision to charge a fee for the said utility (Mouraviev & Kakabadse, 2017). In a scenario where the agreement between the government (public entity) and the private entity is to transfer the cost of the initiative to the people, a lawsuit arising from the people, challenge the decision of the government in court, would affect the project, should the courts rule in favour of the people (Babatunde et al., 2014).

This, therefore, implies that the design and implementation of PPPs requires an extensive legal framework to be developed such that the framework can be used to traverse legal issues that might emerge later (Rankin et al., 2016). Thus, a conceived legal mechanism for a PPP will play a crucial role in the development and successful implementation of PPP (EC, 2003). The legal issues are not only external to the involving parties, as they could also emerge from a legal tussle between the prior agreeing parties.

Conflicting scenarios stemming from lack of commitment, forceful project takeover by the government, private entities delivering substandard public utilities, improper management, may cause a legal tussle to emerge between prior agreeing PPP partners (Mouraviev & Kakabadse, 2017). Although, it is often conceived that this often stems from scenarios where agreements between parties are not legally binding, as such issues stemming from the non-

legal binding agreement may require a legal resolution (Pongsiri, 2002). A legal framework between public and private entities that do not protect the interest of the private entity, and that does not tone down the control mechanism of the public entity may affect PPP implementation (Mouraviev & Kakabadse, 2017).

### 2.3.5 Summary of the barriers to PPP initiatives

A summary of the reviewed barriers to the PPP initiatives are reviewed in Table 2. It outlines, broadly the factors that constrain PPP initiatives from a PESTEL perspective.

**Table 2: Summary of the barriers to PPP Initiatives**

<b>Barriers</b>	<b>Description</b>
Political	<ul style="list-style-type: none"> <li>• High political nepotism in project assignment.</li> <li>• Lack of proper risk distribution between different sectors.</li> <li>• Lack of consistent government policies and ideologies.</li> <li>• Lack of consistency in policies enacted by different government cycles.</li> <li>• Excessive political control leading to differentiated roles.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>• Lack of financing skills in the public sector</li> <li>• Lack of suitable financial and tax support by the public sector</li> <li>• Lack of attention to cost reduction methods in contractors</li> <li>• Lack of financial feasibility cost of the project.</li> </ul>
Environmental, social, and technological	<ul style="list-style-type: none"> <li>• Lack of needed infrastructure for project development.</li> <li>• Distrust rising from the people causing low to no demand for the service.</li> <li>• Asymmetrical views of the people and government on project outcome.</li> </ul>
Legal	<ul style="list-style-type: none"> <li>• Conflicts among project’s stakeholders.</li> <li>• Lack of legal and technical infrastructures for partnership.</li> <li>• Lack of clear contracts for investment in partnership projects.</li> <li>• Lawsuits stemming from the distrust of the people for the government and private entities.</li> <li>• Lack of trust between the public and private sectors.</li> </ul>

Source : (Author, 2021)

### 2.3.6 Proposed protocol for successful PPP initiatives

This study adopts the protocol proposed by Zhang (2005) for what is believed to be the framework for successful PPP initiatives (see Figure 1). Although the model is not a one for all fit solution, it provides a structured framework that could be adopted to potentially lead to a successful PPP initiative, especially for identity management.

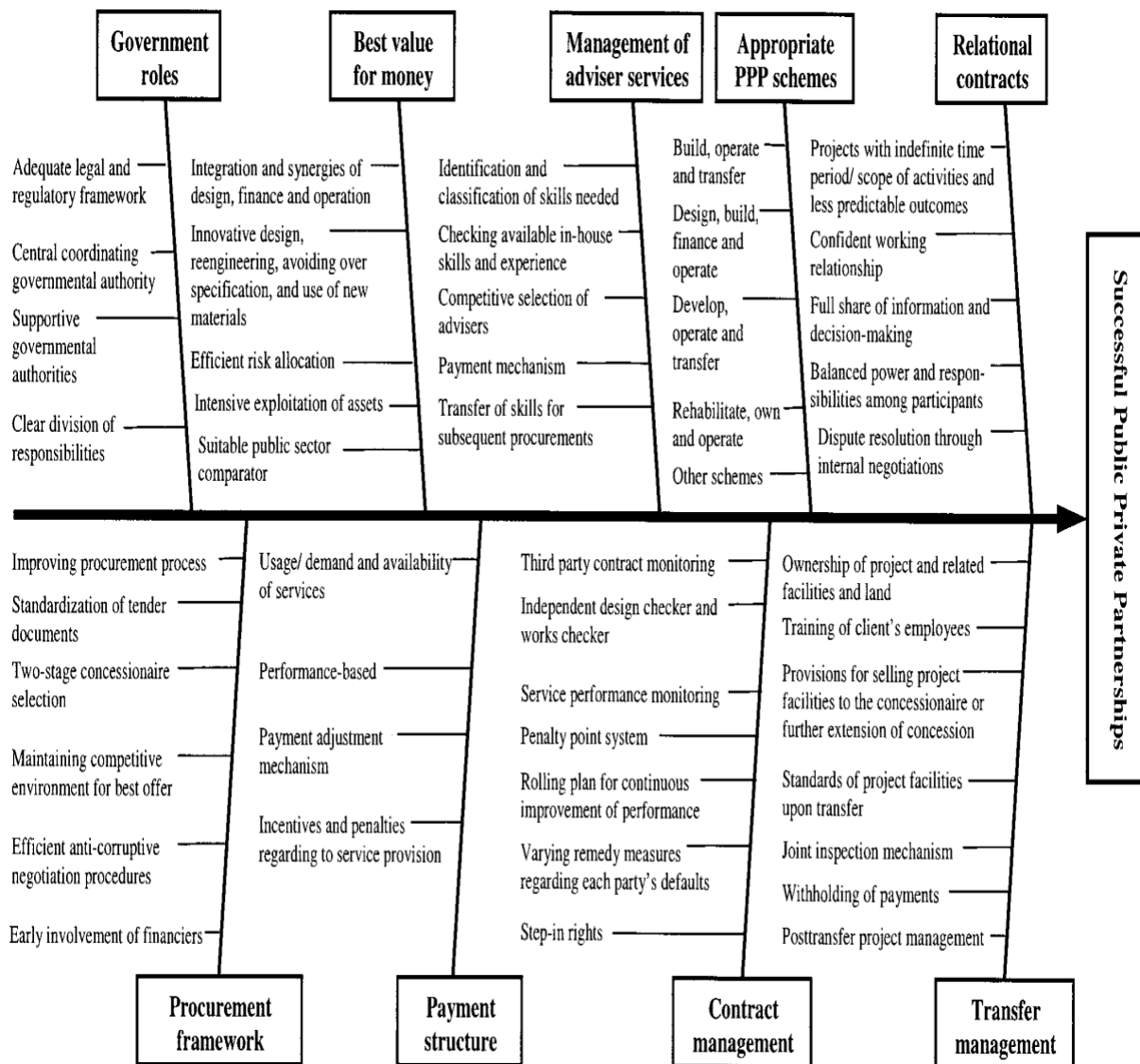


Figure 1: Zhang's (2005) protocol for successful PPP initiatives.

## 2.4 State of the art

### 2.4.1 Identity management

Advances in information and communications technology have collapsed the world into a global village. People now transact without borders, conducting cross-country border operations without the need for physical displacement (Madsen, 2019). This narrative is also true for governing institutions, as most operations in government across the world are increasingly being digitized. Governments have deployed digital tools to manage some of their operational processes, however, the major challenge often lies in how they effectively communicate with the people, through the identification of the specific needs and attributes that are unique to the individual (Gawel, 2011).

Identity management helps governments resolve these issues, as it allows governments to tailor utilities according to the specific need of the individual. It also affords the government the ability to properly identify its citizens so that it can serve them the benefits (physical and e-services) of the state such that they are differentiated and distinct from non-citizens (Pradhan & Kumar, 2016; Tsap et al., 2020). However, there are different forms of identification, and, the primary identification means are:

**Cultural identity:** refers to the identity of people that have a common origin, shared history, or values (Brazier & Mannur, 2003).

**Digital identity:** refers to the representation of personal characteristics electronically (Windley, 2005; Bouzeffrane, 2015; Vacca, 2014). This involves the use of computer systems and electronic technology.

**Biometric identity:** These identification means are relative to the biology (physiology and behavioural traits) of an individual. It is usually represented using DNA information, retina, facial structure, fingerprints, etc. (Windley, 2005)

Governments can choose to identify their citizens through any of these means, however, the government is not the only entity that uses identity to interact with individuals, as private institutions also interact with individuals using their national identity (Pradhan & Kumar, 2016). However, there are restrictions associated with how the identity of individuals can be accessed and used, and these restrictions – enforced by the government – are aimed at ensuring that the identity of individuals is secured, private, and immutable (Windley, 2005). For this

reason, identity management also involves effective identity monitoring, authorization, and authentication.

The process of identity management also involved that the identity to be managed must have been collected at some point in time (Vikas Kumar & Bhardwaj, 2018). This is given (Hansen et al., 2007) definition of identity management which involved the collection, authentication, verification, storage, and use of identity information linked to individuals. Coupled with the other components of identity management previously discusses, such as the authentication, securing, privacy and immutable nature of individual identities, it implies that the approach to identity management must be encompassing of all these factors.

#### **2.4.2 Approach to identity management**

Given the components of identity management discussed above, it is necessary to review the several approaches to identity management to be able to identify the approach that would best suit a particular identity management context. This is because, deploying an identity management system must be done by taking into account the end users. For government, they must ensure that the identity management system is that which maximizes the utility levels of their citizens, as according to Tsap et al. (2020) this has an impact on the acceptance of identity provisioning by the government. In the following sections, different system of identity management are reviewed.

#### **2.4.3 Silo or Isolated Identity System**

This system of identity management is widely used and functions independently without reliance or linkage to other identity systems (Vacca, 2014). It is usually maintained as a centralized service by a single service provider and is often used in specific institutions such as a public library record, student school id, and private clinic registers (IEEE & Falk, 2009). Here the organizations create and manage the identity by issuing IDs and managing the service by itself (Bouzefrane, 2015).

The critic of this style of identity management is that it lacks transparency and is very limited in functionality. Usually, there are no links established with other institutions, as such, individuals have to maintain multiple identities across institutions, and are very prone to damage, theft, and loss (Bouzefrane, 2015; Vacca, 2014).

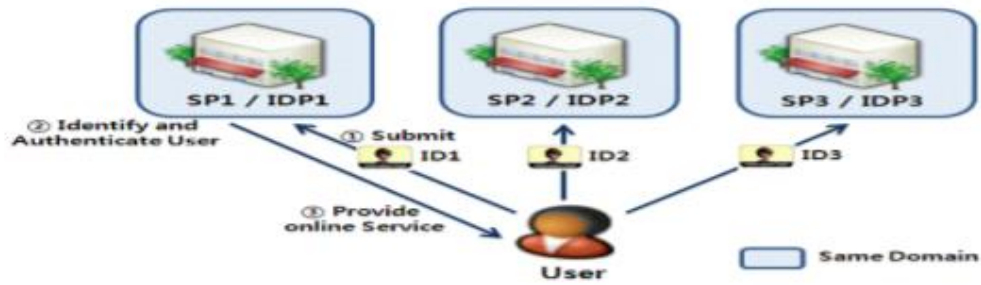


Figure 2: Silo or Isolated Identity System. Source: IEEE (2009)

### 2.4.4 Centralized Identity System

This system of identity management is aimed at resolving the limitation of the Silo identity system. This system offers the prospect and possibility of managing identity across multiple connected systems through a single user ID (Bouzefrane, 2015; Vacca, 2014). The system of authentication, verification, and accessibility is maintained by a central service provider, and a single ID grants users access to multiple channels (IEEE & Falk, 2009). This system offers higher levels of flexibility than the Silo system, given that identity is created once and used across different channels.

The critic of this approach is that while it affords different channels access to identity information, the information is limited only to channels that are within the domain of the service provider (Camenisch et al., 2011). This limited access constrains the scale of use and causes it to share some of the limitations of the Silo system e.g. being prone to loss, theft, damage, etc. Perhaps, what is deemed the fearful fact about this system is the fact that such central provisions can easily fail (Camenisch et al., 2011).

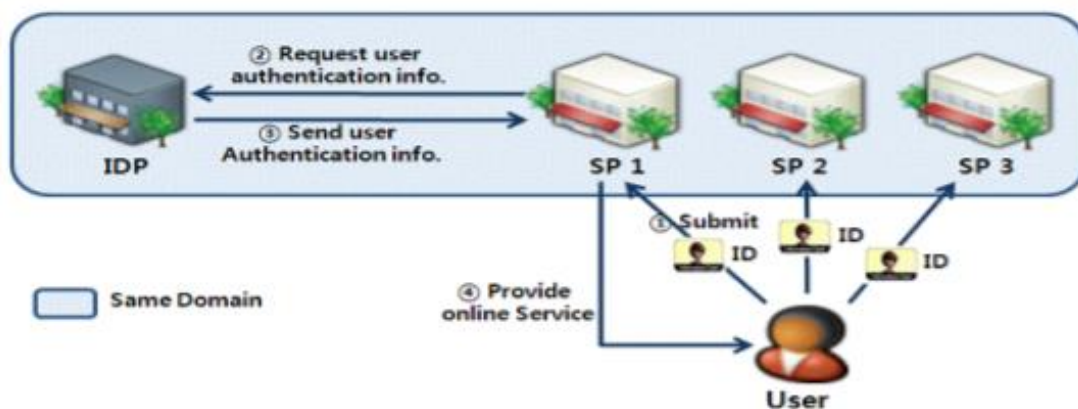


Figure 3: Centralized Identity System. Source: IEEE (2009)

### 2.4.5 Federated Identity System

A federated identity is formed through a joint network of trustees that allows for the identity information to be created at any service provider point and shared across the network of trustees. This system is similar to the centralized identity system, however, it is differentiated by the fact that dependents on each system have access to the identity information stored on the other systems (Bouzefrane, 2015; Vacca, 2014). It is such that each service provider created and registers individuals using a unique ID system that is different from those of the other partner networks, however, because the service providers are connected through trusted networks, the system is usually more secure than the other system (Vacca, 2014). Communication security is usually more efficient and the system has a better control mechanism. The system is critiqued for being a closed-loop and limited in use since the system only allows for very limited information sharing.

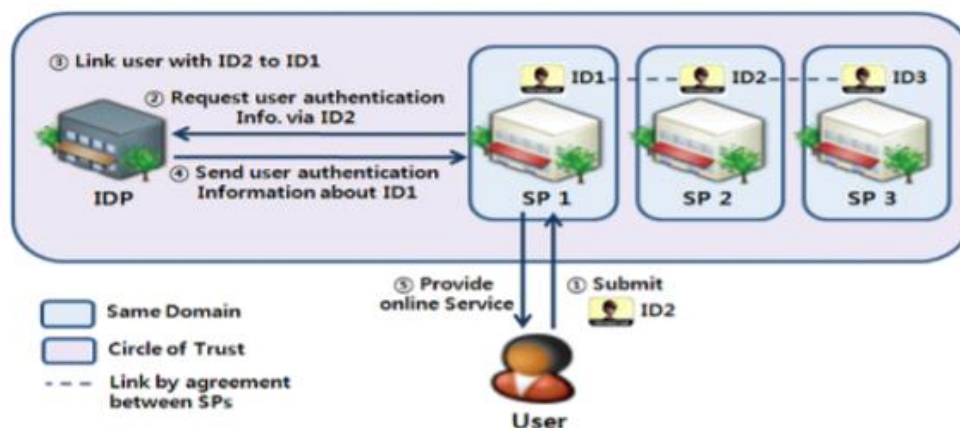


Figure 4: Federated Identity System. Source: IEEE (2009)

### 2.4.6 User Centric Identity System

In this model, the creation and management of identity is solely the discretion of the user. The user only employs the services of a service provider to manage their own identity. In this system, the user is under no obligation to provide personal information to the service provider (IEEE & Falk, 2009). This model is very similar to the mobile networks model, as it is the sole responsibility of the user to select a service provider. The service provider in this model is a

separate entity that serve as a mediating partner between the user and the target organization (Bouzefrane, 2015; Vacca, 2014).

This model is similar to the federated paradigm (Bouzefrane, 2015; Vacca, 2014) given that it tends to be very efficient security-wise, is compatible with legacy identity management methods, and users need only one credential (IEEE & Falk, 2009).

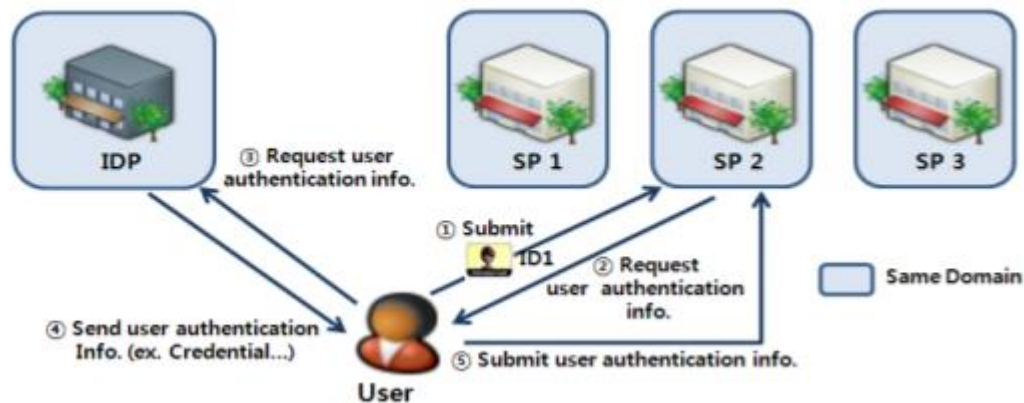


Figure 5: User Centric Identity System. Source: IEEE (2009)

#### 2.4.7 Challenges of Identity management

Very high trust levels are needed in government before citizens trust the government with their identity. This is because while the government serves as the authoritative body that manages the identity of its citizens, the citizens must trust the government enough to keep information about their identity safe (Kumar et al., 2007). This makes identity management a subject with very high legal requirements.

The idea is that the information of individuals is generally meant to be kept private, and there are legislations about how such data can be accessed, used, and transferred by government and non-government entities (Kumar et al., 2007). Where the government is deemed trustworthy, there are legal advocacies against supplying personal information. On the other hand, a government that is not perceived as being trustworthy would face challenges during the collection of citizen supplied data. Also, according to Tsap et al. (2020) the identity system must be convenient to use if the system would see high level of acceptance and adoption, as people are unlikely to phase through systems that are overly complex. Other challenges are based on the security, immutability, storage and privacy issues associated with user data.



## **3 Methodology**

This chapter will characterize the research paradigm and elaborate the methods and techniques for data collection. It will justify the chosen approach, considerations made, and how this influences the choice of the data gathering method, analysis, and why they are quintessential for answering the research questions.

### **3.1 Research Design**

This research was developed from the qualitative and exploratory research viewpoint. A qualitative research entails an in-depth analysis of the experiences in the social world. It is concerned majorly with the meanings and processes that are not quantifiable i.e. cannot be measured in terms of amounts, frequency or intensity (Denzin and Lincoln, 1998). Qualitative research are derived from human experiences, situations, and events that cannot easily be interpreted by quantitative measures (Maykut and Morehouse, 1994). This study focus on people, practices, and perspectives, and since this research approach involves methods of data collection and analysis that do not have a quantitative orientation and cannot be analysed using numerical statistical methods, the qualitative study was adopted. Also, since this study seeks explanation for “how things are in a particular context”, the adoption of qualitative research is deemed proper (Mason, 2002). This study also followed an exploratory approach, because, very little information is known about the studied phenomenon (Saunders et al., 2007). Given that the research question seeks to understand “what factors are in play”, not “what is used” as known of descriptive studies, or “why it is used” as known of explanatory research, the exploratory approach was deemed the right approach since it is suited for understanding the “what” of a phenomenon, and aids in the development of a holistic approach of the event and experience in question (Denzin, 2005).

The research involved interviews with people who are top-level executives and staff members of the firms analysed in this study. The individuals are people very knowledgeable about the PPP practices of the firms and the challenges the firms have faced at the implementation phase.

Events, practices, and practitioner are the units of analysis for this study. Interview sessions were conducted with multiple individuals in the data gathering process.

### 3.2 Research Strategy

The research strategy outlines details about the chosen methodological strategy that will be employed to aid in the data gathering process and answering of the research questions. The following paragraphs critiques the research strategy that best fit into the study’s context (Table 3).

Table 3: Research strategies from a methodological context

<b>Strategy</b>	<b>Research question paradigm</b>	<b>Controls behavioural event</b>	<b>Focuses on current events</b>
Archival analysis	Who, what, where, how many and how much	No	Yes/No
Case study	How and why	No	Yes
Experiment	How and why	Yes	Yes
History	How and why	No	No
Survey	Who, what and where	No	Yes

Source: Adapted from Yin (2003)

Before the selection of a case study, one must critically analyse the paradigm of the research question to quantify how it fits into the reality of the available research strategies. The aims of this study, which seeks to identify the challenges of successful implementation of private public partnership initiatives, call into question how the challenges emerge and why they emerge. As a result, the paradigm of the research question can be grouped under “How” and “Why” as prescribed by Yin (2003).

Table 3 presents the different research strategies that can be adopted, however, only the case study, experiment, and history strategies can answer research that have “How” and “Why” questions. Of the three strategies, the historical strategy cannot be applied to the current study, because, the study is not just restricted to past events but would also involve current events. Since the historical approach cannot be used to model contemporary event, it does not suffice. The experiment approach also does not suffice, since it largely would involve behavioural modification of the entity in question as this may involve comparing the different case firms rather than exploring the challenges each of the firms face. Such

behavioural modification deviates significantly from the research questions and objectives, given that this study only seeks to understand challenges and issues without altering the default state of the entity in question.

The case study approach, on the other hand, fits into the context of the present study, because, beyond being based on contemporary events and asking the critical “how” and “why” questions, it allows for more exploration of empirical findings without altering the state of the studied phenomenon (Halinen, 2005). Yin (2003), classifies a case study as an inquiry that investigates a phenomenon in real-life scenarios and are particularly important when research questions about “How” and ‘Why’ are to be answered. This is since the present study is also concerned about the challenges of successful implementation of private public partnership initiatives. For this reason, the case study approach was selected as the research strategy for the present study. The case study approach also comes with the question of how many cases would better reflect and aid in answering the research questions. As a result, the choice of using one or multiple case study must be made, taking into account the advantages and disadvantages of each selection. The multiple case study approach was selected in this study to increase the exploratory power and for more robust analysis. This is in contrast to a single case study, where the exploratory power may be low, because, there is only one analysing unit. In essence, the multi-case studies would allow for a larger empirical result base which is usually more robust and convincing such that inferences are drawn from multiple sources supporting the result as opposed to the single case study approach that has a limited view.

### **3.3 Data Collection Methods and Data Sources**

The nature and type of data collected in any study and the method of data collection must be suitable in answering the research questions before usage. Also, the type of information sources available for collection dictates the type of data collection method that would be employed.

A qualitative data collection method was employed in this study and was designed to suit the adopted multiple case study approach. Data collection in multiple case study research allowed for the systematic analysis of the studied phenomenon in a given set of conditions. Collected data were primary and secondary. The primary data was obtained through direct observations and interviews with top executives and staff members of the

firms, while secondary data will be obtained through websites, documentations, reports, cases, etc. Websites, because they granted information about the firm. Documentations, reports and cases, helped serve as additional information sources that complemented the data obtained from primary sources. Since the objectives and questions of the present study contain the “how” question, the present study draws empirical findings from both primary and secondary data sources and this increased the exploratory power of the study.

### **3.3.1 Virtual interviews: Remote data gathering method**

The data collection process may deviate from the conventional process of data collection due to global lockdowns and travel restrictions that denied me the opportunity to travel down to physically collect data. However, due to the limited time available to complete this thesis, seeking other options that allowed me to have access to the needed data is quintessential. For this, virtual interviews were conducted with all the research participants. The research objectives and interview guide were sent in advance to the firms so that they could appoint individuals who were engaged in the interview process.

### **3.3.2 Semi-structured Interviews**

This study employed the use of a semi-structured interview in the data gathering process. The use of the semi-structured interview allows pre-determined questions to be asked so that the dialogue transformed into a flowing conversation such that the conversation was very open-ended. The advantage of this method is the flexible approach towards data collection. It allowed for raising new questions and ideas during the interview process as the dialogue progress. The dialogue started informally to raise the confidence level of the informants and ease off any form of anxiety that could arise from responding to the questions.

The semi-structured nature of the interview allowed additional questions to be asked for clarity purposes and to better elucidate contradictory statements, while questions, where the informants did not feel comfortable providing direct answers to, were re-phrased. Also, questions were formulated in a way that the informants were able to contextualize their responses in a story-telling manner. For this reason, the semi-structured interview process was deemed adequate and this helped obtain the necessary information about the challenges of successful implementation of private public partnership initiatives. The interview was video recorded using Microsoft teams and Zoom. The same interview guide

– which contained all the questions – were used for all firms used as a case study in this research.

To correct for ethical concerns – particularly data privacy concerns, prior informed consent (PIC) was obtained from the informants before the interview process.

In summary, the steps taken in the interview process are:

1. Compiling interview questions based on the research questions.
2. Interview guide design.
3. Conducting video recorded interviews using Microsoft Teams and Zoom.
4. Transcribing recorded interviews.
5. Analysis of data collected at the interview.

The conducted interviews were in line with the original research design. It is believed that the number of firms interviewed (9 in total) increased the exploratory power of the research, however, the sampled firms should provide good data quality needed for the research.

### **3.4 Case selection**

#### **Initial case selection**

The selection of relevant samples is essential to the empirical data collection process (Yin, 2003). Selection of cases is usually based on specific criteria which must be in line with the study's objectives. Selected cases must all meet the criteria, as a result, the selection process must be carefully thought of. Case selection would be conducted by means of purposeful sampling. Purposeful sampling is widely used in exploratory research as it aids in the selection of information-rich cases and involves the selection of individuals or group of individuals that possess the knowledge and experience in a particular state of interest (Patton, 2002). Purposeful sampling will allow for the identification of entities possessing knowledge about the researched phenomenon (Cresswell & Plano Clark, 2011).

The original idea was to select about 10 case firms (5 private and 5 public firms) as the cases for this. These case firms were selected based on the following criteria.

1. The cases are PPP firms.
2. The cases are from Nigeria and Estonia
3. The cases are accessible.
4. The cases have operations based on National identity management

5. It is easy to set up face-to-face interviews with the case firms' representative.

**Final case selection**

Although it was initially stated that 10 case firms would be used, albeit only interviews with 8 firms (5 private and 3 public) were realized. The reason was that not all firms responded to the interviews, while some firms chose to have the interviews on dates that were too distant (not within the timeframe) of the thesis research. The selected case firms are shown in Table 4.

The interviews were recorded using Microsoft Teams and Zoom. The interview participants were asked questions regarding challenges the firms face with successful PPP implementation. Further questions about their managerial vision, market knowledge and commitment factors, foreign market selection and entry mode, strategic flexibility, and international marketing flexibility of the firms. A structured interview guide was sent before the interviews, and the interviewees were asked questions based on the interview guide. Probing questions based on literature related to the research helped get additional information related to the researched phenomena.

Table 4: Selected and interviewed case firms

	<b>Name of the firm</b>	<b>Type of the firm</b>	<b>Number of persons interviewed</b>
1.	BEST Solutions	Private	1
2.	SK ID Solutions	Private	2
3.	Nortal	Private	1
4.	VerifyMe	Private	1
5.	SeamFix	Private	1
6.	NIMC	Public	1
7.	Joint session <ul style="list-style-type: none"> <li>• Estonia Ministry of Interior</li> <li>• Police and Border guard</li> </ul>	Public	3 2 individuals from the Estonia Ministry of Interior 1 individual from the Police and Border guard

Source : (Author, 2021)

### 3.5 Data Analysis

This is done to make sense of the data collected and draw an impression out of it so that it can be used to fully provide answers to the research questions. Analysing the collected data made it easy to find relationships between the study areas and also draw out reasonable conclusions.

One key issue with qualitative research approach is that the collected data often has to be reduced and properly structured to analyze the collected data. This is so because qualitative data are very dynamic and impossible to systemize before the data-gathering process (Kujala, 2015). Collected data was analyzed through content analysis, which is an approach for analyzing qualitative data (visual or oral) obtained from interviews (Luo, 2020). Literal analysis of texts be used for analysis, but it could lead to loss of cogent facts in the data (Mason, 2002), hence the reason for adopting content analysis. Content analysis allowed for the systematic analysis of texts through the process of coding. The content analysis also helped to identify themes in recorded communication and can be used for coding words and concepts within texts that emanate from the data.

Data reduction: This is the first stage of analysis, which involved the careful selection, focusing, organizing, simplifying, and transformation of the collected data so that findings can be verified, and conclusions can be drawn from the collected data. This consists of transcribing interviews so that speech can be adequately referenced in the text. Filler words – ‘uh’ and ‘ehm’ – were not included in the transcribed recordings.

To further create order, enable structure and find a relationship in the transcription notes, ATLAS.ti 8 was used to code and reference the enormous pieces of texts. In the development of codes and determinants of categories, I took into cognisance the need to maintain the links between the research problem, questions and the data. Also, the theoretical framework used for the study and the research questions formed the key source to develop my codes.

The documents were analysed using a combination of inductive and deductive coding. Inductive coding which can also be referred to as ‘bottom-up coding’ is used when little or nothing is known about a research project and codes are built from the scratch (Christians & Carey 1989). Inductive coding uses specific observations from the texts to

make broad generalisations. On the contrary, deductive coding involves using a set of predetermined codes which are designated to the data to be analysed (Medelyan, 2019).

I applied deductive coding, which is also known as ‘top-down coding’ by using common concepts from the research as an analysis frame to look at texts. This means that a coding scheme, with a list of predetermined keywords and categories, is used to analyse the documents. In deductive coding, these set of codes can be obtained from previous research or based on codes the researcher feels is relevant to the discourse of the study and requires analysis. The deductive approach is time-saving and gives assurance that the area of specialization is duly coded.

Data display: This is the second stage of analysis and starts with a within-case analysis (i.e., analysis of each firm). This allowed for data screening, data portions that had no genuine relevance were discarded. Only portions of the data cogent to the study were retained.

Conclusion development: This is the last and final stage, and involved drawing meaning from the analysed data and referencing the answers to the research questions, such that reasonable conclusions are drawn.

### **3.6 Ethical Consideration**

A reconnaissance survey was carried out, before starting the data collection phase to get the approval from the firms advance for the collection of data and to prepare them in advance of what to expect. Before interviews, a prior informed consent (PIC) was presented to the informants. It made clear that for the interview process, anonymity was ensured and personal data would not be shared without consent and approval. It was also be made clear to the informants that they are free to withdraw from the interview or may decide not to give answers to questions they are not comfortable with it.



## **4 Empirical findings**

### **4.1 Case analysis**

The selected cases were analyzed in this section. The first phase of analysis was the within case analysis. Here, the interviewed firms were grouped based on whether they are private or public entities such that private firms were analyzed under the private firms within case analysis and the public firms were analyzed under the public firms within case analysis. After the within case analysis, a cross-case analysis was conducted, and this allowed for the possibility of realizing similarities and differences in the barriers that each of the cases (private, public, and control) during the implementation of the PPP initiatives.

### **4.2 Within case analysis: Private firms**

#### **Introduction**

Before the start of the within case analysis, the interviewed private firms are briefly introduced. All private firms are into identity management, and have partnered with governments on identity management PPP initiatives. The firms are based in Nigeria and in Estonia. In the following paragraphs, a brief overview of the interviewed firms are outlined.

#### **Private case firm 1 – BEST Solutions**

The firm – Best solution is an Estonian based firm. The firm was established around 2008 and has presence in Estonia and Azerbaijan. The firm has in its employ, around 30 personnel and follows an ecosystem approach to partner with the government on its PPP schemes. Information obtained from the interview participant showed that the firm has had many successful PPP initiatives none of which has resulted in failures.

#### **Private case firm 2 – SK ID solution**

The second case firm - SK ID solution is also an Estonian firm established in 2001. The firm has about 60 employees and partners with the Estonian government to deploy e-identity solutions. The firm also operations to the other Baltic states.

### **Private case firm 3 – Nortal**

The third case firm – Nortal is a firm that originated from Estonia, but runs operations in multiple countries across the world. The firm was established in the 2000, and has operations in Europe, the Middle East, and North America. The firm has about 1000 employees spread across its different offices in all parts of the world. The firm’s PPP initiatives mostly work like a post-defined contractual where they setup a system and the government buys it over, however, they have projects running in Oman similar to the JV PPP partnership model.

### **Private case firm 4 – VerifyMe**

The fourth case firm – VerifyME Nigeria Limited is a Nigerian firm. The firm was founded in 2013 and has about 30 – 50 employees. The firm is domiciled in Nigeria and offers identity management services to government and non-government institutions. The firm is in a PPP partnership with NIMC – a public Nigerian firm – and functions using an ecosystem approach to help the Nigerian government enroll its citizens for national identity.

### **Private case firm 5 – SeamFix**

The fifth case firm – SeamFix Nigeria Limited is a Nigerian firm. The firm was founded in 2007 and has between 100 - 200 direct employees. The firm also has casual and indirect staffs. The firm is a people and software company that is also in partnership with NIMC. The firm build identity management solutions and also train people for firms.

Following the brief introduction of the firms, a brief information about the key informant is shown in Table 5. In the following sections, analysis of the different of PPP partnership the firms have engaged in.

Table 5: List of informants who served as experts for the interviews – Private Firms

<b>Informants</b>	<b>Name of the firm</b>	<b>Country</b>
1	BEST Solutions	Estonia
2	SK ID Solutions	Estonia
3	Nortal	Estonia
4	VerifyMe	Nigeria
5	SeamFix	Nigeria

Source : (Author, 2021)

## **PPP partnership types, contract types, and agreements**

### **Differences in PPP types between countries**

The interviews with the key informants revealed that the firms engaged different PPP partnership types agreements with public partner entities. The partnership agreement also tend to differ between countries and the nature of the PPP initiative. This narrative is confirmed by one of the key informants who narrated that:

*“There are no rules because every single market is unique and no box solution possible to implement” (Informant 1/ Best Solutions/ 2021)*

Apparently, the nature of the national climate shapes the type and terms of the agreement that would eventually evolve into the PPP agreement, and this is based on the notion that the different nations have different market structure, needs, and resource positions that have an influence on the eventual PPP agreement. For this reason, frameworks are crafted to suit the situation of the market. The first informant gave an example position that substantiated this premise:

*“...Azerbaijan has completely different infrastructure from Estonia... ..maybe somewhere citizens are ready to pay because they are using already some huge services and they know that maybe some it should be transaction based, it should be monthly based, it should be fee based. So business models are very, very different” (Informant 1/ Best Solutions/2021)*

The position of the informants reflect the unique nature of PPP agreements across countries and how this would influence the final PPP initiative that would emerge from an eventual partnership.

### **Length of the PPP agreement**

Public private partnership are usually established as long or short term agreements and the success of such PPP initiatives are often based on the nature of these agreements. The short term nature of most PPP contracts is usually based on political turnover, and in the event that there is political retention, it is possible that the contracts may be extended if it hasn't been successfully implemented. Although, this is often the situation with governments that are democratically elected as they are often scared to extend the lengths

of contracts they are unsure of tenuring. Therefore, contract length is usually agreed upon by both parties, such that the private entity can make accurate research to see if their own objectives can be fulfilled within the duration specified in the agreement, as one of the informants noted:

*“In our case it's not long term contracts, it's like 2 to 3 years only”* (**Informant 3/ Nortal/ 2021**)

There is the future uncertainty that different political tenures may have different PPP projects they wish to execute. A newly elected government may wish to implement projects that improve their appeal to the general public. It is for this reason that the terms of the contract are usually on the short and not on the long term. The fourth informant made this position known in the interview:

*“You really can't in a sense, you have a contract, right? That you're defining with the entity. That entity, even if there's a change in the administration, that entity will still exist. They have to honor your contract. And because of that, you will find that a lot of PPP deals, the contracts aren't long term”* (**Informant 4/ VerifyMe/ 2021**)

The third informant also substantiated this position when he made the assertion that:

*“...so it's like longer engagements and normally politicians doesn't want to make such a long term engagement with the private sector”* (**Informant 4/ VerifyMe/ 2021**)

It therefore seemed like the tenure of the contract tend to be motivated more by political issues than they are by the nature of the PPP project.

### **PPP contract is shaped by the Identity management PPP initiative**

The conducted interviews with the informants also revealed that the some PPP contract were shaped based on the fact that the PPP initiative was an identity management scheme. Although, this was scarcely surprising, given that the identity to be managed is a property of the state and that there are legal issues surrounding the administration of national identity. For this reason, government tend to enforce strict governing rules over their partners in the PPP scheme. One of the key informant affirmed this position during the interview:

*“...So, I think that the PPP index identity management part, especially in electronic identity management, where the government has the right and the obligation to do the*

*supervision and state the demands, rather than implement it as well” (Informant 4/ VerifyMe/ 2021)*

Beyond the government assuming controlling interest, the key informants also pointed out the identity management scheme does have some pre-requisites that have to be met before they can proceed with the required partnership. In some cases, agreements with local firms have to be made to ensure the right tools are available for project success. In the case of Best solutions and SeamFix, the key informant noted that:

*“...Yes. So, in our case, schema was built like that. So, first of all, if you want to implement any identity schema, you need to have a trusted service provider in the country. So, according to different countries and different control rating you try to choose providers” (Informant 1/ Best Solution/ 2021)*

*“Yes, certainly. Of course, the identity management was the base for the conversation, you understand? For every partnership, partnership is like, there is an objective to that partnership. And most of our PPP initiatives are centered around identity management because SeamFix is a company that is focused on identity management” (Informant 5/ SeamFix/ 2021)*

However, as the key informant noted, this often tends to differ between countries. In essence it is possible that the same PPP scheme is initiated under different contract agreement across different countries.

### **PPP contract types**

The identity management PPP initiatives tend to differ between the firms. Although, as previously stated, while the national and political climate defines the type and nature of the agreements, the final PPP contract agreed upon is often defined by the nature of the issue to be resolved and the strategic capabilities of the private entities. Identity management is a broad field, and without a doubt, the private entities each have an area where they are experts and capable of efficient delivery. Therefore the eventual contract that would be agreed upon by the entities depends on the key responsibilities that the private entity would undertake. For instance, according to the first informant:

*“...And we are as a private partner responsible, firstly, to build this system for them, and the second to operate the whole solution part... ...So, they are responsible for face-*

*to-face identification and they give identities and they are also responsible for key management. So, we're responsible for solutions, and to providing to billing, and it's all not only our company part, we're doing this in cooperation with mobile network operators, because mobile network operators are issuing SIM cards” (Informant 1/ Best Solution/ 2021)*

This was different from the narration of the third informant who noted that:

*“They're fixed price project model, and then we are delivering certain scope to the government... .. Fixed price project, a certain timeline, and then the money was allocated and then we deliver the services. It's more or less the common type of the approach we are doing” (Informant 3/ Nortal/ 2021)*

As can be seen, there are differences between the PPP contract agreements types of the private entities despite being clustered under the same scheme – Identity management. As such, it would be an overgeneralization if it is assumed that identical PPP schemes would yield similar PPP contract agreement, because – as seen in this study, the experiences of the firms may differ, the nature of the problems may differ, and the dimension and extent of involvement may also differ.

Further differences can be seen with the submission of the second, fourth and fifth informants who also defined PPP contract agreement types that differed from those that have been outlined:

*“If the PPP is mainly about private sector doing something for their own money, and requesting support from the public sector. I think then the options are quite large to lobby, to state that, please come behind the table and have you say how this project should go, what should we do to actually get the support from government... .. So, I think that the PPP index identity management part, especially in electronic identity management, where the government has the right and the obligation to do the supervision and state the demands, rather than implement it as well” (Informant 2/ SK ID solutions/ 2021)*

*“...I believe at the time they had gotten a contract through the World Bank. You enroll and provide identity to all Nigerians. That's one of sort of... What would you call it? The Sustainable Development Goals. To provide a valid means of I.D. to as many*

*people, just to help facilitate financial inclusion to the underbanked and the unbanked. So, they reached out, obviously, to help facilitate that, because the number of Nigerians I think that were enrolled at the time was I think around like 40 million Nigerians had NIN, and NIN was supposed to be the foundation of ID for all Nigerians” (Informant 4/ VerifyMe/ 2021)*

*“ Basically, some of these things are not in disclosure. But talking from a surface and a general point of view, most of the agreements tends to... A little bit of compromise is committed by one or both parties, mostly from the private sector. But however, in the long run, the agreement is usually at a win-win situation for both public and private sectors involved” (Informant 5/ SeamFix/ 2021)*

### **Private partner selection in the PPP process**

The process of selecting the private entities differed between firms and between regions. While in some cases the private entities meet with the government to persuade and negotiate the need to carry out a project under the PPP initiative, as with the first informant:

*“If you're investing everything yourself, no problems, the government is happy. But usually, PPP never happened like that. Everybody needs to invest something in the process to have result. So here we're explaining that the government need to invest to this very critical infrastructure, which is the creation of trusted service provider because it's like issuing a passport” (Informant 1/ Best Solution/ 2021)*

For some other entities, the government puts the partnership up for bid and different entities apply and place bids to win the partnership, as was the case of the fourth informant:

*“I think the standard, I'm sure you probably found that in your research, is that obviously any government agency is putting out like a tender, they have to announce it publicly via a newspaper, so to give opportunities to everyone really, so that you're not sort of favoring any particular business... .. So, that's basically what happened with the NIMC one. We got a tender, we submitted everything and they reached out” (Informant 4/ VerifyMe/ 2021)*

In some other cases, the process of partner selection tends to be made solely at the discretion of the public entity, such that the selected partner is who they deem capable. This was the position of the second informant who asserted that:

*“but it wasn't called public private partnership, but it was rather like one decree from minister saying, well, those guys belong to that working group, and that working group has a goal to come up with the, for example, requirements for the ID card tender. And then we did couple of years work and understood what would be those common goals”*

**(Informant 2/ SK ID solutions/ 2021)**

It is also noteworthy to point out that not all of the PPP initiatives start with a formal agreement, as sometimes, government could take over an existing private initiative and later bring the PPP initiative to run aspects where they are incapable:

*“but it wasn't called public private partnership, but it was rather like one decree from minister saying, well, those guys belong to that working group, and that working group has a goal to come up with the, for example, requirements for the ID card tender. And then we did couple of years work and understood what would be those common goals”*

**(Informant 2/ SK ID solutions/ 2021)**

*“They just stated that if you don't make it a government issued document, then we will never allow to use it in the electronic or like Internet voting. And that was the only thing they could ban in essence. And we said that we really want the people to have the voting capability with mobile ID as well, and then they agreed to nationalize it somehow”*

**(Informant 2/ SK ID solutions/ 2021)**

### **Shared responsibilities in the PPP agreement**

While PPP agreements involves partnership between public and private entities, there are a number of processes that govern the agreement and one of such is the sharing of responsibilities between the two entities. As the first and third informants noted:

*“...we have just the contract between government where we describe responsibilities and tasks between each other”* **(Informant 1/ Best Solution/ 2021)**

*“...the main clauses should be there in terms of the responsibility, in terms of the timelines, payment schedules, whatnot.”* **(Informant 3/ Nortal/ 2021)**



Every PPP partnership involves the delegation of responsibilities to each of the agreeing entities, although, this is often constrained by the nature of the PPP agreement and the strategic capabilities of the private entities.

For the interviewed private firms, there is often a very clear devolution of responsibilities at the framing of the agreement. As key informants noted:

*“...you know, the contract, in our case, will define what kind of services we are providing, what kind of knowledge we are providing, and what kind of knowledge transfer we are providing to them. ...the main clauses should be there in terms of the responsibility, in terms of the timelines, payment schedules, whatnot.”* **(Informant 3/ Nortal/ 2021)**

*“But our monetary policies is the framework of any private company, so it doesn't correlate to this government. What we only regulate to agreements, only responsibilities about the ecosystem, which part belongs to whom, who is responsible for what”*  
**(Informant 1/ Best Solution/ 2021)**

*“ So, which in our case most times is about identity management. So, we're either partnering with a regulator like NIMC to build a solution that would enable them capture, acquire and manage identity. Or in the case of state government, to deploy a solution that would enable them to fetch out ghost workers, people that are being paid by the government but they're not physically working for the government and detect fraud also.”* **(Informant 5/ SeamFix/ 2021)**

Usually, the devolution of responsibilities helps to develop a clear set of expectations for the entities, and is often used to mitigate conflicts that might arise between the partnering entities. In the framing of the contract, the extent of involvement for each of the parties is often resolved, based on the incapability of the government and the capabilities of the private entities. This is just as the first and second informants noted:

*“So, they are responsible for face-to-face identification and they give identities and they are also responsible for key management. So, we're responsible for solutions, and to providing to billing, and it's all not only our company part...”* **(Informant 1/ Best Solution/ 2021)**

*“So, it's all like a system and this management belongs to us, but the legal part, certificate control and issuing of mobile identity belongs to government... .. We're making billing, collecting money, and we are responsible for everything is worked properly, everywhere. Solution itself it should be user friendly, all additional services, etc. So, we are responsible for that” (Informant 1/ Best Solution/ 2021)*

*“So, I think that the PPP index identity management part, especially in electronic identity management, where the government has the right and the obligation to do the supervision and state the demands, rather than implement it as well” (Informant 2/ SK ID/ 2021)*

However, the private entities usually have opinions on how they think the contract should be crafted and the level of responsibilities delegated to each of the partnering entities. Most of the private entities held the stereotype that the government should only be concerned with minor roles in agreements, because, often, the government are not knowledgeable of the better approaches to a PPP initiative. The positions of informants 1 and 3 exemplify this narrative:

*“They're very slow with decision making. For them it's not core business. So usually, this identity part is very small from the general business. So, they don't see this profit so much and so they're moving just very quickly... ..So usually, we're thinking that government should have only so called regulatory part and control part, but business part and solution and this part to be friendly solutions should be on a private part side.” (Informant 1/ Best Solution/ 2021)*

*“...the main clauses should be there in terms of the responsibility, in terms of the timelines, payment schedules, whatnot.” (Informant 3/ Nortal/ 2021)*

The private entities like the first informant, believe in their own capabilities and capacities and often hold the opinion that government should have a limited role, however, it is often the onus of the government to decide what the final agreement would be like.

*“The government tell us how they see this. So, usually even when they write how they see this, we usually can convince them that it's not right way to do things.” (Informant 1/ Best Solution/ 2021)*

One of the informants also noted that one of the major areas of responsibility has to do with the share of cost i.e. how much would be incurred from embarking upon the PPP initiative. Although, this tends to be legally binding in most case:

*“It was only costs to be shared, and therefore, agreement was about costs and therefore profits. Whatever was the reason for a participant to come into that project, they had to know why they came, nobody cared if they got their economic benefits at the end.”*

**(Informant 3/ Nortal/ 2021)**

Although, there is also the assumption that the nature of shared responsibilities is governed by perspectives which have a national clustering, and that government should only assume role they are sure they would deliver on. This was the position of the third informant who asserted that:

*“Estonian perspective has being the government does not take as big of an investment burden than they otherwise should. Also, the benefit is that government is taking the role that they are much better at.”* **(Informant 3/ Nortal/ 2021)**

The first informant also held a notion close to this and also argued in favour of a government restricted role in the PPP agreement:

*“Usually we come to public sector they will tell how to do. In our practice, we never seen opposite.”* **(Informant 1/ Best Solution/ 2021)**

## **Communication and trust in PPP agreements**

There seemed to be a general agreement by all firms that communication between them and the government tended to be very effective. The informants reasoned that the reason for the effective communication is such that they can communicate per time, the phase of the initiative and the status of their agreement. According to some of the informants:

*“So, I think this day to day work was well organized and there wasn't like a communication issue in that level, that was okay”* **(Informant 2/ SK ID solutions/ 2021)**

*“So yes, the communication has been pretty good, they communicate quite regularly”*  
**(Informant 4/ VerifyMe / 2021)**

*“ So, to be quite frank with you, the communication is just in most cases seamless, especially when the other organisation is driving it, so the public sector is driving it”*

**(Informant 5/ SeamFix / 2021)**

This position is very well understood, because, trust in partnership agreements is always reinforced by constant and consistent communication between the agreeing parties, and these dual channels – communication and trust – must be effective and strong for effective PPP collaboration to prosper. The ensuing narrative is such that the commitment of each partner to their responsibilities in the PPP agreement is reinforced through consistent communication.

It is also noteworthy to point out that communication starts at the point where the parties have made contact, even before the process of negotiation, and the emerging trust that results from the consistent dialogue between the parties is one of the ingredients that powers the agreement. One of the statements made by the third informant agrees with this notion:

*“I mentioned in the one PPP, it's a partnership model that the vendors trust each other and try to get the most out of it, this kind of effort and then resources are allocated to the project, whatnot. And it will speed up the process of enhancing the systems and then getting that more better services.”* **(Informant 3/ Nortal/ 2021)**

In fact the third informant reinforced his position by stating that if the issue of trust isn't established between the parties, it makes it hard for them to both come to an agreement, and this could breed conflict between the parties in the future:

*“So, it's kind of the favourite approach at these days but the problem is the PPP model needs also great of trust between the partners because, you know, if the public sector don't trust some vendors to proceed with the PPP model, then not every scenario which might come in the future cannot be described in the agreement... .. So, and to get most out of it, we need to have some kind of... How should I say it? Trust between the two parties, that both will try their best. You cannot plan or forecast all of your activities ahead”* **(Informant 3/ Nortal/ 2021)**

The cause for a trusted relationship in the PPP agreement, is also based on the shared value system that exists between the agreeing parties, and the intended outcome and

expectations of each party from the initiative. In most cases, if emerging outcomes are in line with the PPP objectives, this can strengthen the level of trust between the partners, because, the progress of the initiative implies that the partners are keeping to their roles and commitment. The third informant also made strong position about this in two separate comments:

*“And then it also comes from the practice and if the both parties are experiencing the good results, so I think this trust between the partners will grow. We have been doing it now since or 3 years. And then we are in the stage that our client will continue with us, hopefully.” (Informant 3/ Nortal/ 2021)*

*“And then that's why I'm saying that it's a good model. It's a good model, but it needs trust and then also acceptance that okay, we are ready to share, we are ready to share the part of the revenue, no matter what, you have done a good job.” (Informant 3/ Nortal/ 2021)*

It is also possible that the issue of trust may be driven by the strategic capabilities or incapacity of the private firms. Such kind of trust often stems from brand popularity, prior successful partnerships, or good track record of the private entity. Although this notion is scarcely surprising since it is a commonly used approach to partner with firms who are best suited for the initiative.

*“If you're in the public sector and you want to empower a private sector organisation, you ensure that they partner with you to deliver such solutions, you have to ensure that the person is proving beyond any reasonable doubt that he is trustworthy, that's one. That he has the competency to protect and manage that data that he is acquiring for you. So, the agreement is usually complex because it focus on critical areas of the partnership to ensure that the data being acquired is not by any way lost or it doesn't gets leaked to the public to a non-authorized source..” (Informant 5/ SeamFix/ 2021)*

The informants also noted that high levels of trust also serves as a risk curtailment strategy for the firms, such that the agreeing partners would craft a framework that has benefits that would serve both entities. This assumption is based on the notion that high levels of trust would cause the outcomes and expectations of the partnering firms to be symmetrically aligned. The fourth informant made this known in the interview with the statement:

*“So, there's always a risk, right? Yes, if you have a good relationship with the individual, it obviously always helps.” (Informant 4/ VerifyMe / 2021)*

The second informant also noted that:

*“It is still so large extent goodwill agreement. So, I would say that those... I think there's a big story somewhere probably public, so you can review them. But it's not about some minimal risk taking and evaluating if that risk is somehow mitigated between the partners. No, it's just coming together and saying that, it seems that we have some kind of common goal and then we have all a goodwill to invest into that.”*  
**(Informant 2/ SK ID solutions/ 2021)**

Communication also fostered knowledge sharing between the partnering entities. Through consistent communication, the private entities were able to share their knowledge and expertise with the public entities.

*“So we need to do this knowledge transfer. And I already mentioned several times that the client need to feel that that we are not there just to do our project and leave. So even if they wanted to change us or get another vendor, they need to accumulate this knowledge and skills coming out of that project. So it is one of our contractor responsibility to provide this knowledge transfer.” (Informant 2/ SK ID solutions/ 2021)*

### **Risk factors of the private firms from the PPP agreement**

One of the major argument used to justify the PPP is that governments can cut down on cost and leverage the efficiency of the private sector, causing some level of shared risk to emerge between the agreeing parties. Although, depending on the nature of the PPP project, the transferred risk to the private entities may be financial in nature, however, it is not in all cases that government are able to generate revenue from the proceeds of the project to payback the private entities.

Also, it's not in all cases that the private entities are willing to take upon the risk associated with the project. For this reason a reasonable amount of negotiation is often made to define the allotment of risk factors, and the financial value that would be provided to the private entity.

For this reasons, the private entities weigh the level of potential risk that would be involved before agreement. This was the position of the fourth and fifth informant who asserted that:

*“So, it's risky in terms of going into business or going into a partnership. There's always the risk. It's a post-paid model, where you get payment, maybe I think you're supposed to be paid monthly for such project for how many people.” (Informant 4/ VerifyMe / 2021)*

*“ Yeah. So, for every organisation, mostly the public sector, most of them have their risk assessment process. And in this PPP, we kind of get ourselves aligned with the risk assessment process, such that is already a business flow or guidelines that have been set within the organisation, how they identify and manage risk. The partnership also, kind of encompasses this risk process into what we're delivering.” (Informant 5/ SeamFix / 2021)*

However, it is often impossible to envisage some positions that could pose as a risk factor for the private entities. A very good example is the COVID-19 pandemic situation that marred global business operations. Such scenario can have some serious consequences for the private firms in PPP agreements, as was the position of the third informant:

*“For example, during the pandemic, when the pandemic started last year, we couldn't do it, we just got the minimum revenue that was agreed, and of course, it didn't cover our costs. So, we payed more than we actually earned in these months. So, this was our risk there.” (Informant 3/ Nortal/ 2021)*

It is also possible that the risk factors in PPP agreements can be political in nature. This often occurs with national climates with constant political turnover. This may often pose risk for the private entity and the continual agreement of the PPP initiative. The private entities therefore, try to avert such risk factors as much as they can, as was the position of the fourth informant:

*“So, that's onus is on you as an organization to make sure that you're protected as well in terms of anything that actually happen. And there are risks generally that with a change in administrations, strategies might change.” (Informant 4/ VerifyMe / 2021)*

The presence and existence of risk factors in the PPP agreements are therefore something that all firms try to ensure they avert and minimize at all cost, so that the cost of the risk would not be unbearable if it becomes too much.

*“But it's not some minimal risk taking and evaluating if that risk can be somehow mitigated between the partners.” (Informant 2/ SK ID/ 2021)*

The fourth informant also noted – as spelt out in the previous section – that high levels of trust between the partnering entities can also serve as a risk mitigating factor. If the entities have built a good and steady relationship, it comes with the benefit of risk curtailment.

*“So, there's always a risk, right? Yes, if you have a good relationship with the individual, it obviously always helps.” (Informant 4/ VerifyMe / 2021)*

The risk factors are also usually also contract binding and this helps the firms to resolve any form of unfair risk transfer after a contract has been reached. In essence, the contract also serves as a risk mitigating factor for the firms in agreement, further stressing the importance of a coherent binding contract in any PPP partnership.

*“In our case in Middle East, if we reach out to the contractor, if something doesn't work, and then they will reach out to contract, we are screwed already.” (Informant 3/ Nortal/ 2021)*

The position of the third informant is further stressed by the first informant revealing that risk factors associated with PPP projects is why they are always careful in partnering with public entities. According to the first informant:

*“...usually, we select very strong partner for whom it's very logical to provide the service within any political changes. So, that's why we find partners from government who are responsible for creating services for businesses, and this is very logical”*  
**(Informant 1/ Best Solution/ 2021)**

The idea behind this is that if the partnering government entity is strategically capable, this would reduce the possibility that a PPP initiative would collapse from high risk levels factors shouldered by one of the partnering entities. This is perhaps why the private entity



ensure they critically review the details of the contract they are entering into so that they can correct any form of misgiving embedded in the contract. The fourth and fifth informant also made this position known:

*“Yes. So, they do give you the opportunity to review the agreement and to make comments as well, if there are any clauses or anything that you might have an issue with. But we all know typically they're talking to 80 different companies.”* **(Informant 4/ VerifyMe / 2021)**

*“ Yes. So, risk in general... First of all you identify this risks. You can now have a mitigation plan for them, either you kind of avoid them, eliminate or mitigate. So basically, what we do is to identify how the organisation or the public sector already handle such risk. Also, we do risk assessment, we also identify other risk that they don't have in their system because its a technological thing, and technology keeps evolving.”* **(Informant 5/ SeamFix / 2021)**

### **Benefits derived by the private firms from the PPP agreement and the terms of project performance**

Without a doubt, every agreed upon PPP agreement must have benefits that the partnering entities look towards to. These benefits are the reasons why the agreement is made in the first place. These benefits and the extent are usually based on the terms of the agreement with the public entity. However, the generally agreed consensus is that the firms want some form of value returns for being part of the PPP initiative. This is as the third informant noted:

*“So that's the main thing. Normally our systems will generate enormous value, then we would like to get some percentage out of the collected revenue. And now the question is what the price is? What is the price? What is the team size we are offering? What is the price for the team and then the negotiation platform starts from that. We have done it once, now we're in the process for the next ones.”* **(Informant 3/ Nortal / 2021)**

The third informant also made the assertion that:

*“We have a floor, how much we should earn every month, and we have a cap that above this, we cannot earn. So basically, we need to adjust between these two numbers. And*

*then the both parties have the interest to increase the revenue, to improve their services” (Informant 3/ Nortal / 2021)*

The submission of the third and fourth informants also revealed that the benefits of the private sector is also dependent on the performance of the project, and anything that affects project performance would ultimately affect the potential benefit the private entities can derive from the project.

*“For example, during the pandemic, when the pandemic started last year, we couldn't do it, we just got the minimum revenue that was agreed, and of course, it didn't cover our costs. So, we payed more than we actually earned in these months. So, this was our risk there... ..We had to keep system running, but we didn't earn any money except this minimum, which didn't cover our cost.” (Informant 3/ Nortal/ 2021)*

*“So, we felt that we cannot earn our revenue. So, if the ministry is down with their systems, then we are not getting anywhere.” (Informant 3/ Nortal/ 2021)*

*“Obviously, you get paid per successful enrollment that you've carried out. So, I'm guessing it's pretty much the payment model everywhere.” (Informant 4/ VerifyMe / 2021)*

In some cases, if the private entities do not meet the performance of the project as drafted in the contract, or benchmarked by the public entity, the expected benefit from the PPP initiative may be affected. The third informant also made this position known:

*“So there are different types of obligations that if we are not able to keep systems up to level then we will not get our money.” (Informant 3/ Nortal/ 2021)*

The private firms, therefore, ensure that they try to meet performance requirements as much as they can so that their potential benefits are not negatively impacted by poor performance. The fourth informant made their position known, showing that they carry out regular audits to ensure project success:

*“We have regular audits carried out on our system to ensure that we're compliant.” (Informant 4/ VerifyMe / 2021)*

It was also revealed that performance checks are done to ensure that the right instruments are deployed for each project.

*“You then also have to have make sort of precautions internally, even ensuring your equipment to make sure everything is ensured in case there's a loss or any liability that you might face. So, that's onus is on you as an organization to make sure that you're protected as well in terms of anything that actually happen.” (Informant 4/ VerifyMe / 2021)*

The reasons the firms place emphasis on the performance of the project is, because, the government have the discretion to cancel the projects at any point in time which could spell doom for the private entities, thus increasing their chances of sunken cost and project failure.

*“So, you have that foresight, knowing that your contract is for this period of time where maybe they will access... And it's the prudent way in which the government is doing it as well, because you might have partners that will just simply not do anything. It gives them the opportunity to sort of cancel certain contracts that aren't performing.” (Informant 4/ VerifyMe / 2021)*

## **Barriers to Successful PPP initiative implementation**

### **Political barriers**

One of the obvious and major barriers revealed by the private firms are political barriers. Although, this isn't far-fetched since the public entities are usually politically motivated. This therefore hinges the successful implementation of any PPP initiative on the political climate of the nation where the PPP is to be implemented. The third and fifth informant gave credence to this notion with the statement:

*“Yeah. I think it is you put the first political challenge, that's the main thing” (Informant 3/ Nortal/ 2021)*

*“ Major factors with us, one, is political. Most initiatives in the public sector are highly politicised based on their interest. So basically, what I'm trying to say is most public sectors are political environments. And how do you maneuver a political environment, how do you maneuver such factors.” (Informant 5/ SeamFix/ 2021)*

First, there is the opinion that political will dictates if the PPP initiative would be successful in any way. Without the political will, projects cannot be embarked upon in the first place. The informants noted this in their assertion that:

*“I think I would put firstly political will because if there is no political will, nothing will happened. So, we never go to countries where we see there is no political will.”*

**(Informant 1/ Best Solution / 2021)**

*“I've been working also in the Estonian government for some years and I know there is huge political influence to that kind of engagements because it's more or less used to be long-term term... .. Without this high level political will, especially with the PPP type of the model, because it's like, share something, revenue sharing and then you know, it's like minister has to be the world”* **(Informant 3/ Nortal/ 2021)**

The rationale is that if there is no political will to embark upon a project, the force to push the project through would not be there, and there's also the possibility that the process can be marred by a lot of irregularities. The first informant also noted this:

*“So, if it's only messaging, we also would like to do something, but really, if there is a plan to be corrupted, and not efficient and not transparent, just talking, we never go to this country, because if there is no strong upper political will nothing to do in this country.”* **(Informant 1/ Best Solution / 2021)**

In case the political will exist, the PPP project must often tend to align with the goals of the political entity in question, as they are unlikely to do things that would taint or would not improve their political clout.

*“I will take it in a way that always there are politicians who wants to achieve something and they have like a political ambition and nothing moves if there is no minister behind , so that's the thing”* **(Informant 3/ Nortal/ 2021)**

In some other cases, it's the high levels of bureaucratic hurdles that the private firms have to scale through before they get their plight known to the correct authorities.

*“...complications come about, when you're physically going to these government offices and then you have the junior staff that are now maybe preventing your application from moving forward.”* **(Informant 2/ SK ID / 2021)**

*“If the ministers and secretaries are supportive, then we can continue with any other staff there. But of course we need to provide the materials, we need to provide the proposals explaining why it's beneficial for them and then why it's a good model to proceed.” (Informant 3/ Nortal/ 2021)*

The political barriers can also be regional and not particular to the nations, especially when there are bi-lateral and multi-lateral agreements between several nations – like the EU. This was the case of the second informant which had problems getting the Estonian government to settle funding for a take-off PPP project. The informant from the firm explained that there are certain restrictions about how funds can be accessed and this often serves as a limitation to successful PPP projects.

*“they had an issue that you cannot spend public money on a course that you have signed off with a bunch of companies. You have to be always tendering everything in a public procurement.” (Informant 3/ SK ID / 2021)*

The informant further narrated that even in cases where there's political will, external influence can impose restrictions that makes it hard for the national government to go on with a project with great initiatives.

*“Maybe there was a will, but they actually had external limitations, because as I said, it was European funds. Those have regulations that are not under the control of Estonian government. So, that might have been that it's actually something where they can't do anything about it, they may have tried, they had a lot of political reasons, but they couldn't.” (Informant 3/ SK ID / 2021)*

The fifth informant however, proposed that political lobbying could serve as a potential solution that could help solve the political challenges, although, it is unsure if solution will fit into the reality of the other firms.

*“ You ensure that you get every stakeholder to align with your objectives, this will include lobbying. [...] to this stakeholders, ensuring them that their interest or work or anything that they are concerned with would be covered. Because if you don't do this, trust me, you won't make any progress, you will not make progress..” (Informant 5/ SeamFix/ 2021)*

## **Economic barriers**

Economic PPP barriers were also reported although their effect tend to be less potent than the political barriers. The first notion is with determining how rich a country is, and questioning if the government of the country would they be able to fund the said initiative. This is, because, without the required funds, it would not be possible to go on ahead with the project.

*“Economical side, I would say that it depends how much money the country has, and what is the liquidity to spend the money for a different project, and then the need to involve the private sector come to the picture. And at the same time it's a longer shot.”*

**(Informant 3/ SK ID / 2021)**

*“ So, when we talk about economical, most of these organisations are poorly funded. So, most times if you're going into the partnership and you're expecting that the public sector is going to pay you fully for your services, you may not make any progress. So how to solve this is you try to make a model that maybe kind of subsidise the whole funding for everybody, in a way such that maybe the public entity pays a fraction of the cost and the other fraction of the cost is transferred to the user..”*

**(Informant 5/ SeamFix/ 2021)**

Raising the required funds needed to fund the project is also one of the barriers that could hamper successful PPP initiatives. If a project requires some level of funding that is beyond the capacity of the agreeing entities, sourcing for the needs therefore can serve as one of the barriers towards successful implementation. However, raising funds may not come as an easy task, especially in poor resource countries:

*“I guess maybe just raising capital, and just the difficulty there is in Nigeria for getting in terms loans, which is a bleak reality for basically anyone that's trying to get maybe a loan, maybe or trying to get a loan to purchase devices, for example.”*

**(Informant 4/ VerifyMe / 2021)**

The firms also note that some of the times, indices like inflation may pose as a serious barrier to successful PPP initiatives. Inflation can cause the cost of purchase to rise and based on the strategic capabilities of the firm, project cost may shoot higher than budgeted for. This, however, is unique to country and the reality of isn't the same for all firms, but it is nonetheless a concern for successful PPP.

*“...how exchange rate, the FX has not been stable in Nigeria. That plays into purchasing equipment because most of it is being imported from abroad and the pricing is never stable. So, your costs are constantly shifting upwards, like almost on a daily basis. That's a major factor. I don't know if there's anything that can be done because that's a general societal factor. It's an economical barrier or a factor.” (Informant 4/ VerifyMe / 2021)*

### **Social, Technological, and environmental barriers**

Of the three PESTEL entities, none of the firm had witnessed any form of environmental barriers during the implementation of PPP initiatives. This is perhaps due to the fact the nature of Identity management does not lend itself to environmental issues. However, there were some social and technological issues revealed during the interviews with the informants.

The fourth informants noted that there was a general hesitation for the people to adopt the PPP initiative, and some form of enforcement had to be enacted to ensure that the people use the built PPP initiative.

*“...So, there was great hesitancy at first for people to actually go get their ID. It was almost like they were waiting for them to be forced to do it, in a sense. It didn't really push or the drive didn't increase because they stopped sort of offering services to people without a valid means of it, like maybe the NIN..” (Informant 4/ VerifyMe / 2021)*

Although, the private firm highlighted that the government's incapability when they initially tried to solely run the project caused the people to lose trust in the initiative, given that they were so inefficient at it.

*“...because NIMC [The Public Entity] was doing the enrolment themselves. So, they had limited number of centers, and obviously, because of that, there would be a lot of queues where people would be frustrated because maybe it wasn't a seamless process for people...” (Informant 4/ VerifyMe / 2021)*

In some other cases, social barriers can come in the form of protests to a charged fee on delivered public service PPP initiatives:

*“ We have a scenario where people protested the amount that they're being charged for a particular service. Is basically because they cannot get the value for what they're*

*paying for, and which is mostly because of some misalignment..” (Informant 5/  
SeamFix/ 2021)*

The technological barriers identified tended to follow the general assumption that the lack of a required technology infrastructure would prevent initiatives that depend on the infrastructure from being implemented.

*“Third one is technological, because if you don't have the possession, and if you don't have basic databases, you can't start anything. So first of all, you should be sure that at least you have population registry, because if you don't have population registry, you don't know...” (Informant 1/ Best Solution / 2021)*

Another notion raised about technological barriers to successful PPP initiatives were also that raised by the fourth informant who noted that, because, the government supplied the needed software solutions, their operational efficiency was constrained.

*“Just in terms of it being a barrier, I would say just the limitation. I would consider a limitation in terms of us having to use a specific software for it, which doesn't really encourage any form of innovation because you're restricted if you think about it, because it's not... If you are able to maybe build a way in which people can remotely enroll for these IDs, and you are allowed to sort of build technology that would facilitate that, that would be very helpful and that would probably drive the enrollment much faster and it will make it more seamless for people to be able to access.”*

**(Informant 4/ VerifyMe / 2021)**

## **Legal barriers**

The legal barriers are also one of the major factors identified by the firms as barriers to successful PPP initiatives. The idea is that the contract between the partners must be legally binding without which it is very hard to trust that partners would commit to their roles and responsibilities. These would help cement a formal contract between the entities and define the rules of engagement, such that if conflict arises, the legal binding contract aids in resolution of conflict.

The interview with the first informant reflects this position:

*“Second one is legal, of course, because if you don't have legal system, you can't create any institution in the country. So legally, you need to see there are some measure*



*agreements existing like digital signature agreements, like e-document decree, law actually, sorry, not decree, law, like protection of data, etc., some important laws”*

**(Informant 1/ Best Solution / 2021)**

However, in cases where a solid legal framework has been successfully crafted by the partners, the possibility that legal issues would arise becomes slim.

*“...don't know about the legal, the contracts are always there. Sounds like you need to negotiate the contract and we have managed to do this in our PPP engagement and we actually never went back too much to the contract”* **(Informant 2/ SK ID/ 2021)**

The informants also pointed out that it is possible that legal and political issues mix, causing high levels of misrepresentation about a PPP contract such that the private entity is constrained by other legal notions challenging the initiative.

*“...I think modern legal environment is any kind of cooperation between competitors, and definitely between private sector and public sector. So, how do we agree that we can actually for the common good do something at all without being blamed for spending the money or acting as the illegal consortium somewhere, this is really, really hard. So, I think that's the legal challenge”* **(Informant 2/ SK ID/ 2021)**

However, in some other cases, legal barriers manifest when projects does not align with the goals of the national parliament, national, or regional legal frameworks. This definitely would make it hard for any of such projects to fly.

*“...Those have regulations that are not under the control of Estonian government. So, that might have been that it's actually something where they can't do anything about it, they may have tried, they had a lot of political reasons, but they couldn't”* **(Informant 3/ Nortal/ 2021)**

The narratives outlined show that the private firms must ensure they review the legal requirements that is required for the project to effectively function, and ensure they do all they can to conform to the legal requirements.

*“...So, our focus is mainly in providing a means for companies and individuals to be able to verify the identity. So in order to get that, we obviously have to be compliant with data protection laws and policies.”* **(Informant 4/ VerifyMe / 2021)**

## **4.3 Within case analysis: Public firm**

### **Introduction**

In this segment, the interviewed public firms are introduced. All interviewed public firms have gone into PPP agreement with private firms. Like the private firms, the public entities are based in Nigeria and in Estonia. A joint session interview was conducted with two Estonian public entities – the Estonian Ministry of Interior and the Police and Border Guard Control. It should be noted that the level of information supplied by the public firms was not as robust as those of the private firms. In the following paragraphs, a brief overview of the interviewed firms are outlined.

#### **Public firm case 1 – Police and Border Guard Control and the Ministry of Interior (PBGB and MI)**

The Ministry of Interior is a public institution in Estonia with about 200 employees. The Ministry is accountable for policies regarding identity management and coordinates issues concerning citizenship, population, internal security, amongst others.

The Police and Border Guard Control (PBGB) is an Estonian based public institution with about 5000 employees. It is an agency within the Ministry of Interior in Estonia, and it is responsible for implementing laws regarding identity management. PBGB is also responsible for internal security and law enforcement in Estonia.

#### **Public case firm 2 – National Identity Management Commission (NIMC)**

The National Identity Management Commission (NIMC) is a Nigerian public firm formerly called the National Civic Registration in 1978 but was renamed to NIMC by the Nigerian parliament in 2007. The firm took over the assets and liability of the defunct Department of National Civic Registration (DNCR) and it now became a full-fledged commission. The firm employs about 4000 individuals and has operations in all 774 local government of Nigeria.

Table 6 : List of informants who served as experts for the interviews – Public Firms

<b>Informants</b>	<b>Name of the firm</b>	<b>Country</b>
1	Police and Border Guard Control	Estonia
	Ministry of Interior	Estonia
2	National Identity Management Commission	Nigeria

Source : (Author, 2021)

## **PPP partnership types, contract types, and agreements**

### **PPP contract is shaped by the Identity management PPP initiative**

Like the private firms, the public firms also noted that the PPP contract were shaped by Identity management. Although, according to them, this was based on the levels of available resource. This was the position of the first public informant who noted that:

*“...constantly actually shape their identity management it depends a lot on the technology that is available on the market” (Informant 1/ PBGB and MI / 2021)*

This notion supplied by the respondents is perhaps, due to the fact that the government are authoritative bodies, so they bother less about who controls the terms of agreement, since it would naturally fall to them.

### **PPP contract types**

The public firms have a different orientation compared to the private firms when defining contract types. This is because, to a great extent, the public entity can have agreements with several private entities for a PPP initiative. Following this, the type of agreement they have with each private entity is then based on the strategic capabilities of the private firm. The relationship can be classified as one to many relationship following the principal-agent theory.

This positions is revealed in a statement made by the first informant during the interview:

*“...we just make the contracts with private providers almost all the time and it's with some big company that provides for my field that provides the document itself like a blank document and collect different solutions like security elements” (Informant 1/ PBGB and MI / 2021)*

The interview with the second informant strengthened this position and gave further credence to the one to many relationship hypothesis.

*“So but the PPP that we are now, this ecosystem approach, we have more than 200 agencies that are carrying on this issue of this national identity enrollment something and each of this agency, some are so big that they can have more than 2000, 3000, 4000 or 10000 locations” (Informant 2/ NIMC / 2021)*

It however seems that the general notion is that a law binding contract is agreed upon before the parties embark on the PPP initiative. During this phase, the private entities are allowed to review the terms of the contract if there are certain clauses they do not or cannot conform to. The idea is that the finally signed contract is something that all parties must have agreed to, after identifying that the contract would serve them some benefits, and in the case that it doesn't they can make some renegotiations.

*“...after going through it they are not compelled that because you have gone through PP Bureau of Public Procurement Certification, you have satisfy all the conditions then you must take the job, No. They were given the agreement to go and study and look at it. If they agree, if there's anything they want to add or remove from it before becomes a law.” (Informant 2/ NIMC / 2021)*

*“...there will be a time for renegotiation. If there are negotiations, well maybe if you want a partner, if our partner wants to engage a partner for instance, you need to come back to us.” (Informant 2/ NIMC / 2021)*

In essence, the terms of the contract therefore rests on the interests of the partners and finding a common ground to ensure that all interests are settled and symmetrically aligned with the goals and outcomes of the PPP initiative. This is why the contracts often go through numerous review iterations to ensure all issues are resolved before proceeding with next steps. Both informants had statements that agreed with this notion:

*“So it's I would say the agreement has to be (how to say) like discussed really of really several times before we can get to an agreement, and I think the contract that I think their contracts are really demanding I would say.” (Informant 1/ PBGB and MI / 2021)*

*“...they are not compelled, because you have to go through PP Bureau of Public Procurement Certification. If you are satisfied with all the conditions then you take the job. But they are given the agreement to go and study and look at it.”* **(Informant 2/ NIMC / 2021)**

There also seemed to be some sort of perception about the complexity of the PPP contracts, although, this notion was different for the interviewed public firms. For the first public informant, the complexity is defined by the number of iterative process that is followed to get the firm to agree with the terms of the contract. However, the same notion was deemed simple by the private firms, because, the iterative process of contract review and adjustment is the same. It therefore seems that complexity is defined by perception rather than by a complex processing.

*“I would say it is really complex in terms of what we have in the contracts wise. And I think the contract technical details are like really really specific. So it's I would say the agreement has to be (how to say) like discussed really of really several times before we can get to an agreement, and I think the contract that I think their contracts are really demanding I would say. From our side and Estonia is really harsh partner in that field and we are really demanding in terms of security and in terms of identity management and identity protection and private like information.”* **(Informant 1/ PBGB and MI / 2021)**

*“Well it's not as complex because I went through one and I know it's not as complex because they are basic things that we just you know, it has to be, it has to take into consideration our environment.”* **(Informant 2/ NIMC / 2021)**

On the overall, the public firms majorly defined the terms of the agreement based on strict rules that tried – as much as possible – to minimize any form of sunken cost with the projects. For this, they have very comprehensive contracts the private entities must agree to.

*“You have to be very strict and Very comprehensive when dealing with outside partner. I think we have all seen kind of problems when we close a contract and it isn't*

*comprehensive enough so that is something I have learned with a couple of years.”*

**(Informant 2/ NIMC / 2021)**

### **Private partner selection in the PPP process**

The process of private partner selection tends to follow a simple process for the public entities. They put the partnership up for bid and private entities that fit the job specifications apply for the positions. The applying private entities are then served the job specification which they must be strategically capable to do before they can become partners.

*“...before you become a partner with us, there are levels of agreement which you need to sign and there are conditions that are so many things that you need to abide with, our SOPs on how to carry on the biometrics, the standard of capturing, the equipment that you must use, the model you must use and so on and so forth. Biometrics and demographic capturing system, everything we specified there and those are part of the things that are in the agreement that they signed.” (Informant 2/ NIMC / 2021)*

The public entities emphasize that some levels of monitoring follows the partnership process so that they can effectively evaluate the performance of the project and if it aligns with the objectives of the PPP initiative.

*“...You know, nobody wants to just spend his/her money anyhow without a guarantee. All those things are put into consideration because it is not actually, the exercise is not for free. They will be paid.” (Informant 2/ NIMC / 2021)*

### **Shared responsibilities in the PPP agreement**

On the issue of shared responsibilities the public firms also agree with the private entities about what part of the PPP initiative each of them will be responsible for. Although, to a great extent, the public entities tend to assume some level of control which the private entities cannot claim.

*“...Okay you see, if you are looking at what actually prompt us into this ecosystem approach is that actually the function of the National Identity Management commission is like a regulatory board, the job of enrollment of individual, printing of card, sharing of cards and whatsoever is not basically part of the job that we are supposed to do but because the first attempt with PPP failed so we now go and what we call interventionist.*

*So by intervening we bought some, just some few number of systems, which we are using for enrollment.” (Informant 1/ PBGB and MI / 2021)*

*“...The duty of those concessionaires which are our partners, which are private people are to carry out the enrollment of individuals, they are to do the card, they are to do anything that has to do with frontend operations that this, card printing enrollment of individuals and so on and so forth” (Informant 2/ NIMC / 2021)*

Therefore, the public firms assume some level of administrative position on the projects, and since their goals isn't always profit oriented, but to create value for the society, they have to ensure they are doing not just what is right, but what would eventually maximize utility. Although, the public entities did admit they go into the PPP partnership because they have some level of incapability that the private firms can effectively fill.

*“The private entity they get to sell their service, so it's about them making benefit. And for us, without those partners, we would not have the solutions. It's usually when we use the private entities, It's because they have technology we don't have, or they have the means to do it that we don't have and the most of the cases, It's cheaper to buy in those services or solutions rather than for the government to have to do it by themselves, from the from zero.” (Informant 2/ NIMC / 2021)*

## **Communication and trust in PPP agreements**

The perception of the public entities about communication with the private entities tend to differ from the perception of the private entities and between the firms. This is, because, from the public firm's perspective, a PPP agreement can be made with any firm that is not necessarily within their national borders. So problems of communication may be language and culture based, as was the position of the first informant.

*“...when you get the partner that isn't the, let's say first of all, it's always easiest if the partner is from Estonia. It gets a little bit harder when they are from the other EU countries and when you move further from that it gets even harder... .. Because first of all there is a huge language barrier and then there is a cultural barrier which means we might be saying the same thing but we are not thinking about the same” (Informant 1/ PBGB and MI / 2021)*

Therefore for PPP agreement with private entities within the national borders of the public firms, communication tends to be generally good, perhaps, because, the private firms may also be impacted by the good of the public utility being worked upon.

*“for our Estonia partners, I think the level of communication is very good. It works on all levels” (Informant 1/ PBGB and MI / 2021)*

The public entities didn't really attach the efforts from effective communication with trust, rather they defined it as part of the PPP agreement to ensure that the project is successful.

*“So the project manager is one that has the right to communicate with all of them. If there are any issues, we channel it to the project manager, he's the one that communicate with them so that they won't be having so many conflicting information.*

*So that's what happened.” (Informant 2/ NIMC / 2021)*

Although, the informants noted that effective communications allows for knowledge transfer about how to better approach solutions.

*“...yeah we can use the private sector knowledge and know how and practices already, so I think it's really win win solution for both parties because they can get in great innovative projects for the government for their resume. Yeah, and we can have innovation in our government and in our public site public sector side.” (Informant 2/*

*NIMC / 2021)*

## **Risk factors of the PPP agreement**

On risk factors of the PPP project, the public entities did affirm that some levels of risk are associated with the projects, but for them it isn't just the presence of risk that matters, but how to mitigate the said risks.

*“I think the answer is yes, and there are always risks and we are always describing and trying to mitigate all the risks that we can mitigate, and I think with all the contractual projects with the third party I think or just outside company or some private sector”*

*(Informant 1/ PBGB and MI / 2021)*

For the public firms, they are more concerned about ensuring project success, so the level of associated risk has to be effectively managed between the partners. And in some cases, they ensure they have the private firms have the right tools to help them mitigate the said risks.



*“So we could be sure that if something happens with them or something would happened with their subcontractors or or they are running out of business or or something else, they have a plan at least, and they are already thinking of what are the next steps to take” (Informant 1/ PBGB and MI / 2021)*

To an extent, the public firms accent to the fact that majority of the risks in the project that aren't financial in nature are shouldered by the private entities, and they ensure they mitigate their own risks, by ensuring the performance of the projects are optimal.

### **Benefits derived by the public firms from the PPP agreement and the terms of project performance**

For the public entities, project success is defined as the benefit they gain from the project as they are effectively able to create value for the public through this.

### **Barriers to Successful PPP initiative implementation**

#### **Political barriers**

The public entities also ascribed the success or failure of the PPP projects to the presence or absence of political will. The idea is that without the will to embark on a PPP initiative, no matter how impactful it might be, the absence of political would halt any form of progress.

*“It's, uh, how do I say it? It's about political will, if there is political will the advancement is guaranteed. If there is no political will, there is no PPP projects between the government, the private sector, but Estonia since 1991 as a Free State, I would say that there have been no major political policies that would have prevented us from doing PPP projects or trying to use innovation for our game” (Informant 1/ PBGB and MI / 2021)*

Asides political will, political priorities may also influence the execution of certain PPP projects, as earlier stated, if a government does not deem the project important there's no way they can give the go ahead for it. This narrative is backed up by the fact that PPP initiatives from the perspective of the public entities is based on the amount of funds available to them.

*“Since we are the government, we do not per say raise capital. We are dependent on the annual budget of the state and that's it. Other options are when we finally give or hand out the documents to people who get them Partly, uh, pay for the Pay for the document, but not for the project that went into getting the document” (Informant 1/ PBGB and MI / 2021)*

There is also the problems of political turn over that can affect the project. Especially when a new political entity has idea that are opposing to the former. Therefore, the possibility of policy change with successive governments can affect PPP initiatives in a bad way.

*“One, you see the issue of skepticisms, fear, and policy change. We have been able to weather it because most of them don't want to commit their money because if, when you have a government that is interested in the program if another one comes tomorrow and say no, I don't want it, that means all the money, all the finances, everything you have committed would be a waste.” (Informant 2/ NIMC / 2021)*

### **Economic barriers**

The public entities also reported that economic barriers also hamper their PPP initiatives, especially if funding from the government isn't able to adequately fund a PPP initiative. As prior stated, without the required funds, it would not be possible to go on ahead with the project.

*“If the state doesn't have money, well if it's a political priority, there is always loan money, but for our projects. There are, there have been no economical major factors would which would have hindered anything.” (Informant 1/ PBGB and MI / 2021)*

Also, how viable the state is economically, influences the success of some PPP initiative. The idea is that the private entities willing to take financial responsibility of a PPP initiative would first weight the opportunity cost of going into the project, and if the state does not meet their benchmarking, they do not invest. This was a position made by the first informant.

*“It's important to know is that as Estonia's population is quite small Uh, really often we faced with the challenges that some providers like big companies. They are not providing some solutions, probably to technical technological factor as well, but they are not providing the solution 'cause it will be too costly for them to provide it for such small amount or such small volumes.” (Informant 1/ PBGB and MI / 2021)*

The narrative above is actually because, the private entity would evaluate the possibility of recovering their recovered funds and only decide to invest based on if they are assured or returns on investment. This is especially true when the public firm is lacking on some key infrastructure that would require the private entities to build. This was also the position of the first informant.

*“That is why we went through ecosystem... .. ecosystem is sponsored by World Bank”*

**(Informant 2/ NIMC / 2021)**

### **Social, Technological, and environmental barriers**

Like with the private firms, none of the public entities witnessed any form of environmental barriers during the implementation of PPP initiatives. Although, they did assert that affordability is a factor that must be associated with a PPP initiative. In another case the service is freely given.

*“Yeah, I just had to wanted to mention about the social factor that the identity documents has to be affordable so the people doesn't have to pay too much for these documents. So that is always an issue which we have to consider to keep the price as low as possible so that everyone can afford it actually.”* **(Informant 1/ PBGB and MI**

**/ 2021)**

Other social barriers identified deals with the issue of distrust with government holding critical information about the people. This was the case with the second informant.

*“...So the elites will not, that is why we are still finding ourselves where we are today. The elites want it but they don't really want to support it because they know that with that number everything about them is known, no hiding place.”* **(Informant 2/ NIMC /**

**2021)**

The technological barriers also followed the prior hypothesis that lack of a required technology infrastructure would prevent initiatives that depend on the infrastructure from being implemented. And in most cases, private firms might be unwilling to shoulder the cost of making the technology available.

*“Some additional technologies that would put in so much money that they are not willing to provide some technologies for smaller countries. We are therefore not able to*

*probably buy something that's available for the bit rates so it can be both I think economical and technological as well...*” (Informant 1/ PBGB and MI / 2021)

Another technological barriers to successful PPP initiatives is that the technological capabilities of the public entities might not be as advanced as expected, such that the private firms eventually get slowed down and this affects the speed of the PPP process.

*“I think the technology technological as well, I can add that in Estonia we have X-tee, X-Road as it was called that previously so this is also a challenge with all if I'm not, even if I say with all the partners that we have, especially the ones that are not Estonia companies. So X-tee is a platform, a data exchange layer that we use for for exchanging exchanging data in Estonia. And this is a huge technological challenge for the foreign companies, so it's always something that they don't know what to expect.”* (Informant

**1/ PBGB and MI / 2021)**

## **Legal barriers**

On legal barriers, the public entities asserted that every project made with private entities are hinged on legal contracts and frameworks.

*“legal - Every new solution, every project that we start together with private entity needs legal permission and every solution needs a new legal frame, so that's that's definitely a major factor that.Uh. Call it. How do you say it it hugely limits what we can do with what we can't do, and for every solution we bring we have to change the framework. For example, if we wanted mobile ID, we need it to change the according Acts, if we want to change it again, we again need to change the legal framework.”*

**(Informant 1/ PBGB and MI / 2021)**

Although in some situations, the terms of the contract can be fixed – as with the first informant, or negotiable – as with the second informant.

*“I would say mostly there isn't much negotiating room since we have fixated frameworks which they need to comply to... ... If they comply to these terms, everything else in their solution that is is free for them. But but it has to Yeah, get into the framework we are setting out and in terms of contracts we are very strict. There isn't much room for negotiating to be honest”* (Informant 1/ PBGB and MI / 2021)

*“Yes, because we have our legal unit which carry on whatever the issue of the agreement is and before you become a partner with us, there are levels of agreement which you need to sign and there are conditions that are so many things that you need to abide with... ... there will be a time for renegotiation. If there are negotiations, well maybe if you want a partner, if our partner wants to engage a partner for instance, you need to come back to us” (Informant 1/ PBGB and MI / 2021)*

Ultimately the barriers exist when the private entities are unwilling to commit to the terms of the contract drafted out by the public entities.

#### 4.4 Cross Case Analysis

The following section presents a cross case analysis of the private and public firms. The cross case analysis allowed for a comparison of the cases such that similarities and differences between them can be realized. The case analysis is conducted based on each objective of the study.

**Objective 1: To investigate and analyze the challenges faced by private and public firms that mar successful PPP implementation in Nigeria and Estonia.**

This objective is answered using the cross case analysis under the following themes realized from the within case analysis. Because most of the identified themes have been discussed under the within case analysis, a summary of how these factors affect PPP initiative is discussed in the following paragraphs.

Table 7 : Constraints to successful PPP

<b>Constraints to successful PPP</b>
Length of the PPP agreement
Improper outlined terms of PPP contract
Improper or poor communication
High risk factors
Lack of commitment to shared responsibilities
Poor project performance
Political barriers
Economic barriers
Social and Technological barriers
Legal barriers

##### **Length of the PPP agreement**

This is an identified constraint, because it limits the effectiveness of making long-term PPP contracts. If the contracts have to be re-enacted on a short-term basis, the private firms would only be willing to commit to projects that can be completed within the term of the agreement, as policy changes can mar the process of long term commitment that could result in huge sunken cost for the private entity. Although from the perspective of the public entity, the short tenured contract is a risk mitigating factor in response to potential policy changes that occurs after political office turnover. They therefore use

short-term contracts to constrain or limit the potential impact of policy change on the PPP outcome.

### **Improper outlined terms in the PPP contract**

This is also identified as a constraint in this study. The implications of this are theoretical and empirical. From a theoretical perspective, the moral hazard outlined in the principal-agent theory can take place in improper outlined PPP terms. First, the efforts of the agent (private entity) may not be verifiable, and secondly, the agent may be improperly advantaged over the principal (public entity) when signing the agreement. It is therefore deemed necessary that the principal ensures the terms of the contract is properly enacted through scrutiny.

From an empirical perspective, an improper terms of contract increases the chances of corruption and the likelihood of conflict arising later on. This is because, the terms of the contract specifies the details of the agreement, risk factor, allocation, expected performance level of the project, and the benefits that would be derived by the private entity. This is why the entities stress the need to continually reshape the terms of the contract so that it can fit the realities of the partnering entities. Without a coherently defined terms of contract, the chances that the PPP scheme would collapse is likely.

### **Improper or poor communication**

Improper or poor communication between the parties (private and public entity) is another constraint that causes the collapse of a PPP project. Improper or poor communication does not allow for an efficient build of trust, knowledge transfer process, and might leave the public entity in situations where they do not understanding cogent details about the project, and this raises the likelihood that conflicts would arise from the project between the entities.

Corruption possibilities creeps in when the agent intentionally forestalls communication for personal interest. The liability of government's inexperience as outlined by the private entities can be used by the private entity to gain unfair advantages. In other cases, misinterpretations occurs, causing the public firms to misinterpret the details of the project and become suspicious when the private firms adopt one solution over another. It is for this reason the public entities ensure effective monitoring of the projects and why they place project performance over trust in PPP partnerships. In fact, without the right communication channel – as stated in the within case analysis – it is hard to agree on a particular PPP initiative.

### **High risk factors**

Very high levels of risk factors mar successful PPP implementation, causing project failure. The reason for this is not far-fetched, as the bulk of the risks are often shouldered by the private firms. In the eventuality of occurrences – like the COVID-19 pandemic (see the case of Nortal) – the private entity can collapse under pressure, causing the project to fail. Other constraints that are risk associated are risks associated with partnering with weak partners (private and public) who are not strategically capable to commit to the terms of agreement. For the private entity, it is policy changes from the government, while for the public entities, it is the selection of an incompetent private partner.

### **Lack of commitment to shared responsibilities**

When the parties do not commit to their shared responsibilities, this poses problems for the PPP initiative and results in cases where the goals of the partnering entities are not symmetrically aligned (partnership theory). From the within case analysis, the public firms are the accused of this infringement and is perhaps why the private firms prefer they only serve as a regulatory body and do not administrate important functions in the project.

### **Poor project performance**

Poor project performance is also another factor responsible for PPP project failure. The informants revealed that a poor performing project can cause the public entities to withdraw from the contract with an underperforming private entity, and look for an efficient private entity or classify the project as sunken cost. This occurs when public firms enter into partnership with incapable private firms, stemming from an inefficient selection process.

### **Political barriers**

Political barriers are the major identified constraint to successful PPP initiatives. The first is that a lack of political will hinders the take-off of a PPP project. In some other cases, policy changes resulting from political turnover can mar successful PPP initiatives. This perspective is shared by both private and public entities. In some cases, the political factors are external to the government – in cases where regions define the budgetary needs of certain projects – and can mar successful PPP implementation.

### **Economic barriers**

Economic barriers are linked to the resource capabilities of the state to fund certain PPP initiatives and the economic factors such as inflation pressure that can cause the project to collapse under increasing cost.



### **Social and Technological barriers**

From a social perspective, distrust for the government cause people to boycott PPP initiatives (see VerifyMe). On the other hand, lack of technological infrastructure needed prevents the deployment of technology dependent PPP initiatives. Operational inefficiencies occurs when government takes the responsibility of supplying the required technology, which they are either inefficient at, or incapable to do.

### **Legal barriers**

Legal barriers arise when the attributes of the private entities or the PPP initiative does not comply with the national legal directives. These are hard to traverse as the rules are sacrosanct and cannot be bent. In some cases, legal and political issues mix to create legal problems for the partnership and their project.

### **Objective 2: To understand and analyze the importance of factors that ensure successful adoption and implementation of PPP initiatives in Nigeria and Estonia**

This objective is also answered using the cross case analysis under the following themes realized from the within case analysis. A summary of factors that ensure PPP success is discussed in the following paragraphs.

Table 8 : Factors ensuring successful PPP

<b>Factors ensuring successful PPP</b>
Appropriate risk factor allocation
Length of the PPP agreement
Detailed terms of the PPP contract
Adequate private partner selection
Well defined responsibility sharing
Effective trust and communication networks
Proper project monitoring

### **Appropriate risk sharing factor allocation**

This is one of the factors that ensures the success of PPP initiatives. The risks are shared through review and evaluation of the PPP contract such that they are not beyond the capacity of the partners to bear the burden. In some cases, the public entity makes use of one to many relationships if one private partner cannot sufficiently bear the burden (see

NIMC). Also, the public entities ensure that the selected private firms are resource capable.

### **Length of the PPP agreement**

The length of the PPP agreement is an important and crucial factor, as it allows the firm defined the duration for project completion within the tenure of the government they are partnering with. This differs from nation to nation. The private entities ensure that they have the capacity to deliver on the project within the agreed term, because, the current government may not tenure the next political cycle that the initiative may extend into. This is a good way to constrain the terms of agreement.

### **Detailed terms of the PPP contract**

From the within case analysis, properly defined and detailed PPP terms builds effective trust and commitment to delegate responsibilities. This is also done to ensure that potential conflicts that can arise are factored in and resolved before agreement. The private and public entities do this through constant review of the terms they wish to agree upon, such that at the final iteration of review, the potential conflicts would be resolved.

### **Adequate private partner selection**

Selection of partners with the required strategic capabilities is crucial for project success. The capable firms that have the right experiences, tools, and experience are often selected to facilitate the success of the project.

### **Well defined responsibility sharing**

The PPPs are based on a contract which specifies the responsibilities delegated to the partnering entities. These responsibilities tell what is required of the entities to commit to, the outcome of the project, performance of the project, and expectations about the project. Penalties are often awarded for not meeting up with the defined responsibilities. In the case of the private firms, it's not getting paid for job not done (see VerifyMe), or getting underpaid for poor performance of the project (see Nortal).

### **Effective trust and communication networks**

As noted in the within case analysis for the private and public firms, effective communications is there to ensure project success. It increases the level of trust between the principal and agent and ensures that details about the project are communicated in time. It also ensures that potential conflicts arising between the parties can be amicable resolved. Also, and as outlined in the within case analysis, communication breeds trust that breeds risk curtailment.

### **Proper project monitoring**

This is the role of the public firm to ensure that the specifications of the project are aligned well with the agreed upon outcomes. Although, this is usually done through a strict monitoring system to ensure that the agent (private entity) conform to the terms of agreement. Proper project monitoring helps ensure project performance is optimal.

### **Objective 3: To identify curtailment strategies that could constrain the challenges affecting successful PPP initiatives**

The third objective is also answered using the cross case analysis under the following themes realized from the within case analysis.

Table 9 : PPP barrier curtailment factors

<b>PPP barrier curtailment factors</b>
Relevance and appropriateness of the PPP model
Enabling environment
Renegotiating terms with shared benefits in mind
Legal binding contracts
Capacity development of the public entities through consistent interactions with private entities
Assessing the sustainability of the PPP initiative
Risk transfer

The factors are discussed in the following paragraphs.

#### **Relevance and appropriateness of the PPP model**

It is necessary to assess if a chosen PPP model would be the best possible approach, and if the contract type would be effective enough to ensure project success. For this reason, it is best to constantly evaluate the appropriateness of the PPP model and relevance of the selected approach and partners towards project success. In essence, this takes into account how the identity management PPP initiative takes into account the political, legal, economic, technological, and social factors, and how they contribute to the effectiveness of the PPP model.

#### **Enabling environment**

An enabling environment is one of the crucial factors for curtailing the challenges that affect successful PPP initiatives. Political stability, an efficient legal framework, and effective corporate governance structure would ensure the PPP initiative is effectively

shielded from political and legal interference, as well as other environmental barriers that can mar successful PPP implementation. A proper enabling environment also implies that the right technological infrastructure must be made available for the adoption and implementation of PPP initiatives, however, this is usually dependent upon the capabilities of the public entity and the amount of resources at their disposal to ensure the right instruments are available for PPP to thrive upon.

### **Renegotiating contract terms with shared benefits in mind**

When issues about PPP are based on the terms of agreement, it may be hard to renegotiate a contract that is sacrosanct (see PG and MI), however, this might pose problems if renegotiating the project would improve project performance. This narrative is based on the notion that there may be a need to include a new clause into the contract that would benefit both parties e.g. higher earnings for the private firm + faster PPP project implementation for the public firm. A more liberal could be adopted that allows firms to renegotiate a contract if it will be of benefits to the agreeing parties (see NIMC).

### **Legal binding contracts**

Not all PPP contracts are legal bindings, as the initiative may start as a fully private owned process, before the government decided to nationalize it. This was the case of Nortal and the resulting contract was more of a memorandum of understanding than it was a legal binding contract between the entities. Contracts that do not have a legal clause usually have very high risk associated with them, as such, it may be worthy to ensure all contracts are legal binding. This would make the contract have the backing of the law such that the parties remain better committed to the terms of agreement stated in the contract.

### **Capacity development of the public entities**

Public entities lack the required skills and experiences to develop appropriate incentives for successful PPP initiatives (see NIMC). Capacity development is therefore crucial, as it would help the public entities understand the processes, procedures, and instruments required for the delivery of effective PPP initiatives. This is so that for every PPP initiative, the public entities would have ensured that the political and legal framework required for a PPP initiative is made available before the commencement of the projects. The public entities can gain this experience via knowledge transfer from constantly interacting with the private firms.

### **Assessing the sustainability of the PPP initiative**

PPP agreements are often based on the net benefits each of the agreeing partner would gain from lending their service towards making a public service utility available.

However, the sustainability of a PPP initiative must be evaluated to ensure that the partnership is resilient enough to ensure project success. As such, the sustainability of the project must be carefully evaluated to ensure that the risk and challenges that would be faced by the project, the measures taken to mitigate the risks, and the resilience of the project to live beyond the challenges are available before the start of the PPP initiative.

**Risk transfer**

The barriers to successful PPP can also be curtailed by ensuring that the risks associated with the project are transferred to the entity which is more capable of handling the risk. This narrative further substantiates the position on contract renegotiation, especially if a partner is marred by challenged that causes it to make changes to the risk factors it shoulders in the project. This can be achieved using NIMC's concessionary approach, where the public entities spreads the risk of the project over multiple private firms of which VerifyME is one of such firms.

## 5 Conclusion and Recommendation

This chapter gives a conclusion to each of the study's objectives. Following this, the limitations, recommendations and reflections is discussed as well.

### **Objective 1: To investigate and analyze the challenges faced by private and public firms that mar successful PPP implementation in Nigeria and Estonia.**

The barriers to successful PPP initiatives are highlighted here. It is important to substantiate that these problems exist, because, they have significant implications for future identity management PPP initiatives. This study highlighted that the length of PPP agreements is one of the barrier to successful PPP implementation. Long tenured PPP initiatives are not often agreed upon, because, the terms of the contract are often affected by political turnover. Also, improper outlined terms of a PPP contract, and poor communication between PPP partners are barriers to successful PPP. In the case of the former, loosely defined contracts are recipes for conflicts in the near future while lack of trust between partners is the problem associated with the latter.

This study also revealed PPP projects can collapse under high risk factors, especially for private firms. A lack of commitment to defined responsibilities can heighten the risk associated with the PPP projects for a party, which also results in Project failure. This study also substantiated that poor project performance stemming from private sector incapacities causes project to collapse, either by termination by the public entity, or from unbearable costs.

The study also highlighted that political, economic, social, technological, and legal factors also serve as barriers to successful PPP. In order of their relevance, the political factors (political will and government policy) and legal factors are the major culprits affecting successful PPP.

**Objective 2: To understand and analyze the importance of factors that ensure successful adoption and implementation of PPP initiatives in Nigeria, and Estonia**

The second objectives identifies the key factors that ensure successful PPP, and reveal factors majorly related to the nature and technicalities of the PPP contract and type of partner.

The study substantiated that curtailing the length of a PPP contract to the duration of the current tenured government is essential for PPP success. This study also confirmed that the details of the contract must be well specified with appropriate risk allocation factors and responsibility sharing to ensure success.

This study also substantiated that effective trust built through consistent communication networks is crucial enabling factor. This study also substantiated that proper project monitoring and ensuring that capable private partners are selected is very crucial to the success of PPP initiatives.

**Objective 3: To identify curtailment strategies that could constrain the challenges affecting successful PPP initiatives**

The third objective highlights the curtailment factors that can be used to constrain the challenges to successful PPP. This factors are important, because they outline how the entities traverse challenges associated with PPP.

This study substantiated that every PPP initiative must be relevant and appropriate such that all factors that are internal and external to the firm are taken into account during the crafting of the PPP initiative. This study also substantiated the need for an enabling environment that ensures there are no institutional (political, legal, social, etc.) interference to the success of a PPP initiative.

This study also substantiates the need to have a proper legal binding contract and the need for contract renegotiation to resolve PPP issues. The findings also conclude that risk should be transferred to the party that can effectively manage it and that the PPP model should be assessed for sustainability.

## 5.1 Limitations

The conducted research, without a doubt, has some limitations. Throughout this research the following challenges were encountered:

- While some were anticipated, some could not be anticipated. During the interviews, it was anticipated that some of the questions would not be answered by the interviewees (unwilling or did not have answers). So reinforcement questions were crafted to ensure they responded adequately.
- It was hard getting the case firms to slate interviews within the required time. Some of the case firms slated interview dates that were towards the deadline for this thesis. So, it was difficult, getting responses in time.
- Respondents were limited to top-ranking informants of the interviewed firms. Analysis, findings, conclusions and recommendations for this study were only generated from interviews conducted. There was no reliance on secondary data.
- The time available to complete the thesis was short of the volume of work to be completed. Also, the theoretical position of this study was limited to the constructionist world, and limited the influence of literature on the result.

Despite the outlined limitations, the outcomes from this study satisfied the aims and objectives of this research, and the emerging conclusions and recommendations are relevant for theory and practice.

## 5.2 Recommendations

Following the conclusions drawn from this study, the following recommendations are made based on the objectives of the study:

**Objective 1: To investigate and analyze the challenges faced by private and public firms that mar successful PPP implementation in Nigeria and Estonia.**

- This study recommends that appropriate project framing must be made before the government embarks upon any PPP project. This must be done such that political, legal, and other institutional barriers that could affect the success of a PPP initiative are accounted for during the framing of the PPP contract. The government could help the private sector partners traverse such a situation by creating an enabling environment that reduces the risk associated with the project.



- The parties should ensure that the burden of risks is shifted to the entity capable of bearing the most risk. Appropriate and adequate risk-bearing would improve partner confidence in PPP schemes.
- This study also recommends that the government should draft out a framework that would allow for critical reflection and learning to allow partners to learn and identify best practices for negotiating with private sector partners. This would allow for better and more effective project contract framing.
- Government must ensure detailed screening of partners is conducted to reduce the incidence of contracting an incompetent partner.

**Objective 2: To understand and analyze the importance of factors that ensure successful adoption and implementation of PPP initiatives in Nigeria, and Estonia**

- It is recommended that government and their entities (public entities) should continually develop PPP models that outline operating protocol for verifying performance against the contract. The proposed model should feature regular and continuous monitoring of the successes and challenges in line with the targets and objectives.
- This study also recommends that the government should involve independent private sector partners in the framing of contract agreement, implementation, and management of PPP models for Identity management. The model also suggests involving the independent partners in developing key performance indicators for Identity Management.

**Objective 3: To identify curtailment strategies that could constrain the challenges affecting successful PPP initiatives**

- Government should produce a standardized legal document for Identity management that is clear, concise, and coherent. This legal contract would serve as the baseline for other agreement.
- Given the incapability of government in driving an efficient model, it is recommended that the government should leverage communication with the private entities to allow for sufficient knowledge transfer on how to frame a successful PPP initiative.

### **5.3 Future studies**

Since the outcome of this study is based on a set of research questions and objectives to fill an identified gap, this thesis may therefore be the first steps upon which other findings can be conducted:

- A part that wasn't so elaborate in this study has to deal with how public entities source funding for PPP projects from external sources. This warrants further research, given that could potentially open up a part to a successful PPP initiative that is independent of the government's treasury.
- Further studies on early risk identification and risk analysis of the PPP projects are also required to understand the nature of the risks and how best to mitigate such risks.
- Further studies using a quantitative approach may be necessary to give another perspective to the findings obtained from this study.

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## **Appendix 1 – Interview Guide and Transcriptions**

Please click on the links below :

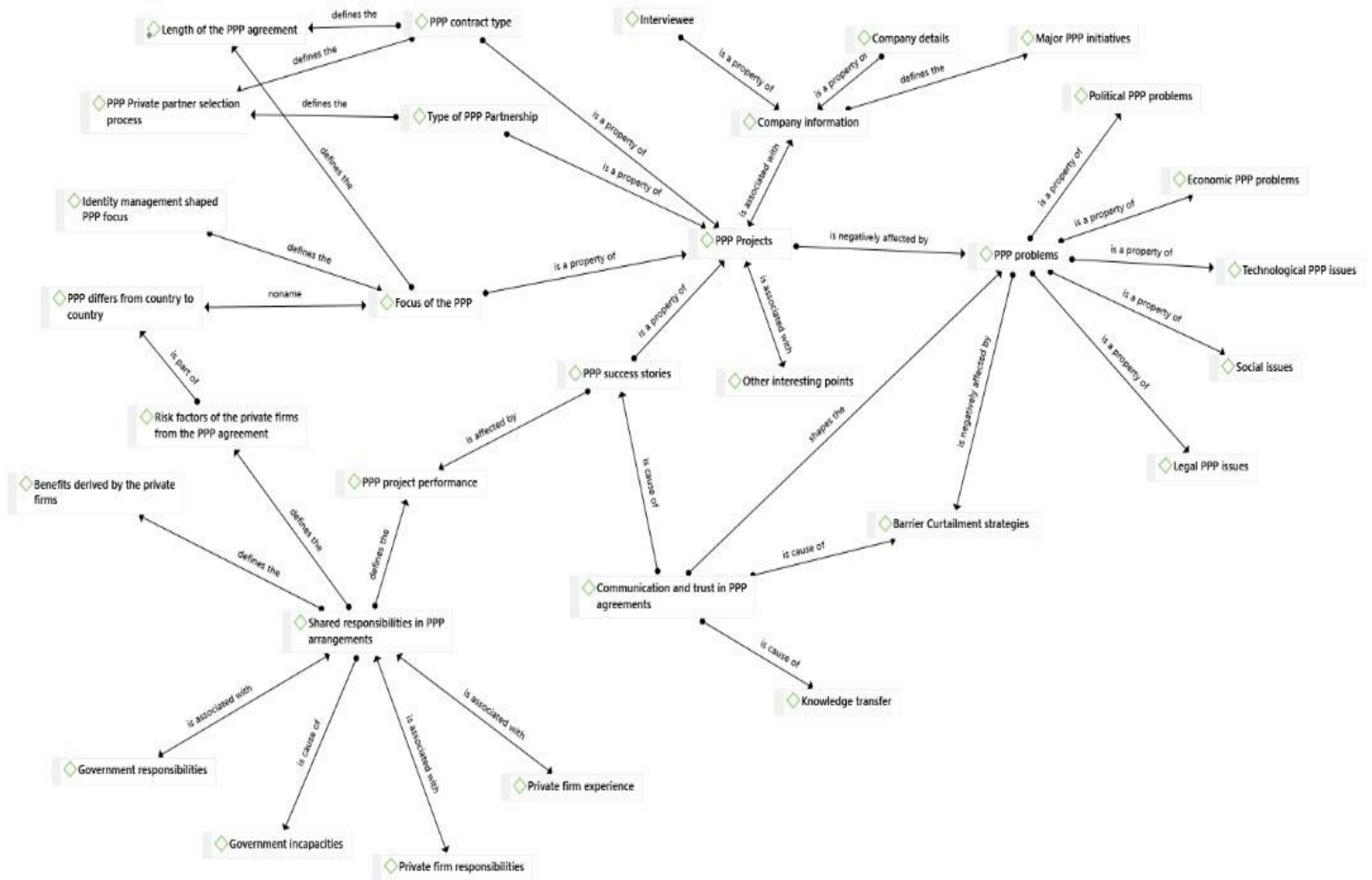
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### **Interview Transcripts -**

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