AN EVALUATION OF THE ROLE OF ELECTRONIC PAYMENT SYSTEMS IN REDUCING PROCUREMENT CYCLE TIME IN UGANDAN INSTITUTIONS"

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A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A DEGREE OF BACHELOR OF PROCUREMENT AND LOGISTICS MANAGEMENT OF UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I, **TUMWEBAZE TYSON** hereby declare that this research is my original work and has been submitted in partial fulfillment of the requirements for the award of Bachelor of Procurement and Logistics management degree at Uganda Christian University. It has not been submitted to any other academic institution for any award. Where the work of others has been used. It has been duly acknowledged through proper citations and references.

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Date: 6th May 2026

APPROVAL

This dissertation titled "AN EVALUATION OF THE ROLE OF ELECTRONIC PAYEMENT SYSTEMS IN REDUCING PROCUREMENT CYCLE TIME IN UGANDAN INSTITUTIONS)" has been submitted by TUMWEBAZE TYSON of REG NO. M23B12 /051 to the school of business in partial fulfillment of the requirement of the award of Bachelor Degree of Procurement and Logistics Management of Uganda Christian University with my approval as the supervisor

Supervisor's Name: Mr. Muloosi Pascal

Sign:.....

Date: 28/4/2026

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ABSTRACT

This paper discusses how electronic payment systems (EPS) can help to reduce the procurement cycle time in the Ugandan public institutions, with particular reference to the Ministry of Works and Transport. The study also conceptualizes EPS in terms of strategic technological resources that require complementary organizational capabilities including digital literacy, system integration and ICT infrastructure. The qualitative single-case study design was selected, where purposive and snowball sampling were used to select 17 participants who are involved in procurement and financial processes.
The data was gathered by use of an open ended online questionnaire which was supplemented by analysis of documents, and analyzed using thematic analysis.

The results indicate that the use of electronic payment systems and, specifically, the Integrated Financial Management System (IFMS) can greatly improve the efficiency of the procurement process through accelerating the speed of the payments processing, increasing the level of transparency, and providing the opportunity to track the transactions in real-time. Nonetheless, these advantages are not always achieved because of entrenched challenges, including; system downtimes, poor internet connectivity, low digital skills, and low level of integration between procurement and financial systems.
The paper also determines the major enablers of effective use of EPS including staff training, sound ICT infrastructure and powerful management support and identifies critical gaps in capability that hinder system performance.

The research finds that, even though EPS have a high potential of reducing the procurement cycle time, their effects are highly contingent with the existence of complementary capabilities within institutions. It suggests ongoing investment in digital skills building, developing ICT infrastructure, improving system integration and enhancing interdepartmental coordination. In applying RBV to a public sector setting, the study not only adds to the body of theoretical and practical understanding of the topic, but also provides context-specific information on how the topic can be effectively

applied to the procurement process in Uganda (and similar developing economies).

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study.

The large portion of government expenditure and direct source of quality and timely service provision is a critical driver of national development (World Bank, 2021). On the whole, though, inefficiency has been one of the most prominent global procurement issues leading directly to longer procurement cycle times, delayed supplier payments and bottlenecks in procedures. Such bureaucratic inefficiencies raise the cost of administration, delay the achievement of core programs and destroy the confidence of the people towards government institutions.

The issue is particularly acute in the developing world, such as Uganda. Decades of paper-based manual systems with slow, inefficient, error prone and opaque systems have been used by many government organizations. These are the sorts of systems that 'undermine the attainment of value for money, undermine accountability frameworks' (OECD, 2019). By comparison, empirical evidence of other developed economies indicates that digital transformation, including electronic procurement and electronic payment systems, have had a positive impact on the reduced procurement lead times of up to 30, the reduction of errors and the enhancement of governance and monitoring (Rahim, Ramlie, and Mohamad, 2021). Although Uganda wants to modernize its public procurement system by reforming it and automating it, the inefficiencies still remain.

The most recent audit and empirical evidence find ongoing delays in approval and payment, little integration between e-procurement and payment platforms, and frequent system downtime, which can interrupt procurement activities (OAG, 2023). These have caused stalled works, delayed service delivery and financial inefficiencies in key sectors like health, education and infrastructure. To illustrate, vendors who are taking longer to get paid are likely to discourage their competitors to jump into

the business and are more expensive than they believed to do business with governments. Research conducted on different parts of East Africa has helped in the realization that digital procurement and payment systems are highly essential in defeating those challenges. Swedi (2024) verifies that the introduction of electronic payment systems facilitates openness and decreases administrative slack and, consequently, accountability to the work of the public procurement. Isango (2025) also observed that e-procurement like e-tendering, e-invoicing, e-payments in effect increases firm efficiency by avoiding paper work, speeding approval and reduction of transaction costs. In Kenya, Wayamba et al. (2021) discovered that digital procurement systems enhance coordination and reduce the time of procurement cycle through live data transfer and automated workflows. Ugandan study by Nakamya et al. (2025) also stated that when e-tendering with e-payment systems is used in conjunction, it increases the efficiency of procurement outcomes timely via no manual verification and quick disbursement of financial resources

These results are in line with broader international evidence. According to reports (World Bank, 2021; GSMA, 2024), integrated e-payment platforms mobile money, internet banking, or digital banking systems allow faster, transparent, and trustworthy transactions. Taken together, the studies establish the fundamental role that digital procurement and payment platforms can play in improving public sector procurement performance, decreasing expenditure and enhancing transparency. Theoretically, the study is grounded in Resource-Based View (RBV) theory that contends that organizations attain efficiency and sustainable advantage when efficiently utilizing resources which are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Within this model, electronic payment systems (EPS) are positioned as strategic technological resources used in the enhancement of the procurement process when they are systemically embedded in the operations of government organizations.

Nevertheless, the recurring delays and inefficiencies in Uganda's public procurement cycle indicate that these systems may not be optimally used to

provide the desired benefits of modern delivery systems. Thus, a core issue driving this study is that despite the integration of electronic payment systems in Uganda's public institutions, procurement cycle times remain long-lasting and wasteful and the technology adoption and operational performance gap remains wide. This study thus seeks to explore the influence of electronic payment systems in the reduction of procurement cycle time in Ugandan institutions. Within the framework of this article, the Resource-Based View (RBV) explains that public entities can increase procurement efficiency via procurement performance and efficiency by exploiting internal technological resources effectively.

Electronic payment systems are one such essential asset that, if strategically incorporated in purchasing activities, can improve the efficiency of processes, reduce delays and drive the integrity of an organization's performance in an institution's procurement. According to the theoretical model, organizations embracing these digital technologies as valuable and inimitable resources tend to experience quicker, more transparent and accountable transactions, and are more accountable for their procured value. Yet even though the use of electronic payment systems is on the rise in Uganda's public sector, the anticipated efficiency gains are not being realized. It is to this time that a lot of organizations continue to face long delays in approvals and disbursements because of system compatibility problems, process queues and different degrees of digital skills of the users (UCU, 2024; OAG, 2023).

This is indicative of the existence of a digital divide between the promise of electronic payment systems as strategic resource and their real impact on shortening the procurement cycle. Hence this study aims at applying the RBV framework to ascertain if in Ugandan institutions, successful implementation of electronic payment systems can enhance procurement performance and increase timely, transparent and efficient service delivery.

1.2 **Statement of the problem.**

Digital transformation across multiple platforms is becoming the focus of reform agenda in public procurement in Uganda as highlighted in the Electronic Government Procurement (e-GP), Integrated Financial Management System (IFMS). These systems were put in place in support of efficiency, transparency, and accountability in finance, backed by electronic payment technologies. Had it been possible, digital payments would lower the staffing requirements of verifying, automate procedures, and enable real-time fund transfers to streamline procurement cycles, increase levels of supplier satisfaction, and foster confidence in the use of public resources by the populace (PPDA, 2021; MoFPED, 2023; World Bank, 2021). However, there are data evidence which suggests that the reality in the public sector in Uganda does not realize the ideal.

The Office of the Auditor General (2023) and the academic review (UCU, 2024) show that such inefficiencies as technical failures, incomplete integration of systems and poor digital literacy of the procurement staff remain. These issues often force institutions to be on the back foot and manually redirect and undermine the efficiency gains that are being touted by the implementation of e-payments. In an RBV view, this means that the difference between the level of coverage of digital technologies and the effective use of these resources as strategic resources to enhance institutional performance using their utilization. This has resulted in the inability to pay in time and delays in service delivery and payment information increases administrative costs; this was especially noticeable in Micro, Small and Medium Enterprises (MSMEs), which operate on a cash flow sustainability through timely payment (UNCDF, 2024). Such inefficiencies strain provider relations and undermine the trust of the populace to reform the digital governance practices. Although a lot of resources is invested in a digitalization infrastructure, there is a lack of empirical evidence on the value-added electronic payment systems bring that can be measured on reduction of the procurement cycle time at Ugandan institutions. In this paper therefore we explore the benefits e-payment systems will have on procurement timeliness and efficiency at Ugandan public sector.

1.3 Research Objectives

1.3.1 General Objective.

To assess the possible role of electronic payment systems, conceptualized as strategic technological resources under the Resource-Based View (RBV) in decreasing procurement cycle time in Ugandan public institutions.

1.3.2 Specific Objectives.

To investigate how electronic payment systems reduce procurement cycle time among Ugandan public institutions.

To investigate characteristics that affect electronic payment systems in public procurement.

Suggest measures for the use and integration of electronic payment systems to improve efficiency in public procurement.

1.4 Research Questions.

How do electronic payment systems impact procurement cycle time in Ugandan public organizations? What determinants affect the influence of electronic payment systems in public procurement?

How could electronic payment systems be better integrated with and enhanced in public procurement efficiency?

1.5 Research Hypotheses.

Electronic payment systems significantly affect procurement cycle time reduction among Ugandan public institutions.

A wide range of institutional, technical and human factors significantly influence the use of electronic payment systems in public procurement.

The advancement of electronic payment systems enhances efficiency in public procurement in terms of efficiency improvement through improved use and integration significantly improves efficiency in public procurement.

1.6. Significance of The Study

It has gained significant importance to academia and practitioners based on its findings, as many stakeholders in academia and practice have found an evident gap in empirical evidence, as e-Payment System adoption is a very broad phenomenon in Uganda, which remains limited on the empirical basis for the research that has significant implications for how electronic payment system works for increasing the purchasing cycle time of procurement process in Uganda.

The study adds to the scholarly literature by using the Resource-Based View (RBV) for public procurement. It widens the theoretical understanding to understand how the digital tools create institutional efficiency and by conceptualizing e-payment systems as strategic technological resources in developing economies.

The literature generated around the literature for this research will act as a bridge for further analyses of digital governance and procurement reform alongside RBV theory application outside the private sector.

Policymakers and Regulatory Bodies (PPDA, MoFPED) for policymakers, the study presents empirical data on the degree to which e-payment systems reduce procurement delays and the areas that remain lacking. This is important for developing policy to support better integration of e-GP and IFMS, for designing specific digital literacy programmers and for making sure that investments in technology in procurement products or services actually have the potential to reduce cycle time and improve accountability.

Practitioners, as well as Ministry officials, will benefit from the findings for procurement officers and finance managers on optimal utilization of e-payment technologies as part of institution's resource. Approaching a good trade-off between RBV-based benefits and bottlenecks, the paper also aids practitioners in creating recommendations regarding the optimization of HR, minimizing delays and promoting internal efficiencies in accordance with RBV principles in resource mobilization.

Suppliers and the Wider Economy- prompt payments are crucial in keeping suppliers sustainable, more so the Micro, Small and Medium Enterprises (MSMEs). This paper has revealed that it will gain supplier trust, improve cash flow and increase involvement in the public procurement market

through the adoption of better e-payment systems. And this, in turn, fosters a more competitive business, a wider economic stability.

Public Sector Governance The research is congruent with the digital transformation agenda of Uganda that has empirical evidence of linking policy design and implementation outcome. This shows the efficiency savings of e-payments, establishing the popular trust in the institutional responsiveness and enhances service delivery in priority segments such as health, education and infrastructure.

1.7 Scope of the Study

1.7.1 Geographical Scope

The research is going to primarily involve selected Ugandan public sector institutions including Ministries, Departments, Agencies (MDAs) and Local Governments (LGs) adopting e-GP and IFMS systems. The institutions form a suitable structure in the investigation of the significance of the e-payment system as an effective strategic resource throughout the procurement process.

1.7.2 Content Scope

The study will be based on the association between the procurement cycle time (dependent variable) and the uptake of electronic payment system (independent variable) in the context of the Resource-Based View (RBV). We will also take into account the moderating variables such as digital literacy, ICT infrastructure and institutional policies, which will all play a critical role in determining the level of utilization of e-payment systems as an important resource.

1.7.3 Time Scope

The time frame under consideration is 2015-2025 that includes the adoption and implementation period of the e-payment in the national public sector throughout Uganda. This time is to allow the evaluation of the trends that will be over a decade of implementation.

1.8 Limitations and Delimitations

1.8.1 Limitations

Data Accessibility: The limited access to sensitive procurement and financial records limits the quantitative depth of the analysis. To mitigate these issues research will be conducted through triangulation of data sources like audit reports and practitioner interviews.

Generalizability: Results from certain institutions may not be broadly used by other Ugandan outfits because of differences in capacity and resources.

Methodological Challenges: Qualitative and quantitative information may pose difficulties in ensuring consistency, but a mixed methods model yields much richer content.

1.8.2 Delimitations

The study is limited to the public sector institutions and not to private ones. The attention is mainly paid on e-payment services and the influence on cycle time, and so other e-procurement processes like e-tendering and e-auctions are not included. This only extends to the purchase of goods and services for the general public and, with very little attention, works.

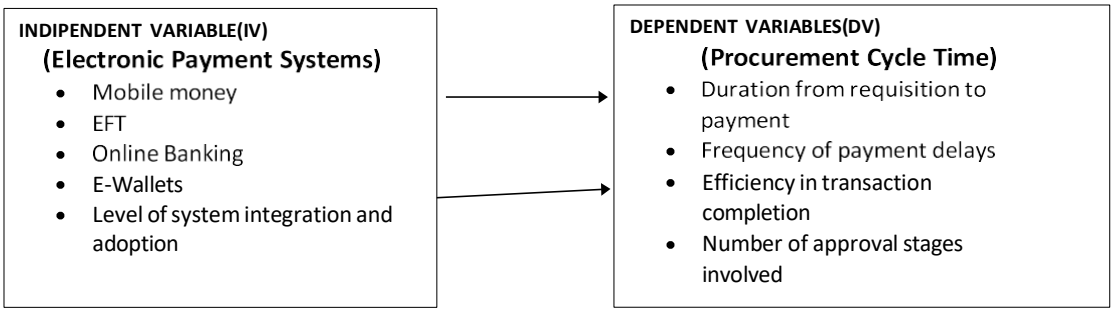
1.9 Framework

1.9.1 Theoretical Framework

This research is based on the Resource-Based View (RBV) of the firm (Barney, 1991), which suggests that organizations realize their efficient and sustainable advantages via utilizing unique internal resources, which are considered valuable, rare, hard to imitate and non-substitutable (VRIN). E-payment systems are seen as strategic resources based on advanced technology that can be effectively incorporated into public procurement with respect to financial processing, cycle time and accountability. Some of these are known as bottlenecks—system downtime, insufficient digital literacy and procedural barriers that undermine the systems' ability to provide value. Testing this theoretical argument in the context of Uganda's public sector, the study moves RBV beyond private-sector application and integrates it into public procurement and e-governance regimes.

1.9.2 Conceptual Framework

The conceptual framework displays the likely relationships between the variables: Independent Variable (IV): Electronic Payment Systems (mobile money, EFT, online banking, e-wallets).



Dependent Variable (DV): Procurement Cycle Time (time from requisition approval to supplier payment).

The conceptual structure demonstrates an evident connection between Electronic Payment Systems (EPS) and Procurement Cycle Time (PCT). Essentially, when organizations are efficiently using electronic systems of payment, such as mobile money, EFT, online banking, etc. then it would take less time to procurement to be completed. The hypothesis is that digitalized payment implies a rapid, more precise, and easier to record and trace purchasing. On these studies we may hope that the rate of payment and overall efficiency will increase significantly with the implementation, and proper utilization, of such systems in government institutions. We can unravel that relationship in several ways:

Automation of the process: The steps such as typing cheques or even checking transactions physically are replaced by electronic payment methods hence allowing the process of transacting to be carried out faster and more efficiently. Instantly available transaction time: The reality is that funds can be transmitted almost instantly, allowing institutions to complete payments and reduce procurement times on faster times. Improved visibility and simplified follow up Digital platforms provide real-time tracking and, therefore, easier follow-up on payment progress and quick identification of

bottlenecks. Reduced human mistakes: Automated systems can reduce the mistakes made during data entry or recordkeeping, saving time wasted in correcting or checking data.

In conclusion, it is postulated that the superior, more effective implementation of electronic payment system offers in shorter cycles in procurement. This shows that digital payment system usage and reliability is changing rapidly. On this relationship the study evaluates the effect of various aspects of adoption of e-payment on time related to procurement activities in the Ugandan public institutions.

CHAPTER TWO
LITERATURE REVIEW

2.0 INTRODUCTION

An extensive literature review of the contribution of electronic payment systems to decreasing procurement cycle time among Ugandan public bodies is presented in this chapter. The chapter is framed by the objectives of the study and it starts with the definition of central concepts of the research. It then introduces and critically assesses the Resource-Based View (RBV), providing the theoretical base for the study. The conceptual review is built based on all objectives and is organized according to synthesizing, contrasting and analyzing empirical results across global, regional and local (Ugandan) studies. At each objective, concept definitions are made explicit, articles are appraised, theoretical connections to the RBV are emphasized and critiqued and knowledge gaps are pinpointed. The chapter concludes by discussing the central theoretical, empirical, and contextual weaknesses underpinning the present analysis, going beyond mere description to lay out a clear call for critical, context-dependent study.

2.1 KEY DEFINITIONS

Electronic Payment Systems (EPS) are technology systems to process transactions, such as electronically operated platforms or technologies that enable us to initiate and execute payments, without physical and paper means (Rahim, Ishak & Othman, 2021; GSMA, 2024). Typical manifestations are mobile money, EFT, online banking portals, financial services, and integrated government systems such as Uganda's Integrated Financial Management System (IFMS). For this study, we will operationalize EPS on 3 axes: (1) the adoption level, indicated through the percentage of procurement-related transactions performed electronically; (2) the variety of EPS types that are used within an organization; and (3) the perceived operational reliability of these systems in the opinion of procurement and finance personnel.

Procurement Cycle Time (PCT) is the overall duration of a procurement cycle, typically in days, and includes all the formal processes involved in procurement, from the date of the purchase requisition to the payment settlement to the supplier (World Bank, 2021; PPDA, 2023). It is a key performance metric for assessing the procedural effectiveness in public procurement. This study will operationalize PCT based on the average perceived time between the requisition approval and the confirmation of the payment from institutional actors; and the frequency and reasons of delays within the cycle, triangulated with existing institutional records as applicable.

System Integration means aligning technology and procedures between different software applications and platforms such as e-Government Procurement (e-GP), financial management systems (IFMS), and banking interfaces to perform seamless and automated data exchange and synchronized process execution (MDPI, 2021; Heeks, 2022). From an operational standpoint, the level of integration will be evaluated in terms of: the scale of manual data re-entry between systems during the procurement-to-payment workflow, and the existence and capabilities of automated linkages enabling a continuous digital process from tender commencement through final disbursement.

Digital Literacy, as an organizational construct, refers to the intersection of awareness, knowledge, practical skills, and critical attitudes required to guide employees in successfully and effectively working digital tools to realize work goals, such as Electronic Payment Systems (UNESCO, 2023; Van Dijk, 2020). In this study, digital literacy will be operationalized through indicators such as: self-assessed competency levels of staff in using EPS, participation in formal digital training programmers, and observed or reported incidence of user errors or reliance on technical support during engagement with digital payment platforms.

Electronic Funds Transfer (EFT) is an electronic method through which monetary value is transferred in financial institutions, without requiring any

physical cash or paper instruments in the name of banking, and through secure systems, for example by SWIFT or national clearing systems (OECD, 2019; Maduku, 2021). By analyzing the mechanisms of EFT, we can ascertain how users actively use electronic payment system (EPS), their financial literacy performance, and the extent to which it has developed and consolidated in a time-sensitive business environment.

Mobile Money is a form of financial service that allows users to transfer value and carry out transactions with the use of a mobile phone, usually through a network of authorized agents. It is among the most common forms of EPS in Uganda that allows real-time transactions with low value (GSMA, 2024; Muthinja and Chipeta, 2018).

2.2 THEORETICAL REVIEW.

Relying on the Resource Based View (RBV) of the firm, developed by Barney (Barney 1991), the theoretical basis of this study, is the following. According to RBV, sustainable competitive advantage and superior performance do not involve a firm's market position, but the firm's internal bundle of valuable, rare, inimitable and non-substitutable (VRIN) resources and capabilities. In the specific Ugandan context of public organizations, Electronic Payment Systems (EPS) is viewed as a strategic technological resource. When well deployed, EPS can be seen as Valuable, which means that they immediately change the financial workflows and approve faster and reduce the time of manual work. They can be Rare in the sense that not every public institution has reached similar degree of seamless integration or mastery. Their integrated quality and institutional knowledge can make them Inimitable for competitors (other institutions), and they may be non-substitutable as they become the mandated, central route for all government transactions. But in its broader application, the RBV also claims that the actual value of a technological resource is linked to the company's ability to apply it efficiently. This important detail is explicitly handled in this study. EPS's potential to reduce procurement cycle time, therefore, is contingent on complementary organizational capabilities (Barney, 1991; Teece, Pisano, & Shuen, 1997). Other critical capabilities in this study include digital skills,

including digital literacy among staff, comprehensive ICT infrastructure, strong links between e-GP and IFMS, a well-developed integrated e-GP and IFMS, good internal controls, and strong organizational leadership support for digital transformation (OAG, 2023; UCU, 2024).

Although the RBV offers a strong explanatory framework, the public sector will challenge the implementation of RBV. This theory is based on private sector where competition and profitability are paramount. Public institutions, by contrast, focus on public value creation, such as accountability, transparency, and fair and equitable service. In addition, RBV assumes strategic control over resources, but EPS similar to IFMS in Uganda have a centralized mandate and is controlled at the same time as any individual institution and so limits the agency of institutions.

For this reason, this study adopts an adapted RBV lens acknowledging these caveats, assessing EPS as a resource which ought to provide value in governance beyond productivity. Here is a key theoretical gap that this adaptation will address by simply applying private sector theories to public administration with little critique. Consequently, the tailored RBV goes beyond the observation of correlation to clarifying why some Ugandan institutions effectively adopt EPS, while others struggle. It interprets inefficiencies not only as operational failures but as a mismatch between the technological resources (EPS) and the complementary capabilities to realize its value.

2.3 CONCEPTUAL REVIEW

2.3.1 Objective One

Impact of Electronic Payment Systems on procurement cycle time. Initially, the objective is to investigate the impact of Electronic Payment Systems (EPS) on procurement cycle time in Ugandan government institutions. This goal is based upon the idea of operating efficiency, where procurement cycle time is the main performance measure. The traditional procurement processes in Uganda have been long delayed by long approval

processes, paper-based banking, and manual document transfers (World Bank, 2021). Electronic payment systems (EPS) are promoted as a digital intervention that facilitates automating approvals, facilitating fund transfers, and eliminating non-value-adding activities. This enhancement in efficiency, in global and regional contexts, is strongly supported by empirical evidence. Globally, Rahim et al. (2021) reported that organizations employed Electronic Funds Transfer (EFT) and online banking reduced their invoice-processing time by 30–40% through the automated validation and real-time approvals process. In the East African region, Wayamba et al. (2021) found in Kenya that the integration of payment platforms with e-procurement systems saved time from unnecessary processes while also reducing the procurement cycle.

However, within Uganda the evidence is more nuanced. Nakamya et al. (2025) demonstrate that synchronization of e-Government Procurement (e-GP) and Integrated Financial Management System (IFMS) may significantly reduce supplier verification and reconciliation delays. Similarly, the Office of the Auditor General (2023) recorded significantly shorter time of approval to payment for the fully use of IFMS than for ministries adopting a hybrid manual-digital approach. But the same research that reports these problems, also reveals continued shortfalls among many entities, revealing a disconnect between potential and achieved results. This implies that EPS has transformative potential, but that it does not diffuse uniformly through Uganda's public sector. This is because EPS are, from the Resource-Based View (RBV) view, a powerful and possibly rare technological resource that facilitates institutional effectiveness, if implemented effectively (Barney, 1991).

The documented reductions in cycle time are tangible returns on this strategic resource. But RBV also emphasizes that value creation is contingent on complementary organizational capabilities; inconsistent results in Ugandan institutions and the fact that institutions in Uganda respond to EPS differentially (OAG, 2023) illustrate that EPS on its own does

not lead to the same level of efficiencies. The theory holds that the influence of EPS on procurement cycle time is mediated through institutional competences - e.g., digital literacy, system integration, and infrastructure dependability. Notwithstanding these findings, there is still an evident knowledge gap: few empirical studies have critically examined this contingent effect in Uganda. Inevitably, most studies report inefficiency or posit a causal effect rather than using a formal theoretical model like RBV to analyze why this occurs inconsistently. In-depth research into the manner in which complementary capabilities mediate the effect of EPS on cycle time should yet be undertaken. The aim of this study, thus, is to overcome these empirical and theoretical gaps. Knowledge about the real/ contingent effects of EPS is a building block of the mechanism behind the ability to leverage, or reduce, EPS, and is discussed in the subsequent objective.

2.3.2 Objective Two

Factors affecting the use of Electronic Payment Systems.

The second aim of this research is to identify the variables that guide the effective application of Electronic Payment Systems (EPS) in public procurement in practice; it shifts attention from the consequence to the antecedence. EPS adoption is on the rise, however its application, comprising the consistent, confident and correct use in everyday work practices, varies drastically between Ugandan organizations. Insight into what allows or limits such usage is crucial in realizing what lies between the presence of technology and ease of use. The literature integrates multiple human, technical, and institutional influences on EPS use. Central among these is procurement and finance staff low digital literacy, which manifests in navigation challenges, mistakes and manual processes back (Chebet & Kihara, 2022).

Technically, poor internet connectivity, frequent system downtime, and poor platform interoperability (e.g., e-GP, IFMS, or the banking systems) lead officers to manual counter-measures; thus, the perceived efficiency

enhancement is ultimately negated (Heeks, 2022; OAG, 2023). Institutional problems like lack of training, poor policy enforcement, and resistance to change also hinder the effective use (UNCDF, 2024). A challenge that continues to be acute and critical remains poor system integration in a context where procurement and payment modules do not share information seamlessly and this lack of flow of information means there is multiple duplication of effort and delays (MDPI, 2021). A recent critical review shows that such factors are frequently documented by the literature while their relative importance, interdependence and context-based effects in Ugandan public institutions remain under described. For example, it is not known whether technological deficiencies, compared with human deficiencies, are a larger constraint, or how they combine in an institutional setting. Moreover, these influences are not generally depicted in a theory-driven way.

They are typically reported as separate “barriers,” the most common of which. The Resource-Based View (RBV) requires an integrated and capability-based view on the other hand. From this perspective, factors such as digital literacy and stronger infrastructure are not just external barriers, but are deficiencies in the complementary organizational capabilities that the firm needs to make EPS an asset not just a threat but part of its broader strategy for success (Barney, 1991; Teece et al., 1997). This reframing shifts the inquiry away from a simple checklist of barriers and toward exploring how gaps in a system of internal capabilities limit the creation of value out of EPS. While previous research identifies relevant influencing factors, limited understanding is available of the manner in which influencing factors interact as an interconnected system in Uganda's unique institutional context. An RBV-informed, qualitative examination of these interrelationships and their effect on capability deficits is conspicuously lacking. Consequently, this study will explore these factors not as stand-alone, but as components of a capability framework that decides if EPS is available to successfully address the procurement performance challenge.

2.3.3 Objective Three.

Measures for Better Implementation of Electronic Payment Systems.

The third goal is to discover some applicable practices to enhance the adoption and integration of EPS for the purpose of providing service efficiency in government procurement. This prescriptive aspect is crucial to operationalize diagnostic insights, translating them into pragmatic approaches for overcoming barriers to improvement to existing operations. Several interventions focused on improving EPS have been identified in the literature. Central to this is realizing the full technical and functional integration among e-procurement, financial management, and banking systems to enable end-to-end automation by eliminating manual reconciliation (World Bank, 2021). Simultaneous to ongoing investment on the human capital through continued role-specific digital literacy training is underlined as a necessary prerequisite of user trust and skill attainment (OECD, 2019). Upgrading core ICT infrastructure, including stable internet, power supply, and specialized technical support, is again frequently stated to be a foundational piece that helps minimize system downtime and support reliance on digital platforms (UNCDF, 2024).

Automated approval workflows, real-time monitoring dashboards to enhance transparency, and improved digital audit trails could further enhance accountability (Rahim et al., 2021; Heeks, 2022). However, a closer look exposes a considerable weakness in the current debate; in many ways, such recommendations are generic and de-contextualized, coming from international best practices or private sector models. They tend not to be based locally on the specific operational, financial, or political realities of public institutions in Uganda. For example: without a feasible phased roadmap that takes into account existing legacy systems, budgetary constraints, and bureaucratic procedures for IT upgrades, pushing for "seamless integration" has little utility to practice. The gap between generic prescription and real-world applicability limits the practical relevance of established research.

The Resource-Based Approach The measures in discussion based on Resource-Based View (RBV) were described here as investments in developing the complementary organizational capabilities that will allow EPS to be put to full use as a strategic tool (Barney, 1991). Hence the gap is less an absence of recommendations than an inadequacy in contextually based, prioritized and action demand for capability building mechanisms in the Ugandan public sector. There is a lack of evidence-based, practitioners-centered solutions for improvement strategies adapted to the peculiar regulatory context, organizational capacity, and infrastructure situation of Uganda. Therefore, this study will not just restate generic interventions, rather will try to produce solutions in context in practice. Based upon the direct engagement with procurement practitioners, finance managers, and system administrators, the study seeks to identify practical interventions that are targeted to particular capability gaps and concludes the logical evolution from understanding the impact of EPS and the forces driving this to establishing practicable paths to improve.

RESEARCH GAP.

The literature has shown that electronic payment systems (EPS), through automation and increased transparency, are able to reduce the procurement cycle time among the relevant sectors, such as global (Rahim et al., 2021; World Bank, 2021), regional (Wayamba et al., 2021) and Ugandan studies (Nakamya et al., 2025; OAG, 2023).

The researchers have also noted the same trends of similar barriers; low levels of digital literacy, the lack of system integration, a lack of good infrastructure (Chebet and Kihara, 2022; UNCDF, 2024) and overall challenges such as training and interoperability are among these problems, while general mechanisms of remedies are suggested (OECD, 2019; Heeks, 2022). The RBV is a useful paradigm for studying EPS as a strategic resource whose value is determined by the complementarity of organizational capabilities which must be based upon the nature of EPS resources (Barney, 1991; Teece et al., 1997). Yet, there still exist large and interconnected gaps in the Uganda context. For one, despite mention of RBV, the application thereof is still mostly uncritical and private-sector oriented. There is a theoretical-contextual gap within the public sector context

regarding applying RBV, whereby gains in efficiency (and the associated public value needs) should not solely be considered relative to public goals of accountability, transparency, and equity. There is limited contextually sensitive RBV framework suited to Uganda's public procurement landscape. Second, there is an empirical-analytical gap about the lived, day-to-day experience of EPS use. Audit reports and surveys indicate inefficiencies; however, there is little qualitative evidence capturing how procurement officers, finance and system administration – those who actually navigate these systems – perceive and adapt to the challenges to which they are subjected. Many research articles have either presented outcomes or described barriers in a negative manner, but did not take apart why outcomes seem to be different from institution to institution. Third, an explanatory gap is found on the mechanisms through which EPS impacts procurement cycle time. Not many research works have systematically applied the RBV to investigate the dynamic relationship that exists between EPS as a strategic asset and the combined capabilities i.e. digital literacy, integration and infrastructure which support the successful implementation of EPS. Consequently, even within the literature there is no explanation for why some Ugandan institutions manage to utilize EPS to minimize delays while others do not in virtue of possessing the same technological tool. Fourthly, there is a prescriptive gap shown in proposed solutions. Recommendations are still general, top down, and based on international best practices with very little consideration of these situation-specific, practitioner-informed strategies to achieve the objectives within the specific regulatory, infrastructural, and capacity constraints of Uganda. This restricts the applicability of the findings and the practicality and impact of the research to policy and application.

This study aims to fill these interrelated gaps head on. It adopts a qualitative case study design to investigate the perspectives and experiences of key actors in a Ugandan ministry. This will be with a critically adapted RBV framework applied to investigate the role of complementary capabilities as mediators of the EPS and procurement

efficiency relationship. This research, thus, seeks to generate rich, contextualized insights and help guide our recommendation beyond generic prescriptions to suggest practical, actionable measures to enhance EPS integration and use in Uganda's public procurement sector.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 INTRODUCTION

The qualitative research methodology that was used to study the role of electronic payment systems in decreasing procurement cycle time within Uganda's public institutions is detailed in this chapter. This gives an outline of the research design and population of the study and selection methods and data collection procedures. The approaches to make the study, data analysis, and interpretation of the data, and ethics important are also described in this chapter. The adopted methodology is well aligned with the exploratory nature of the objectives of the research, such that the collected data are dense, depth-based analysis and findings of the study are credible and significant in the context of public procurement in Uganda.

3.1 Research Design

The design of the study is qualitative, single case research. A case study design suits well when the study needs to question on "how", "why" of phenomena that occurred in real-world conditions of today even though borders between phenomenon and field are often fuzzy (Yin, 2018). With effective use of Electronic Payment Systems (EPS) already being deeply rooted in all areas within the process of how organizations, institutions, and people actually do business, case studies enabled a fully holistic, context-dependent examination of these interactions.

Qualitative case studies also serve this purpose in situations where the focus is to enrich understanding of complex processes of phenomena, meanings and perceptions, not to test variables or make statistics generalization (Stake, 1995; Creswell & Poth, 2018). The relationship between EPS implementation and the duration of the acquisition cycle in public procurement in Uganda is influenced by a number of interacting issues, including systems integration, employee digital literacies, and institutional routines. Such dynamics cannot be adequately captured using a

survey-based, or experimental design, which is why a qualitative case study approach is required.

This was the first research conducted using a single-case design since the chosen case represented a rich information resource that allowed deep knowledge sharing (Patton, 2015). Flyvbjerg (2006) describes single-case studies as being often of high value when the case is important, typical, or revealing, as it enables researchers to produce rich insights and critique or refine current theoretical assumptions. In this article, the Ministry of Works and Transport (MoWT) acts as an archetypal and significant case in Uganda's public sector, functioning under the same regulatory regime (PPDA Act, IFMS and e-GP) as other MDAs, also as a government agency managing major and complex procurement transactions which can be highly sensitive to payment delays.

In addition, Yin (2018) further points out that case studies promote analytical generalization, i.e., generalization of the findings to theory, not to populations. This study has not been based on statistical generalization; however it focuses, which is justified as a theoretical lens through which, through Resource-Based View (RBV) theory would guide understanding of the way EPS operate as strategic technological resources, and how complementary organizational resources support these resources.

3.1.1. The study population:

As a result, all staff of the MoWT who either directly engage in or oversee the procurement-to-payment cycle form the composition of the study population. This population is representative of all MoWT staff who will be directly affected by, or control, the procurement-to-payment cycle. These include those involved with Procurement Officers, Accounts and Finance Officers, Internal Auditors, IFMS/e-GP system administrators, and Senior

Management in charge of approvals. This population is suitable as they work under the national frameworks being studied that follow standardized procedures, and it will make their experiences useful and applicable to all aspects of the public sector.

A single-case study, for example, will not seek statistical generalization, but the strength of this case study is in generating contextually grounded, deep insights (Stake, 1995). This design explained the mechanisms by which EPS influences procurement performance through rich explanation and a rigorous analysis under the assumption of the Resource-Based View (RBV). This depth affords transferability (Lincoln & Guba, 1985) providing readers with a way to determine how applicable the findings are to analogous institutional contexts, while also serving as a strong basis for both policy engagement and for further research.

3.2 SAMPLE SIZE AND SAMPLING TECHNIQUES

3.2.1. Sample Size

The study used approximately 15–18 key informants. The limit of this range was dictated by the concept of qualitative data saturation at which collecting and analyzing more of the data generates little or no fresh thematic insights in relation to research questions (Saunders et al., 2018; Guest, Bunce, & Johnson, 2006). A sample in this range is considered adequate for carrying out an exhaustive single-case study to reach information power (Malterud et al., 2016). The research's focus (EPS in procurement), high qualitative dialogue (semi-structured interviews with experts), and narrow case selection contribute to a relatively small (but substantial) sample size in which to achieve detailed analysis across stakeholder groups in question.

3.2.2. Sampling Technique

A purposive (criterion-based) sampling approach was employed, supplemented with snowball sampling. The qualitative inquiry best approach utilized is purposive sampling as it makes deliberate selection of individuals

who are acquainted with or experienced with the phenomenon under investigation (Creswell & Plano Clark, 2018; Palinkas et al., 2015). Snowball sampling served as a second-order technique to get on the other side of informative informants, individuals who are not easily visible through official channels.

3.2.3. Criteria

The study used purposive sampling to select 10–12 key informants from the Ministry of Works and Transport (MoWT). We selected a sample size consistent with qualitative research methodology for single-case research where greater understanding and complexity of information is prioritized over a statistical representation (Malterud, Siersma, & Guassora, 2016; Yin, 2018). The purposive sampling approach allowed participants to be selected according to both their experience and knowledge of the procurement-to-payment cycle, leading to contextually rich qualitative data at an important level to answer the research questions (Creswell & Poth, 2018).

We selected five functional categories important to the procurement and payment process with a view to covering institutional viewpoints:

2–3 Procurement Officers in charge of the procurement path (from requisition and tendering to contract management) who have practical operational experience dealing with e-procurement and payment systems.

2–3 Accounts and Finance Officers who will validate the invoices, approve workflows and perform payments with the IFMS, which can also provide the very detailed knowledge on the financial and the transactional aspects of the electronic payment system.

1–2 Internal Auditors, providing in-depth oversight of the compliance, internal controls and accountability in the payment process that adds evaluative and normative dimensions to the database.

1–2 IFMS/e-GP System Administrators or ICT Officers chosen due to their technical knowledge in system operations, integration problems, user interface and infrastructure requirements, which are essential for a comprehension of the technology drivers and constraints in electronic payment uptake.

1–2 Senior Managers or Approving Officers (e.g. Heads of Department or Directors) who offer strategic and policy perspective regarding procurement efficacy, approval process, and the institution's uptake of the digital payment system.

Participants were initially contacted via formal institutional processes in line with ethical and administrative approval from the Permanent Secretary or a designated gatekeeper. To enrich and strengthen the integrity of the sample, snowball sampling was implemented as a secondary technique, with initial informants suggesting other involved informants in key phases of the procurement-to-payment process (Palinkas et al., 2015)

It is this structured and flexible sampling that ensures representation across operational, technical, oversight and strategic functions at MoWT. Such triangulation of perspective methodology supported credibility of findings and ensured rigor of qualitative inquiry (Patton, 2015).

3.3 DATA COLLECTION METHODS

This study was of a qualitative nature based on an open-ended questionnaire which complemented the systematic document review. This strategy of methodological triangulation is intended to ensure that the study's findings are as convincing and insightful as possible with rich, lived accounts corroborated by formal institutional records (Patton, 2015).

A wide-ranging questionnaire was distributed electronically to participants as the main instrument. This approach was well suited to the exploratory nature of the study, as it permitted survey respondents to give lengthy,

detailed narrative responses, corresponding to their experience and it allowed the researcher to gather data as far as possible from relatively remote respondents in the Ministry. The open-ended approach was flexible, allowing the researcher to gather rich information but in a structure such as a systematic approach, and all the main issues addressing the research objectives were tackled extensively (Braun & Clarke, 2006). The overall structure of the questionnaire was designed to move thematically from what was being asked about the purpose of the respondent, the context they found themselves in, documenting the full procurement-to-payment cycle, measuring the perceived effects of Electronic Payment Systems (EPS), to what would be both the enablers and constraints and all the features of their capability that underlie their use before finally asking participants for the ideas of what would really be practical and context-specific in order to improve

This questionnaire was administered online, on a secure platform. The participants had two weeks to complete and return their responses. A reminder after 1 week was sent to increase the feedback rate. All responses came in the form of written texts. They could therefore be repeatedly read carefully and systematically analyzed.

In order to contrast and triangulate these primary narratives, a systematic review of relevant documents was undertaken. This secondary review comprised policy and regulatory documents (for example, PPDA guidance and MoFPED circulars); institutional review reports from the Office of the Auditor General (OAG) and the PPDA; technical documentation related to the IFMS and the e-GP platforms and internal records or reports available. Through document scanning, this study sought to situate the questionnaire data within the formal procedural and policy context of the Ugandan public service system in order to establish a compelling and specific context, which added an objective layer of evidence to interpret personal perceptions and experiences on such matters (Bowen, 2009). Cumulatively, the two

approaches formed a solid, rich, multifaceted dataset that served the study's goals in depth and context.

3.3.1 OPEN-ENDED QUESTIONNAIRE GUIDE

The online questionnaire consisted of five thematic sections adapted for the three research objectives of this study. The complete questionnaire is reproduced here.

Introduction: Consent and Instructions

"Thank you for your consent to be included in this research. My name is TUMWEBAZE TYSON and I am conducting a study of electronic payment systems and procurement cycle time at the Ministry of Works and Transport.

Purpose: Our objective with this questionnaire is to appreciate your experiences and attitudes toward the usage of electronic payment systems in the procurement process and its effects on their delay. There's no correct or incorrect response, so I would appreciate your truthful comments from your position.

Confidentiality: Any participation made will be anonymous. Your name and any other identifying information will not be contained in a report. Data will be controlled and maintained securely, data will be used primarily for this academic research.

Process: The questionnaire will take approximately 30-45 minutes to complete. You can also skip any question or opt out at any time and without penalty.

Consent: By completing and submitting this questionnaire you agree to participate under these conditions."

A: Who you are & the circumstances.

Give a short context of your current position and on procurement or financial processes. What's the length of time that you have been in this role and how long have you worked with the transformation in payment systems at the Ministry?

B: Operational exposure to EPS.

Describe a generic purchase sequence in your unit. What are the actual levels of e-payment schemes used for what purposes? What are the current electronic payment systems such as IFMS, EFT, mobile money which you use for daily duties? To what extent do you think you can trust them?

C: The Effect on Time to Purchase Cycle. According to your experience, how has technology-induced electronic payments changed the overall period from requisition to final supplier payment? Can you give an example of how a process can be speeded up significantly by an electronic payment system? What made that happen? Alternatively, can you remember a time when the system caused a delay? What were the major causes?

Part D: Enablers and Constraints. What are the most effective features that encourage the use of electronic payment systems? (Investigate: training, management support, infrastructure). What are the challenges and obstacles that continue to be faced? (Probe: technical issues such as downtime/integration; human factors such as skills/resistance; procedural issues such as approvals) What is the extent of integration between the procurement and financial, e-GP and IFMS systems in practice?

Section E: Capabilities: An RBV-Based Analysis. Framing these systems as an organizational core resource: what other processes does the Ministry need to leverage them? (Probe: skills, processes, leadership). In your opinion, why can one department gain the benefits of EPS in reducing delays compared to another department, despite the same technology used? Is the benefit of an electronic payment system for the business possible if we want to enhance its potential value or not, given limited capacity, skills, or infrastructure in digital skills?

Section F: Reflections on how to improve? What can be done here – something actionable and real in practical terms – to make electronic payment systems here work? If there was one policy or investment (training, technology, etc.) you could change to reduce payment delays, what would it be and why? What should management or policymakers be focusing on to

help close the divide between the system's potential and where it sits right now?

Section G. Conclusion 3. Is there an important aspect of electronic payments and procurement that we've neglected altogether but that to you must be critical in explaining to me? Do let me know also if you need more comments. Closing: Thank you for your time and valuable insights. They are greatly appreciated for this research.

" 3.4 TRUSTWORTHINESS OF THE STUDY.

In order to maintain rigor and validity in conducting this qualitative study, I followed the trustworthiness framework presented by Lincoln and Guba (1985). The following strategies were methodically implemented so that they can be credible, dependable, confirmable and transferable.

I developed credibility based on what I thought were credible and correct findings. I spent prolonged durations in the research setting, so that I could form rapport and appreciate and so that I would be in a better position to understand the working environment, which was based on my long-term experience. I practiced data triangulation using cross-referencing insights found in the responses to the outputs with data triangulation on data that was obtained from the source analysis of document evidence. Additionally, I undertook member checking, sharing initial thoughts with participants in order to see if the participants were fully informed and checked for understanding of their experiences and perspectives had not only been represented correctly.

Reliability: I also kept a comprehensive audit trail during the research to ensure consistency and to ensure that the steps that were taken at each stage of the research process were recorded. This meant carefully documenting everything, from coding data in process of generation, down and through the selection of initial themes, and the collection of initial data. This openness facilitated the logic of inquiry to be followed.

In order to conserve by seeking conformability, to suggest that the results were due to the reaction of the participants and not because of my biasness, I utilized reflexive practice all through the study. To examine my own assumptions, values and preconceptions, I kept a reflexive journal. This and methodological triangulation helped in making sure that the findings represent data collection really represents the data we collected.

Transferability, I did not want to achieve statistical generalizability, I provided thick textures of research setting, research participants and emerging phenomena. I gave the readers a chance to assess the possibility of the findings to be relevant and transferable to other, similar contexts of the public sector by providing a nuanced (though grounded) analysis.

3.5 DATA ANALYSIS.

The data analysis process was carried out in a systematic qualitative fashion, to analyze the interview transcript and documentary evidence to patterns, meanings, and insights. In the process, Braun and Clarke (2006) thematic analysis framework was utilized as a guidance which is known for its rigor of analysis and its suitability in exploratory-style investigations that involve finding out more on lived experiences.

The analysis began closely looking at the data. Checks against responses were conducted numerous times and documents reviewed through numerous checks were also analyzed to give an extensive familiarity with the content and context. The reason to do so first is because it will permit us to receive feedback as well as to get a sense of not only what was said, but also a deep sense of concerns and emphases expressed by participants around electronic payment systems and delays in procurement. Based on this framework, the data were systematically analyzed in a manner that helps establish statements, recurring ideas, and concepts that are applicable to the proposed research objectives. These factors were further divided into initial categories or codes which explain the firsth and experience of the

participants, and the theoretical background of the Resource-Based View (RBV). Evidence of shortcomings in the complementary capabilities required to develop EPS as a strategic resource was pointed out in the form of descriptions of system failures, reliance on manual processes, or statements of training requirements.

These coded dimensions were intertwined to create more general and consistent themes. Each theme has been created over the others depending on a particular aspect of the research problem such as: How EPS integration effects on processing speed, organizational features that inhibit or promote an effective EPS use or practical actions that may help make their system work better in practice. This synthesis involved the establishment of a direct relationship between the emergent themes and the three major objectives of the research, so that the analysis is coherent and has a direction to follow.

The themes were discussed further through an iterative review and verification with the original data to make sure that they were in line with the perspectives of the participants and the known findings. Repeated building of findings gives evidence (not speculation) to the validity of their findings.

Data analyzed were finally connected into a logical, insightful story. This story told the general themes in a logical, chronological order that was supported by direct quotes of participants and the reference to the relevant documents. The article explicitly related the results to the RBV framework and, as an example, showed that the constraints in digital literacy or system interoperability undermined the value of EPS as a strategic resource and provided answers to the various research questions posed with evidence-based answers. This progress enabled the analysis to go from being a data feed to an interpretation, which was valuable enough to address the questions of how an Electronic Payments system impact on procurement cycle time for the Ugandan public institutions.

3.6 ETHICAL CONSIDERATIONS.

This research followed accepted best practice in academic ethics by acquiring ethical approval and administrative clearance from the Ministry of Works and Transport. All individuals were voluntarily informed of the research purpose and procedures and gave written informed consent and the right to withdraw from the study at any time without penalty. A focus on confidentiality and anonymity was observed by adopting pseudonyms and by stripping down to the bare minimum the author's identity in all records and reports. All information, including the interview tape recordings and transcriptions, were kept secure on password-protected devices and retained solely for academic purposes. The research focused on non-maleficence, no physical, psychological, or professional harm to participants has been involved and the current paper is to be accurate for any study as per APA (7th edition) guidelines.

3.7 SUMMARY OF THE METHODOLOGY.

To conclude, this study was the qualitative single-case research concentrating primarily on Ministry of Works and Transport. An open-ended online questionnaire was also used to gather feedback from 17 people in addition to observation of documents. We employed thematic analysis with the help of the Resource-Based View (RBV) framework. Trustworthiness and ethical considerations were strictly followed during the entire research

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Introduction

Data was collected through an open-ended online questionnaire, which was administered to 17 respondents engaged in procurement and financial management at the Ministry of Works and Transport. This strategy is aligned with the technique of data collection discussed in Chapter Three. The provided textual data as a result was rich and suitable for qualitative text analysis.

The analysis is the thematic approach, as described in Chapter Three (Braun & Clarke, 2006). The process consisted of familiarizing with all responses, generating initial codes, searching for themes, reviewing themes, and defining them. Findings are organized according to the study's three distinct research questions, and themes are set forth under each question.

Verbatim quotations from respondents (anonymized as Respondent xx) are used to create evidence and vividness.

Importantly, the results are interpreted in the context of the Resource-Based View (RBV) (Barney, 1991). From this perspective, the Integrated Financial Management System (IFMS) and other electronic payment platforms can be defined as strategic technological assets. The degree to which they might decrease the procurement cycle time depends on whether the complementary capacity at the organizational level such as: human capacity (digital skills), technological framework (reliable internet), organizational processes (system integration and inter-departmental coordination) are in place.

4.1 Participant Profile

17 representatives of Ministry of Works and Transport staff who were involved in or oversaw procurement-to-payment cycle. Their functional roles, discussed in Chapter Three, create a detailed picture of the phenomenon. The profiles of the participants are summarized below:

Respondent ID	Role Category	Years of Experience
Respondent 01	Procurement Assistant	5 years
Respondent 02	Accountant	5 years
Respondent 03	Finance Officer	~8 years
Respondent 04	ICT Specialist	4 years
Respondent	Accountant	5 years
Respondent ID	Role Category	Years of Experience

05		
Respondent 06	Contracts Committee Member	~5 years
Respondent 07	User Department Officer	~9 years
Respondent 08	Procurement Officer	<1 year
Respondent 09	*Not Specified (Approving Payments)*	3 years
Respondent 10	Procurement Coordinator	5 years
Respondent 11	Secretary (Procurement Unit)	~5 years
Respondent 12	Accounts Assistant	3 years
Respondent 13	Procurement Officer	6 years
Respondent 14	Procurement Officer	5 years
Respondent 15	*No responses provided*	-
Respondent 16	*No responses provided*	-
Respondent	Finance and Accounts (F&A)	5 years
Respondent ID	Role Category	Years of Experience

17		

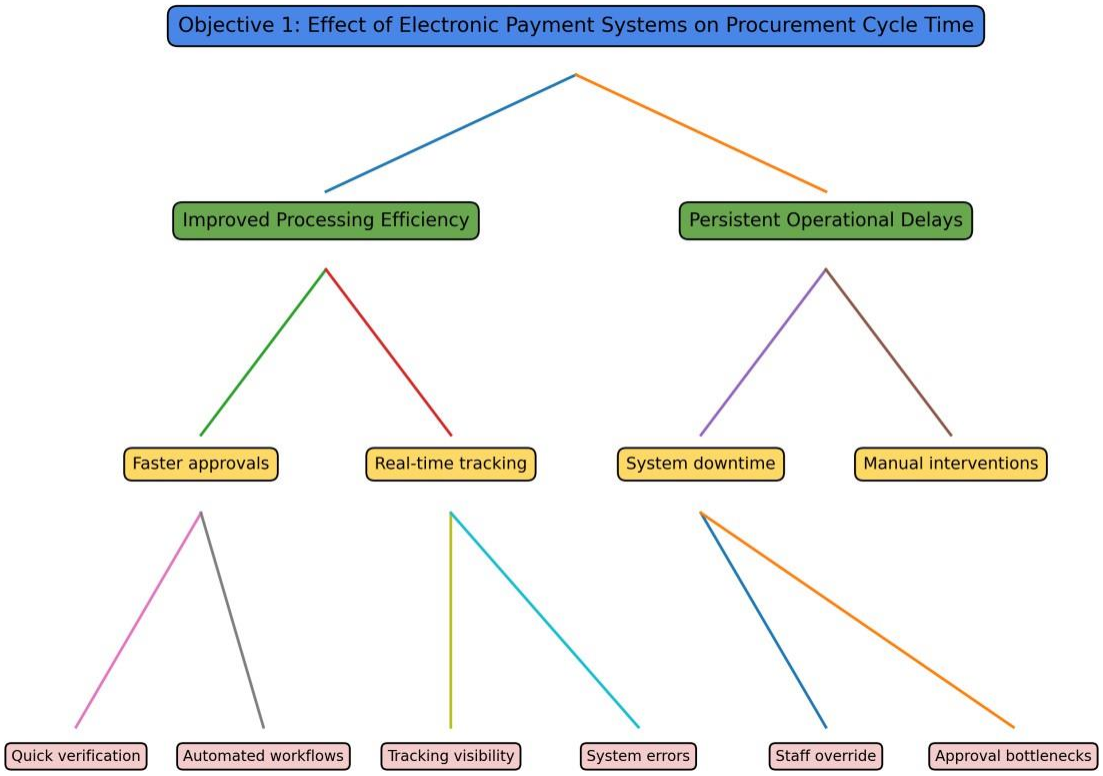
(Note: Respondents 15 and 16 contributed no substantive data and as such are excluded from the thematic analysis.) The heterogeneity of participants from the ICT specialists to user department officers, thus offering a composite impression of the EPS ecosystem, is consistent with the purposive sampling strategy described in Chapter Three with regards to capturing operational, technical, oversight and strategic perspectives.

4.2 Analysis of Themes of the Findings

The analysis is organized in accordance with the three areas of the current study objectives.

4.2.1 Objective One:

Determine the effect of electronic payment systems on procurement cycle time in Ugandan public institutions.



This goal aimed to examine the perceived impact of EPS on the speed of procurement-to-payment. Themes that came out were: Accelerated Processing and Enhanced Tracking and The Persistence of Systemic and Human-Induced Delays.

Theme 1.1 Accelerated Processing and Enhanced Tracking

The participants came to one significant conclusion, EPS, particularly, the IFMS, has brought the processing of payment to become more efficient. Changing the manual, physical, paper-based system to digital workflows has also been cited as the main reason behind this acceleration.

Introduction of electronic payment systems in most cases has reduced the time it takes to process payment to suppliers. Previously, payments made in the form of paper documents had all the required manual approvals and physical transfers between department and department which can easily take a long time. When the approvals can be digitized using an electronic system, it accelerates the process. (Respondent 01, Procurement Assistant).

The introduction of electronic payment systems has also, in its turn, simplified the instant payment and traceability in the eyes of the financial processing.

Other than the speed aspect, the respondents noted the enhancement of monitoring and tracking of payment requests as the key benefit. This openness was considered as a transformation to the manual system where file could be lost, delayed but not easily seen.

Electronic payment systems enhance procurement efficiencies, and it is easier to track the payment requests and it is easier to have financial transactions more transparent (Respondent 02, Accountant).

On the administrative side, electronic payment systems have helped to trace the request on payment (Procurement Unit, Secretary, Respondent 11).

The real advantages of a working digital system were also demonstrated, with real life examples of processes that were expedited.

I recall about a contractor who had performed emergency road repairs and had to receive payment immediately. Due to the correct uploading of documentation to the system and all the approvals being obtained electronically, the payment cycle was very fast than usual.

The supplier who paid the supplier within 24 hours in an emergency road repair following heavy floods was able to process the payment through an EFT and under the manual system the same payment would have taken weeks through physical voucher movement and multiple handwritten approvals. (Respondent 17, F&A).

The IFMS and EFT systems are also very useful technological resources in the view of RBV. Their strength is demonstrated by their ability to optimize processes, make approvals remotely, and build transparent and trackable processes. These operational efficiencies are directly reflected in a reduction in procurement cycle time. The scenario of emergency road repair

shows the role of this resource, being fully functional, to become tremendously useful when responding quickly.

Theme 1.2: The Persistence of Systemic and Human-Induced Delays

Despite the positive effects of EPS mentioned, the participants noted that the positive effect of EPS was not always achieved.

Delays are experienced both of the technology and the humans operating it. System unavailability or poor performance was the biggest cause of delay.

We have encountered problems whereby the system has been slowing down the payment process especially when we had connection problems with the IFMS platform.

I remember one particularly disturbing experience when there was a system downtime on IFMIS on the end of the financial year... payments to contractors on the finished works remained pending almost two weeks (Respondent 17, F&A).

Yes. In this case there are delays at times due to such factors as system downtime or slow network connections in case of Integrated Financial Management System (IFMS) or during Electronic Funds Transfer (EFT) processing.

Human error and procedural issues were also a big cause of delay, and often arose because of unfamiliarity with the system, or due to poor documentation. Before the process could go on corrections had to be made.

“Incorrect input of data into the system, it becomes delayed.

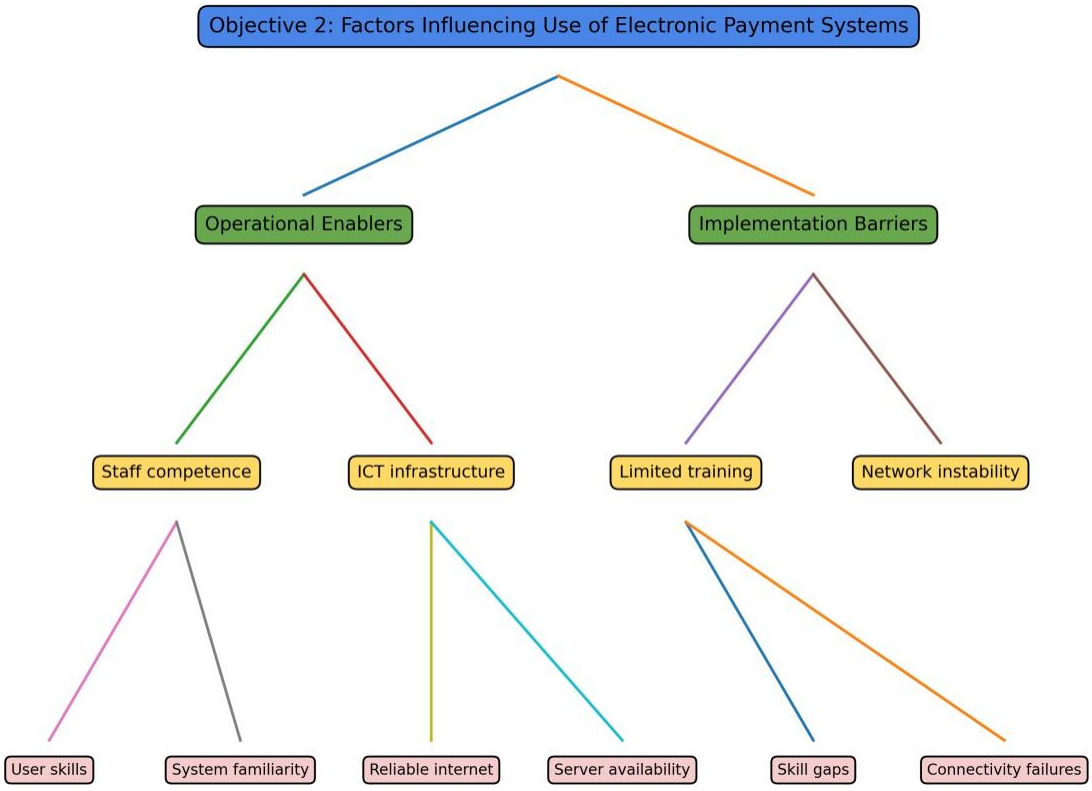
Delay in payment process to a consultancy contract occurred when the documentation presented by the user department, contradicted information input in the electronic system.

Delay in payment; some of our documents have not been uploaded and submitted into the system correctly, there have been delays in payment (Respondent 07, User Department Officer).

These delays illustrate a crucial point that RBV makes: a technological resource in itself is insufficient to generate any value. The effectiveness of full EPS depends upon additional organizational capabilities. The ICT infrastructure in this case is faulty (inability to connect, lack of digital skills) and in such a scenario where human capital is not so good (mistakes caused by a limited level of digital skills), the EPS loses its value. The theory is good so the system works but it doesn't produce constant gains in efficiency as the adequate supporting capabilities are not present. This is the reason why the potential performance is so much dissimilar to the actual performance of the system.

4.2.2 Objective Two:

To examine the factors influencing the use of electronic payment systems in public procurement.



This goal was to understand what makes it possible and inhibits the utilization of EPS. The empirical results indicated two conflicting themes in the analysis: Enablers: The building blocks of use – and Barriers: The capability gaps that weaken value.

Theme 2.1 - Enablers: The essentials of Use. The participants clearly articulated the elements that enable EPS to work smoothly and effectively. These elements were not only related to technology but included people and the institutions of which there was a structure.

Staff Competency and Training. "One crucial element involves staff training, because when officers familiarize themselves with the means of employing the system properly it simplifies things." (Respondent 01, Procurement Assistant). "One thing is how capable the staff members are of using the system. When employees are trained and know how this system functions, they can process transactions efficiently." (Respondent 03, Finance Officer).

Robust ICT Infrastructure was recognized as a key requirement.

Also important to the ensuring that system works effectively are reliable internet connectivity and adequate ICT infrastructure (Respondent 01, Procurement Assistant). Factors that contribute to the prompt payment of procurement costs and payments include; good internet connectivity, prepared staff, sound approval policies, clear approval procedures, correct records, high security and good security (Respondent 12, Accounts Assistant). The good institutional processes and support in which I have also been mentioned including the support of the management and clear procedures were also peculiar.

Another reason is management support especially when the leadership requires the implementation of electronic systems to follow. (Respondent 01, Procurement Assistant).

It is also important that the procurement files are properly organized (Respondent 11, Secretary, Procurement Unit).

These enablers as explained in the RBV are in fact complementary capabilities. The human capability is staff competency, the technical capability is stable infrastructure and the organizational capability is extensive management backing. According to the RBV, in order that a strategic resource (EPS) - as the term goes - may create a competitive advantage (faster and more reliable procurement), it must be packaged along with these other complementary capabilities. This is instinctive to the individuals involved in the process: The system cannot be powerful unless those people, technology and regulations that make it run are good.

Theme 2.2: Barriers: The capability gaps which reduce the value.

Participants also found ongoing barriers that limit effective use of EPS. So, these mirror images of the enablers, are critical capability gaps.

Technical roadblocks such as system outages, slow internet connections, and inadequate integration reigned supreme.

"System downtime or slow internet connectivity from time to time are the biggest challenges." (Respondent 01, Procurement Assistant).

"Challenges include system downtime, poor internet connectivity, no staff training, approvals delay, and security issues." (Respondent 12, Accounts Assistant).

"Unstable internet, incorrect account numbers for suppliers." (Respondent 13, Procurement Officer).

The other key barriers include: Human and organizational barriers (limited digital skills, resistance to change and poor documentation).

"Another issue is that some employees remain low-skill technically." (Respondent 01, Procurement Assistant).

"Resistance to change is characterized as the refusal or unwillingness of key stakeholders … to operate digital payment systems." (Respondent 14, Procurement Officer).

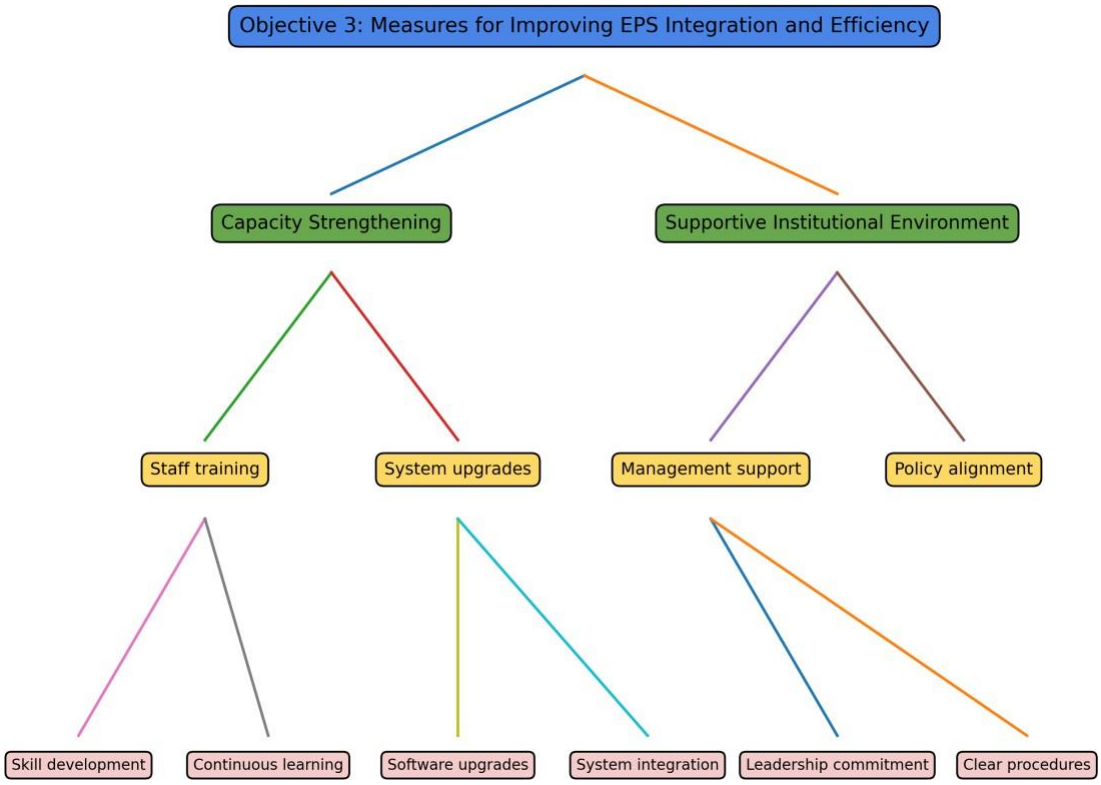
"Some other challenge is incomplete or incorrect documentation from user departments." (Respondent 03, Finance Officer).

"Ensuring simultaneous management of all physical and electronic documentation." (Respondent 11, Secretary, Procurement Unit).

These are direct indicators of weak or missing complementary capabilities. Lack of consistent internet is evidence of a lack of technical infrastructure; lack of digital skills is evidence of a lack of human capital; resistance to change and ineffective interdepartmental collaboration are evidence of a lack of proper organizational processes. The RBV model argues those gaps in the EPS prevent the institution from efficiently utilizing its investment. On the one hand, the strategic resource (the system) can be identified but on the other, supporting infrastructure is not available to unleash its intrinsic value and this situation has contributed to the repeated inefficiencies and delays described by the participants.

4.2.3 Objective Three:

To propose strategies for improving the utilization and incorporation of electronic payment systems for the public procurement sector through greater quality and efficiency in public procurement processes.



This aim was to seek practitioner-guided, useful and specific recommendations for improvement. The findings are presented in two main themes: Building Core Capabilities and Fostering an Integrated and Supportive Environment.

Theme 3.1: Building Core Capabilities: Investing in People and Infrastructure

The major suggestions to the most effective recommendations of those of the participants were focused on the filling in of the main differences in capabilities identified in Objective Two. The constant investment in training of staff-on-staff development was highly essential and according to this view of utmost importance.

One very useful way would be to continually train all employees who are already on the system and are working hard to minimize their errors in processing.

Training of stuff on a regular basis and in an effective way so as to enhance their skills. (Respondent 08, Procurement Officer)

No less significant, but, equally, was the recommendation to reinforce ICT infrastructure.

"I want to invest more in the better ICT infrastructure, especially good internet connectivity and maintenance of systems.

"Increasing network reliability and stuff training. (Respondent 17, F&A)

Proper connections of network and training. (Respondent 09, Role not specified)

These are simple guidelines that can be used to develop the complementary capabilities that the RBV has identified as essential. Training, however, enhances human capacity of the organization. Direct support of the technical infrastructure is done through investment in maintenance of internet and system infrastructure. They are not just operational costs at the strategic management level; but these are strategic investments and should be made to realize the full value of the EPS resource.

Theme 3.2: Fostering an Integrated and Supportive Environment: Enhancing Processes and Coordination

Besides simple facility, the participants noted the necessity of better system integration and coordination of the organization.

Improving the system integration (procurement-finance relationship in the case of Procurement-Procuring-Finance linkages was a timely suggestion.

“Combination of procurement and financial systems.

I would suggest investment in enhancing closer integration of the project management systems and the financial systems closer together. (Respondent 07, User Department Officer)

To achieve systems integration in this project, it is important to make sure that government systems are linked just like in e-GP and IFMS as these can serve to facilitate free data flow minimizing manual entry and errors, and ensuring faster payment processing. (Respondent 14, Procurement Officer)

It was also stressed on enhancing inter-departmental (User, Procurement, Finance) communication and coordination.

It has to do with the fact that there should be more coordination between the technical departments, procurement and finance personnel to ensure that all the necessary documentation are submitted on time and in a proper manner. It would be possible to eradicate discrepancies and boost productivity with more transparent mechanisms on the transfer of procurement information into the financial system. (Member of the Contracts Committee Respondent 06)

The recommendations are based on the organizational capabilities of creating value. And system integration is about the production of the integrated organizational processes through which information flow fluidly across the different functional units. Greater inter-departmental coordination is more effective in building relational capital and facilitating work. Such organizational capabilities might be the most challenging to copy by competitors, but, as per the RBV perspective, they can also be used as a source of usefulness in terms of sustainability of efficiency. The Ministry will better integrate and align its valuable technical and human resources by improving the relations between the internal units and the systems.

4.3 Summary of Findings

In this chapter a thematic analysis of qualitative data has been conducted from procurement and finance personnel at the Ministry of Works and Transport. The results provide a coherent story with the help of Resource-Based View (RBV).

First of all, the electronic payment system (IFMS) is recognized as a highly valuable technological asset and can cut procurement cycle time significantly due to faster approvals and better tracking capabilities. Second, the value is not a given. Its implementation is fundamentally conditioned on complementing organizational capabilities, such as trained and qualified staff (human capital), consistent ICT infrastructure (technical capital), and integrated processes (organizational capital). Such gaps of these capabilities are the reasons why delays are so persistent. Thirdly, practitioners' own suggestions for improvement that emerge in this paper correlate exactly with an RBV-led strategy: to realize the capacity of the EPS, the Ministry must invest strategically to enhance these capabilities through continuous training and education, improve the facilities and infrastructure in order to develop the EPS effectively, the best of their own system use-cases or enhance systems, as well as inter-department-coordination and systems interaction and cooperation.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter consists of a review of findings in Chapter Four, conclusions based on the evidence and practical advice. The chapter is organized to meet each of the three specific research objectives and combines the qualitative results with the theoretical perspective of the Resource-Based View (RBV) and the existing literature. This discussion interprets the significance of the themes revealed from the experiences of procurement and finance practitioners with Uganda's Ministry of Works and Transport. Conclusions follow these discussions, as well as actionable recommendations for policy/practice and future research.

5.2 Summary of Key Findings

Before we have the first section discussed, it will be helpful to provide a summary of the key findings in Chapter Four:

Objective One depicted a dichotomy: despite Electronic Payment Systems (EPS), IFMS especially, significantly shortening the time to make payments and improving follow-up as compared to manual methods of obtaining payments, there are long lasting delays. There are so many delays caused by systemic factors (system downtime, poor connectivity) and by human factors (data entry, documentation gaps).

Objective Two outlined the most important facilitators and barriers to effective EPS use. The enablers are the competency of staff and training, the sound ICT infrastructure and strong institutional processes. These were reflected in barriers as capability gaps: technical incapacity, lack of digital skills, resistance to change and lack of communication between departments.

The practical recommendations generated in objective three focused on improving the infrastructure and developing the core capabilities and integrated environment through the enhancement of system, cross system integration and inter-departmental cooperation.

5.3 Discussion of Findings

5.3.1 Impact of Electronic Payment System on Procurement Cycle Time

The results confirm that electronic payment systems are strategic technological resources, viewed within the RBV, and that it is not to be dismissed because an intrinsic value could minimize procurement cycle time considerably. The level of awareness by respondents that EPS has "minimized time it usually takes to process payments to suppliers" (Respondent 01) and "made payment a timelier process and transparent" (Respondent 03), is in agreement with worldwide evidence from Rahim et al. (2021), who found 30-40% reduction in invoice processing time by transfer of electronic funds and banks online. This is also consistent with regional evidence of Wayamba et al. (2021) in Kenya, that showed how automated

workflows enabled procurement via digital platforms to enhance coordination and reduce cycle times.

The example of the emergency repairing road, where a supplier was paid within 24 hours on the basis of EFT as compared to weeks on the case of the manual system (Respondent 17), vividly demonstrates the transformative power of EPS when operating independently. This is what Barney (1991) would say was the accumulation of value as a strategic resource: the ability for a system to facilitate an action-based response and operational agility not possible in a paper-based approach.

However, finding that the benefits are not realized systematically is as important and theoretically important. The unrelenting delay stemming from system outages, interrupted communication and human errors exposes an important RBV principle: possession of a technological resource is not synonymous with value creation. Teece, Pisano, and Shuen (1997) draw the analogy from the RBV for the dynamic capabilities theory, and argue that the resources need to be deployed and reconfigured in a meaningful manner to create value. The IFMS is an adequate tool, but gives little to no return on investment unless supporting capabilities are in place.

That this finding directly responds to the explanatory gap in Section 2.4 of the literature review. Subsequent Ugandan studies (Nakamya et al., 2025; OAG, 2023) found inefficiencies but did not provide a comprehensive explanation for why the same approach to technology results in different outcomes. Using the RBV lens in the present study shows that differentiating outcomes is not random; rather, they are structurally linked to differences in complementary abilities. At the point that the system works, it works because infrastructure is stable, and the humans who work with it are competent. When it collapses, the reasons are these supporting elements are absent.

The finding also refutes the technological determinism that underlies some policy debates: the belief that the introduction of digital systems, in and of itself, will automatically yield efficiency improvements. Rather, it encourages a more sophisticated, 'socio-technical' perspective in which technology and organizational capacities interact to produce product outcomes (Heeks, 2022). This has significance in terms of how procurement digitalization is understood and embedded within Uganda's public sector.

5.3.2 Influencing Factors on Online Payment Systems' Utilization

Findings relating to enablers and barriers give empirical foundation to the complementary capabilities concept at the core of adapted RBV framework. The recognition of staff skills, stable infrastructure, and managerial facilitation as essential enablers aligns directly with RBV theories that argue that resource value is generated in a functional capacity (Barney, 1991).

Staff competency and training were found to be the most common enablers identified, corroborating the work of Chebet and Kihara (2022) in their research on the importance of digital literacy as an enabler of financial system effectiveness. The fact that "Officers know the proper way to use the system means less friction" (Respondent 01) demonstrates what Van Dijk (2020) calls the skill dimension of digital inclusion where technology is not being fully used. As some staff still have "limited technical skills" (Respondent 01), this makes them commit certain errors and time lag, linking human capital deficit to operational inefficiency.

Accurate infrastructures of ICT were described as a necessary precondition and ICT infrastructure had the confidence of UNCDF (2024) reporting on the infrastructure constraint in Uganda. By repeating the phrase "system downtime" and "slow internet connectivity" as major issues, the repeated mention also hints that technical capabilities gap is indeed not peripheral but central to EPS underperformance. In RBV terms, that could be deemed as a lack of the technical resource asset base necessary to sustain the strategic resource.

Management and institutional processes as enablers and their lack as barriers underscore the organizational aspect of capability. Resistance to change (Respondent 14), poor inter-departmental coordination (Respondent 03); these are not only individual failures; this is an emblem of organizational culture and processes failings. This also lends support to the argument of Heeks (2022) that success in digital system design requires aligning technology with the organizational context a concept he calls design-actuality gap.

Especially valuable, however, is the finding that barriers are not in isolation but linked. Downtime of the system discourages usage, which in turn leads to a reduction in skill development, a rise in errors, which tends to increase system resistance to change. This produces a vicious cycle that the lens of RBV can be helpful in understanding: if capabilities gaps exist in some areas, capabilities in others become less, which locks institutions in a low-efficiency feedback cycle. This systemic paradigm breaks from the existing checklist of barriers identified in past literature (Chebet & Kihara, 2022; UNCDF, 2024) to highlight the dynamic interplay amongst constraints.

5.3.3 Measures for Improving Use and Integration

To make use and integration of the above tools better, the e practitioner's suggestions will serve as a context-specific template for intervention targeted at particular capability deficiencies. Importantly, these are not one-size-fits-all prescriptions that are imported from international best practices, but rather grounded proposals from lived experience with Uganda’s public procurement system.

Continuous training was the strongest recommendation, as it is an indicator of understanding that one-off training is inadequate. The recommendation of "regular training sessions" (Respondent 01) and "training of staff regularly and effectively" (Respondent 08) means that in response to changes in systems, digital skills are not static but they should consistently be updated.

On the other hand, this is consistent with the guidance (OECD, 2019) on developing adaptive capacity to adopt digitalization in the public sector. Investment in infrastructure, especially in "reliable internet connectivity and system maintenance" (Respondent 01), bridges the fundamental technical skill-gap. And, it's striking here that there was so much emphasis of maintenance because it reflects an awareness that infrastructure is built not as an investment once and gone, but is an ongoing activity. This practical dimension is frequently absent from policy papers which concentrate on delivering early systems and ignore the principle of sustainability.

Integration system between e-GP and IFMS became the priority recommendation, targeting the interoperability challenge seen in the literature (MDPI, 2021). The further description from Respondent 14 of how integration "reduces manual entry and errors, and speeds up payment processing" reflects that practitioners have an intuitive appreciation of how integration provides value. This confirms the inclusion of system integration as the focus in the conceptual framework.

Recommendations for inter-departmental coordination mitigate the organizational capability gap. The emphasis on “improving communication between technical departments, procurement officers, and finance staff” (Respondent 07) acknowledges that to make the effort efficient, people not only need to be competent, but be coordinated with others. This encapsulates what RBV theorists would describe as the development of relational capital and organizational routines that would not easily become replicable (Teece et al., 1997).

What stands out about these recommendations is the way they are aligned with an RBV informed strategy. Basically, what practitioners are saying is that in order to unlock value from our EPS investment, we need to leverage the complementary capabilities which unlocks that value of human skills, technical infrastructure, integrated processes and organizational

coordination. This confirms that the adapted RBV framework is not mere observation from an ivory tower, but that it is the most efficient way to understand the problem at hand.

5 Conclusion

Following conclusions emerged for each outcome and hypothesis, the conclusions could be summarized as follows:

5.4.1 Conclusion in respect of objective One.

There is a strong positive influence of electronic payment on reducing procurement cycle time of Uganda's government agencies that is contingent and not automatic. Evidence shows that the actual performance and transparency of EPS systems greatly enhance payment processing outcomes by comparing these with manual systems to when EPS is operational and leveraged well. Nonetheless, system downtime, connectivity issues and human error still lead to delays and so EPS never reaches its maximum potential in most transactions. The main insight is this conditional effect rather than a given outcome. Accordingly, the first hypothesis is accepted with the key caveat that the effect is contingent on complementary capabilities.

5.2.2 Conclusion Objective Two Conclusion

Institutional, technical and human factors play a significant role in the use of electronic payment systems not as barriers that stand alone. The results confirm the 2nd hypothesis and generalize it through the finding of the interaction of the factors influencing. The staff effectiveness, strong infrastructure and robust institutional processes are not independent checklists but are mutually supporting features of an organizational capability system. The feebleness of either one cripples the other, binding up institutions on a channel of continued ineffectiveness. This type of systemic view is valuable in the effective designs of interventions.

5.4.3 Closing Remarks on objective three.

More intensive use and establishment of the electronic payment infrastructure will require a cautious investment in strengthening the complementary capacities (primarily the training, the development of the

infrastructure, the integration of the systems and the more strategic coordination of the agencies). The third hypothesis is proved, and evidence is clear to define what is meant by improvised use in practice, specific and contextually well-founded. Their realistic roadmap that aims at resolving the specified specific capability gaps and aligns itself with the principles of the strategic management of RBV.

5.4.4 Overall Conclusion.

As this paper demonstrates, the Resource-Based View is a potent tool by which to consider electronic payment systems (EPS) and their impact on the efficiency of the process of public procurement. The main point is that EPS has to be perceived not as a separate issue to be solved, but rather as a strategic resource whose value will be dictated by the package of complementary capabilities that it is embedded in. This capability gap - a failure to invest sufficiently in the people, technical, and organizational resources required to realize the value of digital systems - is this gap between aspirational policies and reality of the implementation of these policies in Uganda public procurement. Closing such a gap is a process of going beyond an almost exclusively technology-based conceptualization of digital transformation into a capability-based conceptualization of the process, which prioritizes people, processes and infrastructure as well.

5.5 Recommendations.

5.5.1 Policy and Practice Recommendations.

1. Implement a Continuous Professional Development Program for EPS Users

The results definitely illustrate that staff readiness is the most fundamental facilitator of effective EPS application. In conjunction with the PPDA and MoFPED it is necessary that the Ministry of Works and Transport, in order to ensure that there is a requirement of compulsory and continuous professional development for all personnel engaged in procurement-to-payment cycle. This program should include:

New users should be introduced to the system on an initial certification basis prior to access to it. Quarterly revamps of training so skills are

updated along with systems. Role-based modules relevant to the various requirements of procurement officers, finance personnel, auditors, and user team.

Teach through practical, hands-on sessions in real life rather than academic learning. Assessment and feedback mechanisms to monitor competency development.

Such investing in human capital creates the right human capacity with the skills gap identified, and contributes to the human ability that ensures EPS value realization.

2. **Redesign and Maintenance of ICT Infrastructure using Redundancy Techniques.**

The continued issue of outages and connectivity breakdowns necessitates the quick infrastructure investment. It is recommended that:

The Ministry's Internet bandwidth should be greatly enhanced with several providers having redundant connections in place to keep services available during outages. An ICT support department assigned to monitor system usage in real time and to immediately troubleshoot problems should have to be given.

Prevention schedules for servers and network equipment must be strictly followed. Offline-capable features be explored such that sensitive data entry under connectivity outages could be triggered and would be synchronized on restoration.

These infrastructure investments cover the technical capability gap and provide the solid base on which EPS will operate reliably.

Prioritize Full Technical Integration between e-GP and IFMS. Multiple respondents recommended to integrate the different components of the system which speaks toward bottleneck. The need for efficient and smooth

integration of e-GP procurement platform with IFMS financial system are a crucial priority for MoFPED and PPDA and it should therefore be funded and prioritized as project. This integration should:

Use automated transfer of approved procurement transactions to the payment system, re-entry of data will no longer be necessary.

Make a single interface where users can view procurement and payment status in one place. Have automated confirmation checks to signal mismatches before they cause delays.

Have robust error handling measures if integration comes up. This technical integration directly solves the existing process fragmentation that relies on manual reworks to run it faster and is resulting in long delays.

3. **Enhance Inter-departmental Coordination Institutions.**

The organizational capacity gap showed in lack of coordination between user departments, Procurement and Finance necessitates structural interventions. It is recommended that:

Cross functional work for major procurements will be conducted with cross-functional teams, integrating all departments from beginning.

Development of standardized templates and checklists for documentation templates and checklists can be developed and enforced for completeness and consistency. Procurement and finance units will sit down at regular coordination meetings to review remaining outstanding payments and bottlenecks.

A common digital workspace (a shared digital environment) created for all departments that can access and update procurement documentation in real-time.

These are the processes that establish the organization routines and relational capital necessary for smooth work around departmental boundaries.

4. **Have an Organizational Change Management Plan in place**.

The barriers to this change included the opposition to the change. Resistance was identified as one of the strongest barriers that showed that technical solutions are not enough. Leadership is advised to develop and roll out a change management plan involving:

Frequent dissemination of the value proposition of EPS to everyone. Participation in system-wide improvement efforts by end-users. A recognition and reward program for staff members who exemplify appropriate use of digital systems. Slowly ending concurrent manual processing in order to improve digital usage. Counseling and assistance of personnel who are having difficulty in the transition process. The human and cultural aspects of digital transformation in the digital age This is a people process, acknowledging technology adoption as being fundamentally a people process.

5.5.2 Further Research Directions

In This study, and while very rich in information, also suggests future research directions:

1. Quantitative Test of the Capability-Outcome relationship

The following qualitative study has proposed the main complementary capabilities and its intermediaries in the influence on EPS and procurement cycle time. This link should be tested quantitatively in future researches using validated instruments on digital literacy, infrastructure reliability, system integration, and organizational coordination, as well as statistically analyzing their impact on cycle time in a broader sample of Ugandan public institutions. Case Studies: Comparative Comparison Across Institutions. The study was based on a single ministry. Future studies should perform a comparative case study across different institutions with different degrees of EPS effectiveness. These types of studies would illuminate important mechanisms and drivers behind the success or failure of individual institutions and would yield greater evidence for informing policy.

Comparative Case Studies between Institutions. This study addressed a single ministry. More research should be done with comparative case studies

from multiple institutions with different levels of EPS effectiveness. Such research could also highlight best practices and contextual factors that will elucidate the reasons for success or failure of various institutions that will be a richer source of evidence for the development of policies.

Longitudinal Research on Development of Capabilities Tracking institutions over time in terms of whether they build complementary capabilities would be useful evidence on development of capability dynamics. How long do training investments take to become efficiency gains? What sequencing of infrastructure, training, and improvements and how they are best structured in any given process? This practical question may be answered by longitudinal studies.

Alternative Theoretical Lenses Applied RBV is beneficial, but some other theoretical perspective could have a complementary function in the study. Institutional theory may help explain how EPS adoption is influenced by regulatory and normative pressures. Actor-Network Theory could inform us how the human and non-human actors in the procurement network may interact. Such theoretical pluralism would serve to enrich its understanding.

5.6 **Contribution to Knowledge.**

The paper has the following contribution to scholarly research and practice:
Theoretical contribution: This paper generalizes the RBV perspective to the public procurement context in developing country and demonstrates how RBV can be applied to a developing country in the analysis of the effectiveness of digital systems. The adjusted RBV framework below reflects EPS as a strategic asset the use of which depends on complementary human, technological and organizational capabilities, and can be used as a theoretically informed framework to further study on the digitalization of the public sector.

Empirical contribution: It is discovered through the lived experience of the procurement professionals in Uganda; and provides a practical evidence base on this fact to the gaps identified and thus in the literature review. The detail of how EPS actually works in the real industry, adds fascinating detail to what a survey study on how EPS actually works in practice cannot add.

Methodological contribution: It is based on the RBV-theory, which is the qualitative case study design which is empirical evidence of the significance of interpretive research in discovering complexities in the organizational organization. The applied thematic analysis framework that is theoretically informed, can be used as a template to the same in areas of public procurement and digital governance.

Practical contribution: The practitioner-initiated guidelines to the population are a culturally appropriate roadmap to the improvement of EPS effectiveness. The research helps to fill the gap between research and academic and practice by basing the recommendations on the real lived experience and input of those in the daily experience of such systems.

5.7 Limitations of the Study.

Despite the significant contributions that this study has, a few limitations should be taken into consideration:

Single-Case Design: In as much as depth can be achieved through the focus on one ministry, the results cannot be generalized. There are various capability configurations in many different institutions resulting in various dynamics.

Reliant on Self-Reported Data: The inferences are based on the perceptions and memories of participants, which may be prone to recall bias and social desirability effects. Triangulation of documentary evidence helped to neutralize this although future research on this phenomenon would be strengthened by the use of processes direct observation.

Cross-Sectional Snapshot: The study only describes perceptions at a single possible time, and is unable to track the development of capabilities and results. This kind of longitudinal research, would record the dynamics of change.

Omission of Vendor Voices: As indicated, vendor views on payment delays and EPS efficacy were not explicitly gathered and therefore the image was not as complete as possible.

However, the paper achieves its purpose and provides a solid foundation of exploring the integration of electronic payment systems into the Ugandan public procurement.

5.8 Chapter Summary.

The findings of Chapter Four pertaining to the research purpose, theoretical context, and literature in this chapter is analyzed. The discussion indicated that the electronic payment system is a valuable technological tool, but can only make a significant contribution in enhanced productivity, assuming that supportive human, technical and organizational systems are in place. These are practitioner-based recommendations that represent a concrete way of putting these capabilities into practice. This way, the results supported our hypotheses of this research, as well as the critical qualifications that are relevant in this research and recommendations have been given on the policy, practice and future research. The research makes theoretical, empirical, methodological, and practical contributions to the digital transformation of the public procurement, but admits that it is limited. The bottom line of this study is that achieving the full potential of electronic payment systems goes beyond simply embracing technology, but represents a lesson with great impact across Uganda's public sector.

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