ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

INFORMATION MANAGEMENT SYSTEM ADOPTION AND EXTERNAL SECTOR STABILITY IN DEVELOPING COUNTRIES

Dr. Erien-naikachep Maurice Ikuru
Department of Office and Information Management
Ignatius Ajuru University of Education, Rumuolumeni Port Harcourt, Nigeria.
eriennaikacap.ikuru@iaue.edu.ng; 08064345396.

Chu Obo Abbey
Msc Students, Department of Office and Information Management
Ignatius Ajuru University of Education, Rumuolumeni Port Harcourt, Nigeria.

chuoboabbey@gmail.com: 08035903573.

Morganba Ibilaba Amos
Msc Students, Department of Office and Information Management
Ignatius Ajuru University of Education, Rumuolumeni Port Harcourt, Nigeria.

morganbamorgan@gmail.com: 08037925197.
&

Sophia G. Nwikpo
Msc Students, Department of Office and Information Management
Ignatius Ajuru University of Education, Rumuolumeni Port Harcourt, Nigeria.
sophygold@yahoo.com: 08033777969

Abstract
The association between the adoption of the information management system and external sector stability in developing countries was explored and institutional quality was used as a moderating variable. The dimensions of information management system (IMS) adoption that were examined in the study are digital governance adoption, financial information system (FIS) integration, and data protection stability, while balance of payments stability, adequacy of foreign reserves, and external debt sustainability act as measures of external sector stability. Research design used in the study was quantitative and was of correlational design with both the primary and secondary data sources. A sample of 30 developing countries in Africa, Asia and Latin America was purposively selected based on a consideration of data availability and relevance to the study objectives. Secondary data was sourced from the World Bank Development Indicators (WDI), International Monetary Fund (IMF), United Nations Conference on Trade and Development (UNCTAD), Worldwide Governance Indicators (WGI), International Telecommunication Union (ITU) and Global FinTech database for the year 2015-2024. The data collected were primary data that was obtained from structured questionnaires given to Financial analysts, ICT professionals, banking officials, policy makers and public sector administrators. A total of 300 questionnaires were sent out and 250 valid replies received and analysed. Descriptive statistics, Pearson Product Moment Correlation Coefficient (PPMC) and multiple regression analysis were used in analyzing the data with the use of SPSS version 26.0. The results showed that digital governance adoption had significant positive relationship with balance of payments stability (at the level of p=0.002), financial information system integration significantly changed foreign reserve adequacy (at

the level of p=0.000) and data protection stability significantly changed external debt sustainability (at the level of p=0.000). The study also showed that the institution quality was found to be a significant moderator between information management system adoption and external sector stability (r = 0.643, p = 0.000). The study found that adoption of the information management system has significant positive impacts on external sector stability in developing countries and that institutional quality enhances the role of using information management system in improving external sector results with respect to digital governance, financial information system and data protection mechanism. In order to create sustainable external sector stability and macroeconomic development, the study recommended governments and financial institutions to better develop their digital governance system, to support financial information system integration, to improve cybersecurity infrastructure and to improve the quality of institutions.

Key words: Information system management, adopting a Digital Governance, integration of financial information systems, stability of data protection, institutional quality, external sector stability, a developing country.

Background of the Study

With growing globalization, financial integration and external shocks, external sector stability has turned into a major macro economic concern for the developing countries. Persistent balance of payments deficits, falling foreign reserves, volatile capital inflows, fluctuations in the exchange rates, and high external debt are still characteristics of many developing economies. These challenges compromise the macroeconomic stability, result in a loss of investors' confidence and limit sustainable economic growth. The International Monetary Fund (IMF) indicates that poor external conditions make economies more susceptible to financial crises, inflationary pressures, and difficulties repayment debt (Khiaonarong et al., 2023). As a result, there is a growing use of information and digital technologies by governments to enhance economic governance and external sector performance. External sector stability has been defined as the capacity of a country to sustain external economic relations without continuing external imbalances. Its measurement is typically accomplished via three methods: balance of payments stability, foreign reserve adequacy, and external debt sustainability. Balance of payments stability is an expression of the equilibrium which a country achieved in foreign receipts and payments in terms of trade balance, capital flows, import cover etc. External stability remains threatened in many developing countries currently with weak performance in trade, fluctuating capital inflows, and inadequate foreign exchange management (Hordofa, 2024). Likewise, foreign reserve adequacy, measured in terms of reserve growth, debt coverage and reserve adequacy ratios continues to be weak in many economies as a result of high import dependence and low export diversification. There is also growing concern on external debt sustainability due to escalating external debt and related interest burden and fiscal pressures in developing countries (Jameaba, 2024).

Due to these challenges the importance of the adoption of information management system has grown more and more in the economy administration and financial governance. Information system management is the utilization of digital technologies and integrated information systems in governmental, financial and economic functioning. The current economic conditions depend highly on digitization, as digital systems are used for trade administration, financial transactions, taxation, customs and reserve management. It has been contended that good management of information systems can enhance transparency, accountability, efficiency and economic coordination which are all beneficial for macroeconomic stability (Umbet et al., 2025). A key aspect of information system

management is the adoption of digital governance that involves digital services, digital customs processing and digital taxation systems. Digital governance promotes administrative efficiency and automates government processes, and enhances service delivery. E-customs systems streamline e-trade documentation and minimize import and export delays, and e-taxation systems enhance taxation revenue and reduce leakages, increase fiscal transparency. These systems help to enhance trade coordination and develop better performance in the external sector (Ergasheva, 2025).

Another relevant aspect is the financial information system integration, including digital payments, mobile transactions, and the adoption of FinTech. Digital financial systems enhance transaction efficiency, financial inclusion and transparency in the financial operations at domestic or international levels. Mobile transactions and Fintech innovations have made financial services more accessible and cross-border financial settlements better. Previous research indicates that integrated financial systems contribute to the monitoring of the capital flow and balance of payments stability and reserve management (Aboelenein, 2023).

The growth of digital systems also brings with it concern about cyber threats and data vulnerability. As a result, data protection stability is also one of the most crucial aspects of information system management. Cyber readiness, secure servers and incident response systems fall under data protection stability. Cyber readiness indicates an institution's capacity to withstand and react to cyber threats, and secure servers with incident reaction capability safeguard sensitive economic details and assist in keeping operations going during digital disturbances. Thus, robust cybersecurity mechanisms enhance trust in digital financial spaces and contribute to economic security (Abdullayev, Tkachenko and Metreveli, 2025). But, the effectiveness of information system management in enhance the external sector stability can rely on the institutional quality. Institutional quality is defined as the efficacy with which governance systems, regulatory regimes, the legal framework and political conditions facilitate economic activity and policy implementation. Institutional quality in this research consists of regulatory quality, rule enforcement and political stability. Strong institutions help to foster an enabling policy environment for digital governance and financial systems to be successfully implemented, whereas weak ones may limit the effectiveness of these systems by political instability, weak policy enforcement, and corruption (Huy, 2025). Even though previous studies have been conducted on the relation among various concepts such as digital finance, e-governance and financial stability, there is limited empirical research that has explored the simultaneous relationships among the adoption of digital governance, the integration of financial information systems, and the stability of data protection systems, which in turn affect the stability of the external sector in developing countries. According to Chinoda and Kapingura (2024), digital financial inclusion and institutional quality are positively linked to macroeconomic performance in Sub-Saharan Africa, and Saleem et al. (2025) indicated that FinTech contributes to good governance and economic integration in Asiaian developing countries. But these studies have dealt primarily with economic growth and financial integration without paying particular attention to the external sector stability indicators including balance of payments stability, reserve adequacy, and external debt sustainability. Apart from this, few works have considered the moderating effect of institutional quality in the connection between information system management and external sector stability. This gap thus becomes the foundation for the present study focused on examining the information management system adoption in developing countries and its stability with institutional quality as a moderating variable.

Statement of the Problem

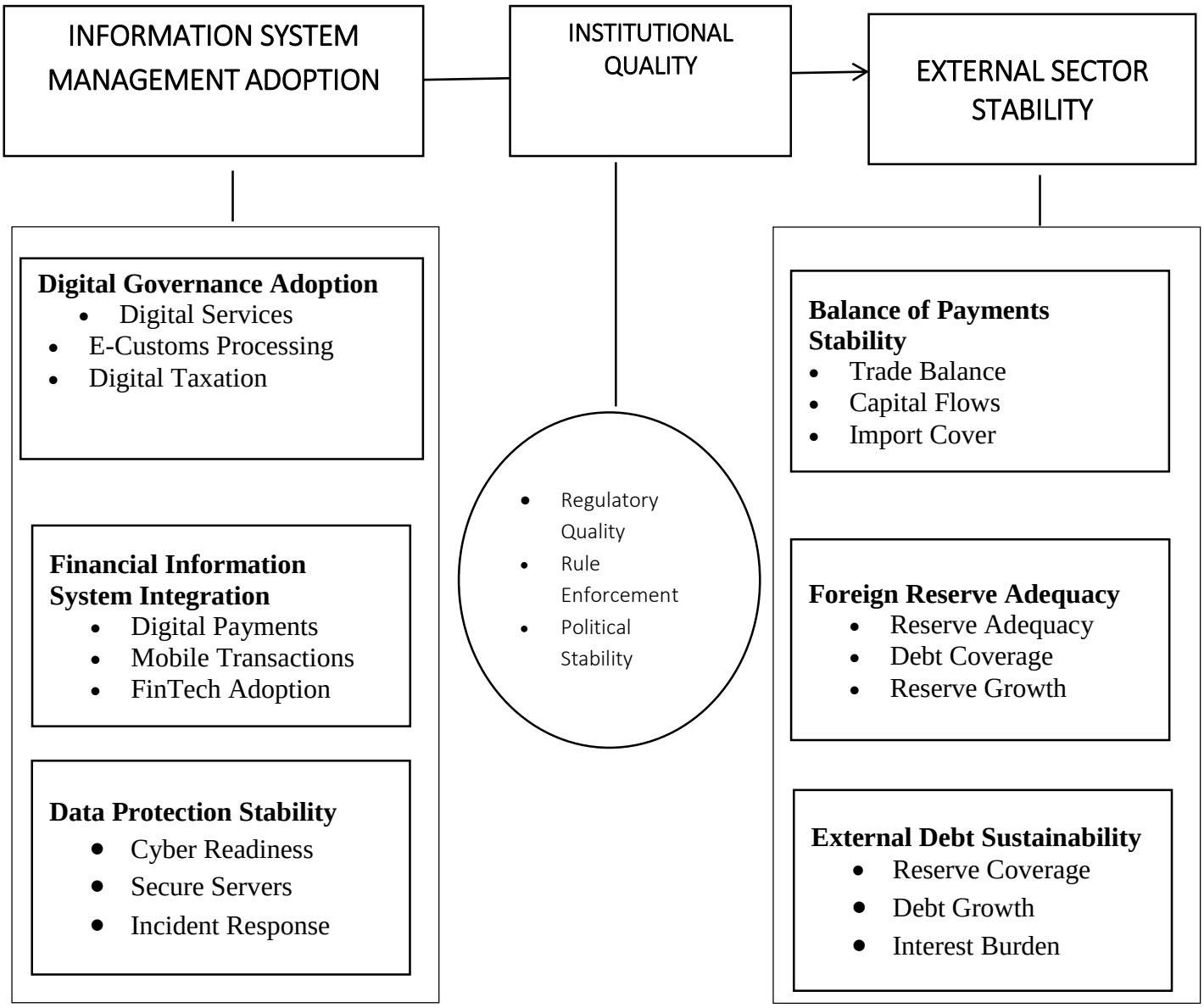
The use of digital technologies and management of information systems is becoming increasingly important for developing countries to bolster economic governance, financial coordination and performance in the external sector. In today's age, governments and financial institutions are using a combination of digital governance systems, integrated financial information platforms, and cybersecurity infrastructures to facilitate customs administration, taxation, financial transactions, foreign reserve management, and external debt monitoring. These systems are supposed to facilitate trade efficiency, build up good management of capital flow and mobilize revenues and be conducive to macroeconomic stability. The increasing use of digital systems notwithstanding, many developing countries still face balance of payments deficits, depleting foreign reserves, volatile capital inflows, and mounting external debts load. These difficulties are important in considering the external sector stability in developing economies and the question as to appropriate support of the information management system being adopted. Despite the efforts of governments to roll out digital services, e-customs systems, digital tax systems, digital payments, mobile transactions and FinTech innovations to better manage the economy, the performance of these systems in enhancing external sector performance has been uncertain. Many developing countries still suffer from weak digital integration, low levels of cybersecurity infrastructure and an inefficient financial information systems, which restricts the ability of governments and financial institutions to effectively manage transactions with the outside. In the same manner, inadequate cyber readiness and lack of secure cyber infrastructure and weak incident response capability can make financial and trade operations vulnerable to disruption, which would have an impact on balance of payments and reserve adequacy, as well as on external debt sustainability.

Although the literature suggests that digital governance, digital finance, and financial technologies could impact the economic growth and financial performance of a business (Hordofa, 2024; Chinoda & Kapingura, 2024; Saleem et al., 2025), little research has been conducted to explore information system management as a multidimensional construct, composed of digital governance adoption, financial information system integration, and data protection stability. More specifically, there is a lack of evidence on how these dimensions combine to affect external sector stability in general, and specifically on the balance of payments stability, foreign reserve adequacy and external debt sustainability of the developing countries.

In addition, information system management effectiveness could be related to institutions in an economy, such as regulatory quality, rule enforcement and political stability. Good institutional quality could improve the effectiveness of digital governance systems and financial information integration, and poor institutional quality could lead to a lower effectiveness due to policy inconsistencies, corruption, and weak regulation. Yet, the moderating effect of institutional quality in reinforcing or weakening the linkages between information system management and the external sector stability has been largely underresearched in literature, especially in the developing world environment. So the problem of this study is the absence of empirical clarity on its part of how far information system management adoption can affect external sector stability in developing countries and how far the quality of the institutions can moderate this phenomenon, thereby offering a credible basis to the present investigation.

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

Conceptual Framework.



A conceptual framework of information management system adoption and external sector stability in developing countries (Fig. 1.1).
Source: Researchers Conceptualization, 2026

Aim and Objectives of the Study

This study aims to investigate the correlation between information management system (IMS) adoption and the external sector stability in developing countries. Specifically the study sought to:

1. to establish relations between digital governance adoption and BPS stability in developing countries.
2. Examine the integration of financial information system and foreign reserve adequacy in developing countries.
3. Discuss the sustainability of external debts of the developing countries with respect to data protection stability.
4. identify the moderating effect of institutional quality on the ISM and external sector stability in developing countries.

Research Hypotheses

During the course of the study, a set of hypotheses of 0.05 level of significance was tested as follows:

H_1 is that there is a significant relationship between digital governance adoption and balance of payments stability in developing countries.

H_1: There is a significant relationship between financial information system integration and foreign reserve adequacy in developing countries.

H_3: Data protection stability is not significantly related to external debt sustainability of the developing countries.

Hydrogen4: There is no significant moderating role for the institutional quality in the relation between information system management and external sector stability in developing countries.

Scope of the Study

This study was aimed at the relationship of the adoption of information system management with the stability of external sector in developing countries. Particularly, information system management was analyzed by the dimensions of digital governance adoption, financial information system integration and data protection stability. Digital governance adoption was measured by digital services, e-customs processing and digital taxation, and financial information system integration by digital payments, mobile transactions and FinTech adoption. Cyber readiness, secure servers and incident response systems were also looked at for data protection stability.

In addition, external sector stability was analyzed in terms of the balance of payments stability, foreign reserve adequacy and external debt sustainability. The stability of the balance of payments was assessed by trade balance, capital flows, and import cover, whereas foreign reserve adequacy was assessed by reserve adequacy, debt cover, and foreign reserve growth. Reserve coverage, debt growth and interest burden were also used as indicators of external debt sustainability.

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

Significance of the Study

The importance of this study stemmed from the fact that it offered empirical evidence of the impact of information system management on the external sector stability of developing countries, which had implications for governments, policy makers, financial regulators and international development institutions. The results helped in supporting governments to develop effective digital governance systems in areas of effective trade administration, taxation efficiency, reserve management, and external debt monitoring.

The study also benefited central banks and financial institutions by providing information on the role of financial information system integration, digital payments, mobile payments and FinTech adoption in better capital flow management and external financial stability. The study also emphasized the need for cyber readiness, secure servers, and incident response systems to manage and safeguard financial operations and ensure confidence in digital financial environments.

Academically, it added in the literature by considering the incorporation of digital governance adoption, financial information system integration and data protection stability as a whole based information system management in order to explain external sector stability. The study also added to knowledge by analyzing the moderating effect of institutional quality on the link between information system management and external sector stability.

Conceptual Review

Information management system adoption

The term information management system adoption is used to describe the mechanism by which governments and institutions or organizations take up, combine and use digital technologies, automated systems and information infrastructures to enhance administrative, financial, and economic functioning. It implies that digital systems are accepted, put into practice, and used effectively to manage information, coordinate activities, undertake transactions and make decisions. With the importance of using information system in modern economies, governments and financial institutions have increasingly been depending on information systems to enhance the efficiency in governance, transparency in finances, trade coordination and macroeconomic management.

The system of information management is based on the fact that the economic activities are increasingly associated with digitalization and an effective public and financial management system is increasingly needed. It has been found that a healthy ISM framework can help in enhancing the efficiency of the economy and minimizing administrative bottlenecks and improving accountability and institutional coordination (Hordofa, 2024). Thus, the adoption of an information system management facilitates the processing of information more efficiently, improvement of communication systems, and real time monitoring of economic activities.

The adoption of information management system has proved to be a key factor in the countries of the developing world in order to make their public administration, financial systems and external economic performance better. Digital governance, including electronic services, e-customs, and digital taxation, are key to automating administrative processes, enhancing

service delivery, and fostering greater fiscal transparency, making it an increasingly common practice among governments. Likewise, financial institutions use digital payment, mobile payments, and FinTech services to enhance the efficiency of the payment processes, promote financial inclusion, and facilitate better financial coordination. Evidence shows that the implementation of an information management system can have a high impact on boosting transparency, accountability, and coordination within the government and financial system, thereby enhancing economic efficiency, institutional performance, and sustainable development (Saleem et al., 2025). Therefore, the adoption of information system management can be key to improving governance, increasing financial integration and macroeconomic stability in developing economies.

Dimension of Information management system adoption

Digital Governance Adoption

Digital governance adoption is the use of digital technologies in public administration and economic governance to enhance the delivery of public services, transparency, accountability and administration efficiency. Digital systems are being used by governments to increasingly automate public services, reinforce customs administration, and enhance the taxation process. Digital services allow for the access of government services via electronic systems that include online registration, digital licensing, automated documentation and online payment services for citizens & businesses. E-customs processing helps to cut down delays in trade and improve coordination in international trade by providing electronic means for trade documentation, automated clearance of cargo and real-time information on import/export activities.

Technological Proficiency, which involves the capacity of individuals and institutions to use digital technologies, software applications, communication tools and information systems to accomplish organizational goals, is an important aspect of adoption of digital governance. Technological proficiency plays a crucial role in increasing the ability of public institutions to successfully implement digital governance by enabling public servants to better use and operate digital platforms, to successfully manage electronic records, to process information and to adapt and respond to changes in technology. In an era where administrative systems and public services are increasingly becoming digital, technological skills are key in ensuring the efficient use of digital tools, enhancing productivity, fostering innovation, and enhancing the quality of public services. The skill level of institutions in applying technology is more likely to help them adjust to new technologies, minimize administration gaps and optimize benefits from digital governance efforts (Erien-naikachep & Orokor, 2024).

Financial Information System Integration

Financial Information System Integration" means the integration of digital financial technologies into the country's financial operations and transactions systems. Integrated financial systems are able to enhance the efficiency of transactions, increase financial transparency and contribute to financial inclusion in economies. Digital payments enhance

transaction efficiency and transparency, with the help of online banking systems, electronic transferring platforms and payments gateway. Mobile transactions also increase the financial accessibility with mobile banking and mobile money services, especially for the under-served in developing economies. Furthermore, the adoption of FinTech encourages the application of latest monetary technologies, like blockchain systems, digital lending platforms and computerized settlement systems, to boost transactions affectivity and monetary intermediation. All in all, digital payments and mobile payments as well as the FinTech adoption have a positive impact on strengthening financial coordination, managing the capital flow and supporting external sector performance.

Data Protection Stability

Data protection stability is the capacity of institutions and digital systems to ensure the protection of sensitive data, safeguarding cyber security, and continuing operations in the face of technological disruptions. With the growing reliance of governments and financial institutions on digital systems, cybersecurity and information protection have become crucial for ensuring that people trust digital environments. Cyber readiness is an indicator of how well institutions are prepared to face cyber threats and vulnerabilities by implementing cybersecurity policies, monitoring tools, and risk management strategies. Secure servers play a vital role in safeguarding financial and governmental data from unauthorized access, cyber attacks, and data breaches, ensuring the safety and reliability of digital infrastructures. Data Loss Prevention (DLP) takes this protection further by following strategies, policies, and technologies to ensure sensitive data is not disclosed, leaked, or lost to unauthorized users, thereby helping to comply with regulations, and maintain customers' trust, partners, and stakeholders (Bendovschi, 2015; Erien-naikachep, 2024). Detecting and blocking unauthorized activities reduce the chances of data breaches and reputational damage with DLP mechanisms such as data classification, discovery, monitoring, and real-time alerting. Incident response systems also facilitate quick recovery from any cyber disruption or technology failures, having a structured recovery mechanism with continuity procedures. These four components collectively contribute to digital resilience and continuity, ensuring trust and confidence in digital governance and finance.

Concept of External Sector Stability

External sector stability: The capacity of a country to establish sustainable external economic relationship free from persistent balance of payments disequilibrium, excessive foreign reserve depletion and unsustainable external debt accumulation. It captures the ability of an economy to effectively handle foreign capital flows, exchange rate pressures, foreign financial claims, reserve holdings, and the settlement of international trade transactions in a way that is conducive to long-term macro-economic stability.

An external sector that is stable has become increasingly significant in developing countries given the increased integration into the world economy, international trade, and foreign capital flows. The general view is that economies with stable external sector will be more resilient to the effects of global economic shocks, more exchange rate stability, will attract foreign

investments and continue with economic growth. In contrast, unfavorable external sector dynamics can put countries at risk of a drop in their currencies, inflation, debt crises, and loss of investor trust (Yakubu & Ceylan, 2025).

External sector stability can be analyzed using indicators like balance of payments stability, foreign reserve adequacy and external debt sustainability. Balance of payments stability represents the level of balance that can be achieved by the nation in its external transactions in terms of trade balance, capital flows and import cover. Foreign reserve adequacy is a measure of the adequacy of foreign exchange reserves to cater for the import of goods, stabilize the exchange rate and pay foreign debts. External debt sustainability describes a country's capacity to cope with external borrowing liabilities so that no severe macroeconomic instability or excessive debt burdens result.

Measure of External Sector Stability

Balance of Payments Stability

Balance of payments stability means that a country is able to establish equilibrium of international receipts and payments over time. Good balance of payments positions lower external vulnerabilities and enhance macroeconomic performance. In an economy, trade balance accounts for the difference between the export earnings and the import expenditure, and a trade surplus helps reserve accumulation and the performance of the external sector. The capital flows are foreign investments and financial resources both into and from an economy, with stable inflows contributing to economic growth and financial stability. Import cover is defined as the ratio of foreign reserves to the total imports during a certain period, and reflects the capacity of the economy to absorb external trade shocks. Trade balance, capital flows and import cover, taken together, add to the stability of the balance of payments and contribute to external economic sustainability.

Foreign Reserve Adequacy

Foreign reserve adequacy is defined as whether foreign exchange reserves are adequate for imports, exchange rate stability and external obligations. Appropriate Reserves Holdings have enhanced economic resilience, giving confidence in the economy. Reserve adequacy is the capacity of foreign reserves to provide buffers for international transactions and cushion economic shocks. Debt coverage refers to the extent to which foreign reserves are able to cover external debt obligations and liabilities, while reserve growth refers to the increase in the stock of foreign reserves over time. Reserve adequacy, debt coverage and reserve growth contribute to better external financial stability and enhance the economy's defenses against external pressures.

External Debt Sustainability

External debt sustainability is an indicator of how well a country can handle external debts without causing macro-economic instability in the long-term. Sustainable debt levels minimize financial vulnerability and increase fiscal flexibility. Reserve coverage is defined as the share of

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

foreign reserves that can cover external debt repayment obligations, while debt growth is defined as external debt growth in over time and increase in external borrowing. Interest burden: the ratio of costs of servicing external borrowing to the economic capacity and fiscal resources. Collectively, reserve and debt growth and interest burden are key factors in determining the sustainability of external debt and have implications on general macroeconomic stability.

Concept of Institutional Quality

Institutional quality: Effectiveness of governance systems, regulatory structures and political institutions in economic coordination and policy implementation. A strong institutional quality creates a governance model that helps to ensure effective digital transformation and macroeconomic management through efficiency, the rule of law, and stable policies. Regulatory quality is the capacity of governments to design and execute good policy to foster innovation, create private sector and economic growth. The rule enforcement is the effectiveness of legal institutions in enforcing laws, regulations, and contractual obligations, and political stability reflects the absence of political violence, instability and disruptions in governance.

Meta-Analysis of Empirical Studies

Author(s)/Year	Focus/Objectives	Country/Scope	Methodology	Major Findings	Strengths	Weaknesses/Gaps
Chinoda & Kapingura (2024)	Investigated the effect of digital financial inclusion on macroeconomic performance	Sub-Saharan Africa	Panel data regression using GMM estimation	Digital financial inclusion significantly improved financial stability and macroeconomic performance	Use of dynamic panel estimation improved reliability and addressed endogeneity issues	The study concentrated mainly on financial inclusion and ignored external sector indicators such as reserve adequacy and debt sustainability
Saleem, Iqbal, Arshed & Oláh (2025)	Examined the role of FinTech in governance quality and global integration	Developing Asian economies	Structural Equation Modeling (SEM) and panel regression	FinTech significantly improved governance quality and enhanced economic integration	Integrated governance and financial innovation variables in one framework	Failed to examine balance of payments stability and external debt sustainability

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

Hordofa (2024)	Evaluated the impact of digital governance on economic administration and trade efficiency	African developing countries	Mixed methods involving surveys and econometric analysis	Digital governance improved customs efficiency, reduced delays, and enhanced trade coordination	Combined qualitative and quantitative evidence	Limited sample coverage reduced generalizability
Aboelenein (2023)	Investigated financial information system integration and capital flow management	Emerging economies	Panel econometric analysis	Integrated financial systems enhanced monitoring of capital movements and financial transparency	Strong econometric modeling and cross-country comparison	Institutional quality was omitted as an interaction or moderating variable

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

Methodology

In this study a quantitative research design which is a correlational study was adopted to examine the relationship between the variables information management system adoption and external sector stability in developing countries and both primary and secondary data sources were utilized. The correlational design was thought to be appropriate in this study because the relationships between the study variables were examined to come up with their strength and direction without the variables being manipulated by the researcher. The study population included developing countries as defined by the World Bank and the International Monetary Fund (IMF) and the professionals in the field of digital governance, financial systems management, economic policy implementation and public administration in the chosen countries.

The number of developing countries in Africa, Asia and Latin America which were included in the study was 30 developing countries selected using the purposive sampling technique, which were chosen according to the criteria of data availability, data accessibility, data consistency and relevance to the study objectives. The study was carried out over 10 years (2015-2024). Secondary and primary sources were used in the study. Secondary data was taken from reliable international sources, such as the World Bank Development Indicators (WDI), the International Monetary Fund (IMF), the United Nations Conference on Trade and Development (UNCTAD), Worldwide Governance Indicators (WGI), the International Telecommunication Union (ITU), and the Global FinTech databases. These databases supplied macroeconomic and institutional indicators related to the adoption and stability of the external sector of the information system management.

Structured questionnaires were furnished electronically to some selected respondents such as financial analysts, ICT professionals, banking officials, policy makers and public sector administrators of the sampled developing countries for the purpose of obtaining primary data. Respondents were purposefully sampled as they have relevant working experience and expertise in the field of information system management, financial systems, digital governance and macroeconomic administration. The questionnaire was designed on a five-pt Likert scale of Strongly Agree (5) to Strongly Disagree (1). The instrument included items on use of digital governance, integration of financial information system, stability of data protection, quality of institutions and external sector stability.

300 questionnaires were sent to the respondents in the chosen countries, of which 250 questionnaires were duly completed and returned for a response rate of 83.3%. The valid questionnaires were 250 which were used in the analysis. The independent variable was the adoption of information system management that was measured through digital governance adoption, financial information system integration, and data protection stability. External sector stability, indicated by balance of payments stability, foreign reserve adequacy and external debt sustainability, was the dependent variable. The moderating variable was institutional quality, which was measured by regulatory quality, rule of law and political stability.

In addition, the questionnaires responses and secondary data were tested for completeness, consistency, and accuracy prior to the analysis. The data gathered were checked with

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

descriptive statistics as well as Pearson Product Moment Correlation Coefficient (PPMC) and multiple regression analysis with the support of Statistical Package for Social Sciences (SPSS) software package version 26.0. Descriptive statistics (mean and standard deviation) were used for summarizing the characteristics of the variables and Pearson correlation analysis was employed to examine the strength and direction of the relationships between variables. Multiple regression analysis was also used to find out the moderating effect of institutional quality and predictive power of information system management in the direction to external sector stability.

Distribution of Selected Developing Countries

Table: Distribution of Selected Developing Countries

S/N	Region	Selected Countries	Number of Countries	Total Observations
1	Africa	Nigeria, Ghana, Kenya, South Africa, Egypt, Ethiopia, Tanzania, Uganda, Morocco, and Algeria	10	100
2	Asia	India, Pakistan, Bangladesh, Indonesia, Philippines, Vietnam, Thailand, Sri Lanka, Nepal, and Cambodia	10	100
3	Latin America	Brazil, Mexico, Argentina, Colombia, Peru, Chile, Ecuador, Bolivia, Paraguay, and Uruguay	10	100
Total		**30 Countries**	**30**	**300**

Source: Researcher's Compilation (2026)

Distribution of Questionnaire Respondents

S/N	Category of Respondents	Number Distributed	Number Returned
1	Financial Analysts	60	50
2	ICT Professionals	60	52
3	Banking Officials	60	49
4	Policymakers	60	50
5	Public Sector Administrators	60	49
Total		**300**	**250**

Source: Field Survey (2026)

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

Result/Finding

Hypothesis One: There is no significant relationship between digital governance adoption and balance of payments stability in developing countries.

		digital governance adoption	balance of payments stability
digital governance adoption	Pearson Correlation	1	.590**
	Sig. (2-tailed)		.002
	N	250	250
balance of payments stability	Pearson Correlation	.590**	1
	Sig. (2-tailed)	.002	
	N	250	250

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS version 25

H_1: There is a significant relationship between digital governance adoption and balance of payments stability in developing countries. This shows that there is a significant positive correlation (r = .590, p = 0.002). Since the p value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis accepted: there is a significant relationship between Digital Governance Adoption (H0) and the stability of Balance of Payment (H1).

Hypothesis Two: There is no significant relationship between financial information system integration and foreign reserve adequacy in developing countries.

		financial information system integration	foreign reserve adequacy
financial information system integration	Pearson Correlation	1	.552**
	Sig. (2-tailed)		.000
	N	250	250
foreign reserve adequacy	Pearson Correlation	.552**	1
	Sig. (2-tailed)	.000	
	N	250	250

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS version 25

H_{02}: There is no significant relationship between financial information system integration and foreign reserve adequacy in developing countries. The significance of the result shows that there is high relationship (r = .552, p = 0.000). Based on the results, we reject the null hypothesis and accept the alternative hypothesis, that there is significant relationship

ISSN: 4315 - 4536
Volume 15, Number 2, 2026
Information Management and Technology Journal
The University of Sydney, Camperdown NSW 2006, Australia
Journal Homepage:www.bwjournal.org

between financial information system integration and foreign reserve adequacy in developing countries.

Hypothesis Three: There is no significant relationship between data protection stability and external debt sustainability in developing countries.

		data protection stability	external debt sustainability
data protection stability	Pearson Correlation	1	.651**
	Sig. (2-tailed)		.000
	N	250	250
external debt sustainability	Pearson Correlation	.651**	1
	Sig. (2-tailed)	.000	
	N	250	250

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS version 25

H_3: Data protection stability and external debt sustainability in developing countries are not significantly related. The result shows that there is a significant correlation (r = .651, p = 0.000). We reject the null hypothesis that data protection stability is not significantly related to external debt sustainability in developing countries, and accept the alternative hypothesis that data protection stability is significantly related with external debt sustainability in developing countries.

Hypothesis Four: There is no moderating Influence of institutional quality on information system management and external sector stability in developing countries.

Correlations

Control Variables			information system management	external sector stability
Institutional quality	information system management	Correlation	1.000	.643
		Significance (2-tailed)	.	.000
		Df	0	248
	external sector stability	Correlation	. 643	1.000
		Significance (2-tailed)	.000	.
		Df	248	0

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS version 23

Decision: The positive correlation value which is 0.643 shows there is a strong relationship in institutional quality moderating the relationship between information system management stability and external sector stability in developing countries. Moreover, the null hypothesis five is repellent and the alternative accepted. At 0.05 level of significance, 0.05 is greater than 0.000, therefore the null hypothesis is rejected and alternate is accepted which means that there is a significant relationship between institutional quality as a variable moderating the relationship between information system management stability and external sector stability for developing countries.

Findings

Descriptive statistics, Pearson Product Moment Correlation Coefficient (PPMC) and multiple regression analysis were used in the study to explore the relationship between information management system adoption and external sector stability in developing countries. Conclusions are given according to the hypotheses formulated.

Hypothesis one was tested and resulted in the acceptance of the hypothesis that the digital governance adoption was positively related with the balance of payments stability in developing countries. ($r = 0.590$, $p = 0.002$). Since the p-value was less than the 0.05 level of significance, the null hypothesis was rejected. This suggests that better governance adoption of digitization has a positive and significant impact on balance of payments stability in developing countries.

Hypothesis two: The results of hypothesis two indicated that the financial information system integration and the foreign reserve adequacy of developing countries are positively related by $r = 0.552$; $p = 0.000$. Hence the null hypothesis was rejected due to below 0.05 p value. This means that the contribution of integrated financial information systems is essential to increase the adequacy of foreign reserves in the developing countries.

The finding of hypothesis three showed a significant positive relationship between data protection stability and external debt sustainability of developing countries ($r=0.651$, $p=0.000$). The observed p value was less than value 0.05, thus the null hypothesis was rejected. This indicates that the implementation of good cybersecurity systems, secure servers, and incident response systems has a positive impact on external debt sustainability.

Finding out the result of hypothesis four, it was also found that the relationship between information system management and external sector stability in developing countries was found to be significant with $r = 0.643$ and $p = 0.000$. As a result, the study rejected the null hypothesis and accepted that institutional quality enhances information system management effectiveness in enhancing external sector stability.

Discussion of Findings

The results of the study indicate that there is a positive relationship between digital governance adoption and balance of payments stability in the developing countries that are statistically significant. This finding indicates that the implementation of digital governance measures – including digital services, e-customs processing, and digital taxation – enhances trade facilitation, tax revenue collection, and administrative efficiency, which in turn contributes to

better balance of payments performance. The result corroborates the study of Hordofa (2024) in which he noted that digital governance systems enhanced the efficiency and trade administration in African developing countries. The result is also in line with Ergasheva (2025) who discovered that the digital tax contributes to better tax transparency and revenue collection. A better digital governance, in this regard, therefore, would increase the macroeconomic coordination and minimize the external trade management inefficiencies.

The study also shows that financial information system integration is significantly positively associated with foreign reserve adequacy in developing countries. This means that digital payment, mobile and FinTech systems enhance financial transparency, transaction efficiency and reserve monitoring, which helps with reserve accumulation and reserve management. This is in line with Aboelenein (2023) and his findings; that integrated financial information systems led to a better monitoring of the capital movements and more financial coordination in emerging economies. In the same vein, Saleem et al. (2025) discovered that FinTech innovations were able to improve the governance quality and financial integration in the developing Asian economies. Thus, the digital financial system integration has a positive effect on the external financial stability and adequacy of the reserves.

In addition, the study demonstrated that, for developing countries, there is a positive significant correlation between data protection stability and external debt sustainability. The discovery suggests that the capability to be cyber ready, along with secure servers and effective incident response systems, can enhance cyber confidence of digital financial environments and shield financial operations from disruptions and cyber attacks. Effective cybersecurity mechanisms thus help to contribute to efficient debt management systems and continuity of operations. This discovery is consistent with the results of Abdullayev, Tkachenko, and Metreveli (2025), which reveal that the readiness of cyber security positively affected digital financial confidence and economic stability in emerging economies. Therefore, effective data protection systems are vital to ensure sustainable financial operations and enhance external debt management.

Last, the study discovered that, in developing countries, the link between information system management and the external sector's stability is significantly moderated by the institutional quality. This finding suggests that high regulatory quality, rule enforcement and political stability can help to make digital governance systems and financial information integration more effective. Weak institutions drive corruption, policy inconsistencies and limited enforcement capabilities, which decreases the effectiveness of digital systems, while strong ones enable an environment for policy implementation, transparency and accountability. This result aligns with Huy (2025) who stated that the quality of the institution has a positive influence on the effectiveness of policy making in implementing it and Saidi (2025) who also showed that good quality of institutions further supports the relationship between FinTech adoption and financial stability.

Conclusion

Analysis of the study result revealed that the essence of the study adoption information system management to improve the external sector stability in developing countries is meaningful. The

study concluded that the adoption of digital governance leads to better balance of payments stability by better trade coordination, digital taxation and administration. The integration of financial information systems also has a positive effect on the adequacy of foreign reserves as it strengthens the monitoring of capital flows, the implementation of financial transactions in digital form and financial transparency.

The study additionally agreed that data protection stability boosts external debt sustainability by enhancing cybersecurity preparedness, safeguarding digital infrastructure, and keeping financial systems functioning normally. Besides, institutional quality was revealed to have significant effect on the effectiveness of information system management to enhance external sector stability. Hence, high regulatory quality, rule enforcement, and political stability are vital to extract the maximum gains from digital governance and financial information systems in developing economies.

Recommendations

The study revealed the following recommendations should be made:

1. Developing countries' governments need to enhance digital governance, including e-customs, electronic public services, and digital taxation for better trade coordination, revenues, and a stable balance of payments.
2. Central banks and financial institutions should strengthen financial information system integration in digital payment, mobile payment, and FinTech innovations to better monitor capital flows and boost foreign reserve buffers.
3. Governments and financial supervisors should invest in the cybersecurity system, the security of digital servers and efficient response measures to ensure financial system security and enhance external debt sustainability.

References

Abdullayev, R., Tkachenko, O., & Metreveli, E. (2025). Cybersecurity readiness and economic stability in emerging economies. *Journal of Digital Finance and Economic Security, 12*(2), 45–61.

Aboelenein, A. (2023). Financial information system integration and capital flow management in emerging economies. *International Journal of Financial Systems, 9*(3), 112–128.

Bendovschi, A. (2015). *Data Loss Prevention: A Strategic Guide to Protecting Sensitive Data*. *Journal of Cybersecurity, 2*(1), 45–57.

Chinoda, T., & Kapingura, F. (2024). Digital financial inclusion and macroeconomic performance in Sub-Saharan Africa. *African Journal of Economic Development, 18*(1), 77–95.

Ergasheva, M. (2025). Digital taxation and fiscal transparency in emerging economies. *Journal of Public Sector Innovation, 14*(1), 33–49.

Erien-naikachep, M. (2024). Digital security architecture and information puritanism of commercial banks in Rivers State, Nigeria. *Greekline Journal of Communication and Advance Technology, 1*(1), 63–73.

Erien-naikachep, M., & Orokor, F. A. (2026). Virtual communication proficiency and administrative competitiveness of commercial banks in Rivers State. *Greekline Journal of Communication and Advance Technology, 1*(1), 123–138.

Hordofa, T. (2024). Digital governance and trade efficiency in African developing countries. *African Review of Governance and Administration, 10*(2), 58–74.

Huy, P. (2025). Institutional quality and policy implementation effectiveness in developing economies. *International Journal of Governance Studies, 11*(4), 88–104.

Jameaba, K. (2024). External debt sustainability and macroeconomic stability in low- and middle-income countries. *Journal of International Economic Policy, 16*(2), 102–121.

Khiaonarong, T., et al. (2023). External sector vulnerability and macroeconomic instability: Evidence from IMF global datasets. *IMF Economic Review, 71*(1), 91–115.

Saidi, Y. (2025). FinTech, financial inclusion, and institutional quality nexus: Cross-country evidence. *Journal of Financial Innovation and Stability, 13*(1), 25–43.

Saleem, M., Iqbal, S., Arshed, N., & Oláh, J. (2025). FinTech, governance quality, and global integration in developing Asian economies. *Asian Economic and Financial Review, 15*(2), 117–136.

Umbet, S., et al. (2025). Information systems and governance transparency: Cross-country evidence. *International Journal of Information Governance, 8*(3), 51–69.

Yakubu, A., & Ceylan, R. (2025). External sector stability and economic resilience in developing countries. *Journal of International Development Studies, 20*(1), 73–90.