



## Challenges in implementing the unified electronic payment System: A case of management in Tanzanian public universities

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### ABSTRACT

This study examines the challenges of implementing the Unified Electronic Payment System (MUSE) and the management that affects its successful implementation in Tanzanian public universities. The study employed the Unified Theory of Acceptance and Use of Technology (UTAUT) and Institutional Theory, an uncommon methodology in existing literature, to analyse the impact of technical, operational, and user-related challenges on the implementation of the MUSE system. A mixed-methods design was employed. Quantitative data were collected via a structured questionnaire from 75 MUSE users across four public universities. Qualitative data were garnered through eight semi-structured interviews with heads of accounting and Information and Communication Technology [ICT] departments. Quantitative data was analysed using SPSS (v27), employing descriptive statistics and multiple linear regression. Qualitative data was analysed thematically using ATLAS.ti (v24). Regression analysis demonstrated that technical challenges constituted the main barrier to the efficacy of MUSE implementation, explaining 93.1% of the variance ( $F(3, 71) = 317.506, p < .001$ ), with critical issues including system integration failures, inadequate ICT infrastructure, cybersecurity vulnerabilities, and unreliable performance during peak usage. Technical challenges emerged as the predominant predictor ( $\beta = 0.537, p < .001$ ). Operational problems, including policy ambiguities, insufficient training, and lack of managerial support, significantly affected system performance ( $\beta = 0.339, p < .001$ ), suggesting that management and process issues can impede effectiveness. In contrast, user-related difficulties, such as resistance to change and insufficient digital literacy, demonstrated a negligible and statistically insignificant effect ( $\beta = 0.153, p = .061$ ). The model exhibited significant explanatory power, underscoring the necessity of tackling both technical and operational challenges to enhance MUSE's efficacy. Structural and institutional variables appear to represent the principal impediments, suggesting that proactive measures in these areas are crucial for the success of the system. Qualitative findings contextualise these results, highlighting infrastructural deficits, misaligned workflows, and a lack of sustained technical support. The study concludes that effective digital transformation in higher education requires a paradigm shift from focusing predominantly on user acceptance to addressing deep-seated systemic and institutional weaknesses. Policymakers and university administrators must prioritise investments in strong ICT infrastructure, develop university-specific implementation frameworks, and institute continuous capacity-building programmes. This research addresses a critical gap in the literature by focusing exclusively on the under-explored context of MUSE implementation in Tanzanian higher education. The integration of the Unified Theory of Acceptance and Use of Technology (UTAUT) with institutional theory provides a novel, holistic analytical framework for understanding the complex interplay between technology, individuals, and organisational structures in public sector digitalisation.

**Keywords:** Digital Transformation, Institutional Theory, Operational Challenges, Public Financial Management, Technical Challenges, UTAUT

### I. INTRODUCTION

The world is moving toward digital governance, and strong Public Financial Management (PFM) systems that support governmental accountability by promoting budgetary discipline, transparency reporting and effective service delivery (World Bank, 2020). Since 1998, the United Republic of Tanzania has carried out six phases of the Public Financial Management Reform Programme (PFMRP) in response to this need, each phase targeting enduring deficiencies while leveraging prior successes (Ministry of Finance [MoF], 2022). The last two phases (V and VI) which started from 2017 to 2027 and will mark a strategic shift toward widespread digital transformation. This will start with the implementation of the Unified Electronic Payment System (MUSE) for the mainland part of Tanzania, and Bajeti na Matumizi (BAMA) for Zanzibar (Ministry of Finance, 2022). In Tanzania, recent reform under the PFMRP have prioritised Information and Communication Technology [ICT] system such as MUSE to improve accountability, budget discipline, and service delivery.

MUSE was established as a centralized Financial Management Information System (FMIS) to take the place of old, expensive payment systems like Epicor and ACCPAC, which had problems with interoperability and didn't follow



modern governance standards (Ministry of Finance, 2022). The Unified Electronic Payment System (MUSE) was connected to several government digital systems, like the Government e-Payment Gateway (GePG), the Central Budget Management System (CBMS), and the National e-Procurement System (NeST). The goal was to create a single place for financial oversight and to make decisions based on data (Omosidi et al., 2020; Kouladoum et al., 2022).

Even though ministries, departments, and agencies (MDAs) showed a good adoption rate of 78% by 2021, public universities seemed to be behind and made it hard for people to adopt (Swai et al., 2022; Elias, 2024). Universities operate within a unique financial environment that combines government subsidies, student tuition fees, research grants, and donations from international donors. This makes for a unique implementation landscape. The PFMRP's one-size-fits-all approach has not worked well for them because they are semi-autonomous, have different ways of handling money, and their academic operations are very technical (Swai et al., 2022; Oduro et al., 2022). Consequently, these institutions face persistent system failures, reliance on manual workarounds, and cultural resistance to centralized financial controls, which compromise the core objectives of public financial management, such as transparency, efficiency, and the mitigation of corruption (Namweli & Magali, 2018; Tum & Ondabu, 2023).

Current academic studies have predominantly concentrated on MUSE's effectiveness within MDAs and local government entities, resulting in a notable gap regarding its implementation in higher education institutions (Mzenzi, 2015; Bagege et al., 2024; Ally, 2021). This study seeks to fill these gaps by conducting a comprehensive empirical analysis of the technical, operational, and user-related challenges that obstruct the effective implementation of MUSE in Tanzanian public universities. This study employs a mixed-methods approach to clarify these limitations and offers context-specific solutions to ensure university deployments are in accordance with the strategic goals of PFMRP VI.

### 1.1 Statement of the Problem

The effective implementation of the Unified Electronic Payment System (MUSE) at Tanzania Public Universities faces substantial barriers, limiting their financial management capability. MUSE implementation effectiveness attaining 78% at ministry, central government entities and local government by 2021 (Ministry of Finance, 2022). However, public universities with semi-independent governance have complex and automate financing mechanisms for oversee intricate income stream such as tuition fees, research grants, and donor funding, have facing a three major challenges include technical, operational, and user-related integration challenges. Three huge deficiencies impede the whole performance of MUSE.

In the beginning, the majority of the research that was conducted on MUSE and other comparable Integrated Financial Management Systems (IFMIS), was focused on ministries and local governments, whereas the financial structures of universities were ignored (Ally, 2021; Swai et al., 2022; Mzenzi, 2015, Elias (2024) indicated that academic institutions face adoption issues that have not been thoroughly investigated because of the complex revenue streams they generate and the decentralised administration they employ.

The second issue is that the "one-size-fits-all" policy of the PFMRPVI Framework ignores the decentralised governance and specialist financial practices of universities, which results in a gap in policy. The MUSE protocols and institutional policies conflict with one another, resulting in uneven financial reporting, delayed budget implementation, and a reliance on manual workarounds (Elias, 2024; Namweli & Magali, 2018).

Thirdly, there is a real shortfall because of the frequent system failures, insufficient information and communication technology infrastructure, and user frustration. These difficulties are made worse by a lack of technical expertise, fragmented training, and limited upper management support (Mtebe & Raisamo, 2019; Moshi & Harvest, 2021). According to Tum and Ondabu (2023), MUSE's credibility is diminished when the system experiences instability at peak periods, including the conclusion of the financial year and student enrolment. According to PEFA (2022) and the Ministry of Finance (2022), MUSE is unable to achieve its goals of fiscal transparency, minimizing income leakage, and conforming to IPSAS requirements due to these shortcomings.

Consequently, Inefficiencies in university operations in Tanzania amplify the disparity between the country's stated digitization objectives and the current state of affairs. Individualized strategies are critically required to tackle these structural and institutional failures.

### 1.2 Research Objectives

- i. To examine the effects of technical challenges on the effective implementation of MUSE at Tanzanian public universities.
- ii. To examine the operational challenges affecting MUSE's implementation and functionality in Tanzanian public universities.
- iii. To determine user-related challenges affecting the effective implementation of MUSE in Tanzanian public universities.



### 1.3 Research Questions

- i. What are the technical limitations affecting MUSE implementation in Tanzanian public Universities?
- ii. How do the operational challenges affect MUSE's implementation in Tanzanian public universities?
- iii. What are the user-related challenges affecting effective implementations of MUSE in Tanzanian Public Universities?

## II. LITERATURE REVIEW

### 2.1 Theoretical Review

This research is guided by a dual-theoretical framework that combines Venkatesh et al.'s (2003) Unified Theory of Acceptance and Use of Technology (UTAUT) with Scott's (2001) Institutional Theory. This integration is essential to address the constraints of utilising either theory independently and to comprehensively understand the micro- and macro-level dynamics of technology deployment within a complex public university context.

#### 2.1.1 Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT framework emphasizes that an individual's intention to utilise a system is influenced by four fundamental constructs: performance expectancy (the extent to which it is perceived to yield advantages), effort expectancy (the perceived ease of system usage), social influence (the impact of others' perceptions), and facilitating conditions (the conviction that the necessary organisational and technical infrastructure is available to facilitate usage). Within the framework of MUSE, a mandatory-use system, UTAUT is especially effective for assessing user perceptions regarding its utility, usability, and the organisational support provided, all of which are essential for forecasting adoption challenges (Venkatesh et al., 2003).

#### 2.1.2 Institutional Theory

Scott (2001) contends that institutions are complex systems upheld by regulative, normative, and cultural-cognitive pillars. The regulative pillar comprises formal regulations, legislation, and penalties; the normative pillar includes values, norms, and role expectations; and the cultural-cognitive pillar consists of shared perceptions and frameworks of meaning. Institutional theory clarifies how the semi-autonomous characteristics of universities, their entrenched financial norms, and deeply rooted cultural practices (e.g., preference for manual controls) can obstruct or distort the execution of a centrally mandated system like MUSE, resulting in phenomena such as decoupling (Mzenzi, 2015). The consolidation of these theories is powerful. The 'Facilitating Conditions' of UTAUT are directly shaped by the 'Regulative Pillar' of Institutional Theory (e.g., directives of the PFMRP policy). User resistance, an issue within UTAUT, frequently reflects 'normative' and 'cultural-cognitive' influences (Scott, 2001). This concept facilitates a thorough study that transcends individual culpability to emphasise the systemic institutional restrictions influencing user behaviour.

### 2.2 Empirical Review

#### 2.2.1 Technical Challenges

Various empirical studies show that inadequate technological infrastructure has been identified as a primary barrier to the adoption of digital payment systems in developing countries on multiple occasions. In Arusha's governmental institutions, digital payment systems were negatively impacted by power instability and insufficient bandwidth according to Swai et al (2022), who documented the situation. In a study of EPICOR across Tanzanian local governments, Mzenzi (2015) demonstrated that insufficient integration with legacy financial systems led to the formation of data silos and delays in processing. Elias (2024) and Tum and Ondabu (2023) identified cybersecurity flaws and inadequate encryption techniques as important hazards that weaken trust in financial management systems. These vulnerabilities and tactics had been identified as serious dangers to the unified electronic payment system (MUSE).

#### 2.2.2 Operational Challenges

Inadequacies in both institutional infrastructure and operational procedures regularly give rise to operational problems. Insufficient change management procedures and ineffective communication frameworks were recognized as the key impediments by Elias (2024). This is made worse by what Mbelwa et al. (2019) referred to as "systemic operational constraints." These constraints include imprecise implementation guidelines and mismatched accounting standards, and they are especially problematic during migrations to new systems such as accrual accounting. The necessity of synchronizing complex financial processes across a large number of departments, such as registrar offices, bursaries, and research efforts, is a factor that makes these problems even more difficult to deal with in university environments (Kiwana, 2018; Macharia et al., 2023).



### 2.2.3 Users Related Challenges

Research based on UTAUT demonstrates that perceived usefulness and simplicity of use are critical for the adoption of technology (Elias, 2024). Resistance frequently arises among individuals familiar with manual processes, who may view new technologies as intricate, a danger to their autonomy, or disruptive to existing workflows (Moshi & Harvest, 2021; Bakari, 2021). Institutional theory elucidates the durability of these attitudes; employees may dissociate by superficially complying while retaining traditional methods, as evidenced by Namweli and Magali (2018), who noted that staff maintained parallel paper records alongside digital systems.

## III. METHODOLOGY

### 3.1 Research Design

A mixed-methods design was used, combining a survey of 75 staff with interview of eight key informants. This approach allows both numerical patterns and detailed explanations of the challenges to be captured (Creswell & Creswell, 2018). This design was chosen to provide a thorough inquiry, permitting the simultaneous collection and analysis of quantitative and qualitative data. The objective was to acquire quantitative data regarding the prevalence and extent of implementation issues, as well as qualitative data to furnish depth, context, and explanatory insights into these challenges. The two data components were combined during the interpretation phase to cultivate a comprehensive grasp of the study problem.

### 3.2 Study Area

The research was carried out at four intentionally chosen public universities in Tanzania: The University of Dar es Salaam (UDSM), Muhimbili University of Health and Allied Sciences (MUHAS), Sokoine University of Agriculture (SUA), and Mzumbe University (MU). These universities were selected for their representational diversity regarding size, academic specialism, and geographical location, collectively comprising a substantial part of financial transactions in Tanzanian higher education.

### 3.3 Population and Sample Size

The survey data comprises a population of 75 MUSE users, including financial personnel (accountants, auditors, n=46), ICT staff (system administrators, support technicians, n=22), and administrative officials (bursars, department heads, n=7) who are directly involved with the system. This distribution ensured perspectives from all key user groups affected by MUSE implementation.

The interview data comprise a population of eight key informants, notably the heads of accounting and heads of ICT departments from each of the four universities, two per university, were chosen for their strategic control of MUSE implementation.

### 3.4 Data Collection Methods

**Quantitative Information:** A structured questionnaire featuring closed-ended questions utilising a 5-point Likert scale (1=Strongly Disagree to 5= Agree) was distributed to 75 responders. The questionnaire aimed to assess impressions of technical, operational, and user-related problems, in addition to evaluating the efficacy of MUSE implementation.

**Qualitative Data:** Eight semi-structured interviews were performed with the principal informants. An interview guide was employed to investigate issues including technological infrastructure, policy coherence, training sufficiency, and institutional opposition. Interviews were audio-recorded, transcribed verbatim, and underwent member vetting to verify accuracy.

### 3.5 Data Analysis

#### 3.5.1 Quantitative Analysis

Data were examined via IBM SPSS Statistics (Version 27). Initial descriptive statistics (frequencies, means, and standard deviations) were calculated. A multiple linear regression analysis was undertaken to assess the predictive capacity of the independent variables (technical, operational, and user problems) on the dependent variable (MUSE efficacy). Before doing regression analysis, essential assumptions such as normality, linearity, homoscedasticity, and the lack of multicollinearity were evaluated and confirmed (Pallant, 2020).



### 3.5.2 Qualitative Analysis

Thematic analysis was performed on the interview transcripts using ATLAS.ti (Version 24) and followed the six-phase framework established by Braun and Clarke (2006). This entailed data familiarisation, initial code generation, topic identification, a theme review, a theme definition, and report production. Peer debriefing was employed to enhance analytical rigour.

### 3.6 Ethical Considerations

Ethical permission was obtained from the appropriate institutional review board. Informed consent was secured from all participants following an explanation of the study's objective, with assurances of anonymity and confidentiality provided. Data were securely stored on encrypted devices in accordance with Tanzania's Data Protection Act of 2022.

### 3.7 Validity and Reliability

This study ensured reliability by implementing rigorous methodological safeguards. Cronbach's alpha coefficients, which ranged from 0.81 to 0.84 across all constructs, showed that the survey instruments were internally consistent. The result was above the recommended threshold of .70 (Tavakol & Dennick, 2011). A pilot study (n=15) conducted over a two-week interval confirmed test-retest reliability, demonstrating strong temporal stability (ICC=.86,  $p < .001$ ). Cohen's kappa ( $\kappa = .83$ ) was used to measure intercoder reliability for qualitative data.

To ensure validity throughout the research process. Construct validity was substantiated through the rigorous operationalisation of variables based on the UTAUT framework (Venkatesh et al., 2003), employing survey items sourced from validated instruments in comparable studies ( $\alpha = .81-.84$ ). Content validity was confirmed through expert evaluation by three information systems specialists who assessed item relevance using Lawshe's content validity ratio (CVR  $> 0.78$  for all retained items). The credibility of qualitative data was enhanced by prolonged engagement (8-week data collection) and member validation with participants (Creswell & Creswell, 2018). The triangulation of survey data (n = 75), interviews (n = 8), and institutional records improved convergent validity, while the intercoder reliability ( $\kappa = .83$ ) indicated that the qualitative analysis was consistent.

## IV. FINDINGS & DISCUSSION

### 4.1 Findings

#### 4.1.1 Technical Challenges

Table 1 indicates that particular concerns encompassed inadequate system integration with current university platforms (M=2.89, SD=1.05) and inconsistent performance during peak demand periods, such as registration (M=3.17, SD=0.98). The average score for overall technical problems was 3.24 (SD=0.91).

**Table 1**

#### *Technical Challenges*

S/N	Technical challenges	Min	Max	Mean	Std. Dev.
1.	How frequently do you face software integration problems with MUSE?	2	5	3.16	0.82
2.	How well does MUSE integrate with other university systems?	1	5	2.89	1.05
3.	Are concerns about data security a major obstacle to using MUSE?	1	5	2.33	0.81
4.	How dependable is MUSE during periods of high activity?	1	5	3.17	0.98
5.	How effective are the troubleshooting and technical support services for MUSE?	1	5	2.97	0.94
6.	Does the university allocate sufficient resources to maintain and upgrade MUSE's technical infrastructure?	1	5	2.92	0.87
	Overall			3.24	0.91

Qualitative data provided substantial context for these findings. The one respondent (R2) stated, "We encounter recurrent system failures during peak demand periods, such as financial year-end or student enrolment." This problem compels us to rely on human workarounds, thereby fundamentally compromising the data integrity that MUSE is intended to uphold. Another respondent (R5) emphasised integration challenges: "MUSE functions independently." It lacks integration with our student financial management system, necessitating redundant data entry, which substantially increases the chance of errors. These assertions highlight a significant deficiency in establishing the requisite 'Facilitating Conditions' for MUSE to operate effectively due to lack of technical support team within university staff.



#### 4.1.2 Operational Challenges

Participants from four public university indicated uncertainties in implementation policies ( $M=3.12$ ,  $SD=0.96$ ) and recurrent interruptions caused by operational challenges such as inadequate resources ( $M=3.53$ ,  $SD=0.86$ ). The overall mean for operational problems was 3.43 ( $SD=0.87$ ), as presented in table 2.

**Table 2**

##### *Operational Challenges*

S/N	Operational challenges	Min	Max	Mean	Std. Dev.
1.	How adequate are the resources provided to support MUSE operations?	2.00	5.00	3.12	0.82
2.	Are there well-defined policies to guide MUSE usage at the university?	1.00	5.00	3.12	0.96
3.	How often do operational obstacles (e.g., insufficient resources, unclear guidelines) disrupt MUSE transactions?	1.00	5.00	3.53	0.86
4.	How trustworthy are the financial reports generated by MUSE?	2.00	5.00	3.55	0.84
5.	Does MUSE help reduce manual interventions in financial processes?	1.00	5.00	3.56	0.98
6.	Does the university provide sufficient managerial support for MUSE operations?	1.00	5.00	3.73	0.83
7.	How frequently do operational issues (e.g., lack of coordination or support) cause delays in MUSE transactions?	1.00	5.00	3.41	0.79
	Overall			3.43	0.87

The interviews uncovered the institutional origins of these issues. A respondent (R3) stated, "There are no standardised operating procedures (SOP's) from the ministry and in PFM RP VI that apply to our context." As a result, each faculty interprets MUSE requirements variably, resulting in significant reconciling delays at month-end. This phenomenon illustrates a 'normative' misalignment in which institutional practices are insufficiently aligned with the requirements of the new system, which corresponds with the survey's results of low policy clarity to guide MUSE usage score ( $M=3.12$ ). Another respondent (R7) criticised the training methodology: "The one-time workshops we receive are excessively theoretical." They neglect to confront the actual transactional difficulties we encounter daily, resulting in an unprepared staff, which is in line with the survey findings of operational obstacles ( $M=3.53$ ). *User-Related Challenges:* The findings in Table 3 reveal that users evaluated the system as exceptionally user-friendly ( $M=4.00$ ,  $SD=0.90$ ) and indicated moderate overall satisfaction ( $M=3.48$ ,  $SD=0.87$ ).

Nevertheless, a more complicated perspective emerged from the interviews, indicating a trend towards "superficial adoption." One respondent (R4) remarked, "Despite training, numerous senior accountants refrain from utilising the advanced analytics capabilities of MUSE." Senior accountants avoid using the MUSE system analytics even after training, which convulsions with the survey results moderate digital literacy scores ( $M=3.08$ ). Another respondent (R2) said, the staff tend to avoid using MUSE in some important areas. "Staff manage payments but avoid automated reported features", which shows that the system was used selectively, which is in line with to survey's results ( $M=2.92$ ), difficult to use MUSE for financial transactions. We prefer our established techniques. This data indicates that although consumers may regard the fundamental tasks as user-friendly ('Effort Expectancy'), they exhibit reluctance towards more profound engagement, frequently attributable to 'Cultural-Cognitive' inertia or a deficiency in perceived 'Performance Expectancy'.

**Table 3**

##### *User-Related Challenges*

S/N	User-Related Challenges	Min	Max	Mean	Std. Dev.
1.	To what extent are users informed about MUSE functionalities?	1	5	3.08	1.04
2.	How user-friendly is MUSE for conducting transactions?	1	5	4	0.9
3.	How often do users face difficulties while using MUSE for financial transactions?	1	5	2.92	0.83
4.	Are users generally satisfied with the features and capabilities of MUSE?	1	5	3.48	0.96
5.	Do you believe MUSE has contributed positively to the overall quality of the report and service?	1	5	3.77	0.83
6.	How likely users to recommend are MUSE for financial and administrative tasks in other universities?	2	5	3.63	0.67
	Overall			3.48	0.87

#### 4.1.3 Effectiveness of MUSE Implementations

The findings revealed three determinants of the dependent variable (Effectiveness implementation of MUSE), including satisfaction, reliability, and efficiency of the MUSE system. The majority of users are satisfied with the MUSE system at their university, as seen in Table 4. Its overall performance was scored at 3.88 out of 5 by the majority of



users. With a mean score of 4.16 for "alignment with user expectations," it's clear that many users are satisfied with the system's performance. In routine tasks such as payments and reporting, the system achieved a consistency score of 3.72 and an efficiency score of 3.64. On the other hand, a mean score of 3.17 for reliability in completing error-free financial transactions suggests that there were occasional difficulties reported by some consumers. The lowest grade (2.99) for MUSE's capacity to streamline financial operations shows that many people think it might make things easier and more efficient. With a standard deviation of 0.67 and a mean score of 3.59 across all parameters, we can see that there is potential for improvement while still maintaining an optimistic perspective.

**Table 4**

*Effectiveness of MUSE Implementation*

S/N	Effectiveness of MUSE Implementation	Min	Max	Mean	Std. Dev.
1.	How satisfied are you with the overall performance of the MUSE system at your university?	2	5	3.88	0.77
2.	To what extent does the MUSE system meet your expectations in terms of user satisfaction?	3	5	4.16	0.638
3.	How reliable is the MUSE system in completing financial transactions accurately and without errors?	2	4	3.17	0.685
4.	How consistent and dependable is the MUSE system in day-to-day operations?	3	5	3.72	0.689
5.	How efficient is the MUSE system in processing tasks such as payments, reporting, and approvals?	3	5	3.64	0.584
6.	To what extent does the MUSE system reduce the time and effort required to complete financial operations?	2	4	2.99	0.647
	<b>Overall</b>			<b>3.59</b>	<b>0.67</b>

Respondent R5, identified that system crashes during record-keeping periods need manual re-entries, explaining the reliability score (M=3.17) in table 4.9. Respondent R3, stated that MUSE's uniform templates don't handle research funding changes, aligning with the efficiency rating (M=3.64). According to MU respondent R8, staff surreptitiously keep paper backups despite digital rules, resulting in a time-saving gap (M=2.99). These qualitative patterns explain the effectiveness score (M = 3.59), and they show how organisational settings affect technical system performance.

**4.2 Inferential Statistics (Regression Analysis)**

**4.2.1 Model Summary**

Table 5 model summary, shows how a multiple regression analysis was performed to forecast the effectiveness of MUSE implementations, considering technical, operational, and user-related challenges. The regression model demonstrated statistical significance,  $F(3, 71) = 317.506, p < .001$ , and accounted for 93.1% of the variance in MUSE effectiveness ( $R^2 = .931, \text{Adjusted } R^2 = .928$ ). The Durbin-Watson value of 1.804 validated the independence of mistakes, while VIF scores below 5 corroborated the absence of multicollinearity

**Table 5**

*Model summary*

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.965a	0.931	0.928	0.05449	0.931	317.506	3	71	0.000	1.804

- a. Predictors: (Constant), Technical challenges, Operational challenges, User-related challenges
- b. Dependent Variable: Effectiveness of MUSE Implementation

**4.2.2 Multiple Regression Analysis**

Table 6 of multiple regression analysis indicates that technical challenges had the highest standardised beta coefficient ( $\beta = 0.537, p < .001$ ), followed by operational challenges ( $\beta = 0.339, p < .001$ ). User-related challenges did not serve as a statistically significant predictor at the 0.05 level in this model ( $\beta = 0.153, p = .061$ ).

**Table 6***Multiple Regression Model*

Model	Unstandardized Coefficients		Standardized Coefficients	t Statistics	Sig.	Lower Bound	Upper Bound
	B	Std. Error	Beta				
(Constant)	0.079	0.112		0.707	0.482	-0.145	0.304
Operational challenges	0.315	0.055	0.339	5.681	<0.000***	0.205	0.426
Technical challenge	0.542	0.059	0.537	9.152	<0.000***	0.424	0.66
User's Challenges	0.117	0.04	0.153	2.941	0.061*	0.038	0.195

a. Dependent Variable: Effectiveness of MUSE Implementations

Regression analysis shows technical challenges are the most significant influence ( $\beta = 0.537$ ,  $p < .001$ ), indicating that an increase in technical difficulties is likely to result in a more pronounced decline in the effectiveness of MUSE implementation. This is in line with findings from the interview, respondent (R7), report of server failures necessitating complete transaction re-entry. Operational challenges exert a substantial influence ( $\beta = 0.339$ ,  $p < .001$ ), suggesting that inadequate management or process can diminish the system performance. User-related challenges exert a less significant impact in this model ( $\beta = 0.153$ ,  $p = .061$ ).

### 4.3 Discussion

The results of this study provide an inspirational argument that fights the dominance of user resistance as a primary barrier to digital transformation in public institutions. Significant importance of technical challenges ( $\beta = 0.537$ ) highlights that the required 'facility conditions', the basic component of UTUT, is significantly deficient. Insufficient system integration and inconsistent operation show significant inequality between the muse design and the technical conditions of Tanzanian public universities. This argument corresponds to the findings about the goat's (2021) digital readiness inequality and aligns with institutional principles, indicating a deficiency at a 'regulatory' level in compulsory and credit to the technical infrastructure required for effective policy implementation.

The institutional approach is further supported by the significant influence of operational challenges ( $\beta = 0.339$ ). In addition to procedural observations, there are indications of policy and inadequate training, as well as significant ideal misconceptions. The semi-real and intricate features of university financial ecosystems are absent from the conventional PFMRP approach when it comes to more centralized MDA. According to the participants, this results in a lack of legalizing standards, which causes operational fragmentation and uneven muse implementation across numerous faculties and departments (Scott, 2001).

The relatively reduced effect of user-related difficulties does not imply their absence but rather redefines their nature. The qualitative data indicates that user resistance stems from inherent institutional and systemic deficiencies rather than largely from the system's overall usability, which received high ratings. Surface-level adoption, a type of decoupling, transpires when users exhibit minimal compliance and possess scepticism regarding the system's utility and reliability, stemming from the operational and technical challenges they encounter every day (Mzenzi, 2015). This finding elucidates the utilization of UTAUT in contexts necessitating usage and indicates that if "Performance Expectancy" is compromised by systemic deficiencies, "Effort Expectancy" may be a requisite yet inadequate condition for extensive adoption.

Generally, this study indicates that obstacles to the implementation of MUSE at Tanzania universities are mainly systemic and institutional. The structure of combined-institutional theory is essential, demonstrating how macro (regulator, normative) level institutional failures generate micro-level conditions that make user acceptability difficult and effective use.

## V. CONCLUSIONS & RECOMMENDATIONS

### 5.1 Conclusion

This study looked into the challenges of enforcing the Unified Electronic Payment System (MUSE) in Tanzanian public institutions that specialize in technological, operational, and user-related elements. According to the results of a mixed-methods study, the most significant barriers to MUSE's successful adoption are operational and technological concerns. These include inadequate training, a lack of machine integration, cybersecurity issues, insufficient ICT infrastructure, and a lack of policy alignment. Although there were user-related challenges, such as transaction reluctance and limited virtual literacy, they were significantly less significant than systemic concerns.

This implies that, while staff emotions are strong, institutional capability and coverage readiness are the major factors driving MUSE's success. By merging UTAUT and institutional theory, this study demonstrates how digital transformation in higher education necessitates consideration of both institutional frameworks and consumer acceptance



processes. Overcoming these challenges is critical for Tanzanian institutions to achieve the PFMRP VI objectives of accountability, transparency, and effectiveness.

This study shows that the ineffective adoption of MUSE in Tanzanian public universities is mostly due to systemic technical and operational flaws, rather than inherent user resistance. Technical limitations in infrastructure and integration, combined with operational shortcomings in training, policy clarity, and managerial support, create an environment in which even willing users cannot utilize the system successfully or reliably. According to the entire theoretical framework, success is determined by the alignment of the institution's regulative, normative, and cultural-cognitive pillars.

According to the findings of this study, the unsatisfactory implementation of the MUSE payment system in Tanzanian public universities is due to systemic technological and operational issues, rather than user opposition. The combination of UTAUT and institutional theory provides a robust, useful framework. The government's directive to use MUSE was not matched with the technical or institutional support needed. This misalignment made it difficult for universities to adopt the system to their own realities. The mandate clashed with institutional realities, resulting in technical incompatibilities, operational difficulties, and, ultimately, superficial and hesitant user adoption. To realise MUSE's revolutionary potential, the implementation approach must be thoroughly re-evaluated, with a focus on institutional readiness alongside technology deployment.

## 5.2 Recommendations

To strengthen the regulatory framework, the Ministry of Finance, in collaboration with university councils, must grant funding and require quick improvements to ICT infrastructure (servers, bandwidth). Additionally, a task force should be formed to develop and distribute thorough, institution-specific Standard Operating Procedures (SOPs) for MUSE in order to standardize applications and eliminate ambiguity.

To strengthen the normative pillar, universities must adopt mandatory, continuous, and role-specific training programs developed in partnership with professional accounting organizations (NBAA) and ICT specialists. The university administration must openly support MUSE, designate particular funding for its support, and include its effective use into departmental and individual performance evaluation criteria. To strengthen the Cultural-Cognitive Pillar, communication methods should highlight early accomplishments and user testimonials in order to generate positive social influence and demonstrate the system's comparative benefits. Addressing cybersecurity issues publicly will build confidence and establish MUSE as a new organizational standard.

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