



**PROJECT MANAGEMENT INFORMATION SYSTEMS AND PERFORMANCE OF REFUGEE HUMANITARIAN PROJECTS IN NAIROBI CITY COUNTY, KENYA**

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**ABSTRACT**

Project management information systems (PMIS) has become an essential tool in contemporary organization and 21<sup>st</sup> century project managers cannot afford the losses, delays, and disappointments often triggered by redundant projects. PMIS has thus become a strategic resource for project managers when seeking optimal level of project performance. The general objective of this study was to examine the effect of project management information system on performance of refugee humanitarian projects in Nairobi County, Kenya. The specific objectives were to examine effect of; resource management and PMIs user acceptance on performance of refugee humanitarian projects in Nairobi County, Kenya. The study was guided by two theories that are linked up with the study objectives; resource based view theory and technology acceptance theory. The researcher adopted a descriptive survey design. The study targeted 15 NGOs that are implementing partners of UNHCR who are mandated to coordinate activities and programs related to refugees and have implemented projects in the last 5 years. The unit of observation was the 250 humanitarian project managers. The sample size was 154 project managers determined using Yamane 1967 sampling formula. Stratified random sampling was used for sampling. Questionnaires were used to collect data. A pilot test was conducted with 15 project managers representing 10% of the sample. In this study, content and construct validity was used. Cronbach's Alpha test was used to test reliability. Data was analyzed using SPSS Version 28. Findings were tabulated. Validity results show that; resource management had an AVE value of 0.541, user acceptability AVE of 0.543, and project performance an AVE of 0.528. Reliability results show that resource management 0.776, user acceptability 0.784, and project performance had an alpha value of 0.733 which is an acceptable scale. The findings of the actual study, with statistically significant values ( $p < 0.05$ ), reveal significant relationship between project management information system and the performance of refugee humanitarian projects in Nairobi City County, Kenya. Notably, resource management ( $\beta = 0.368$ ,  $p = 0.002$ ) and PMIS user acceptability ( $\beta = 0.411$ ,  $p < 0.001$ ) were found to positively influence project performance. These results underscore the critical role of PMIS in effective project management practices and stakeholder engagement in driving project success.

**Key Words:** Resource Management, PMIS User Acceptability, Performance of Refugee Humanitarian Projects

## Background of the Study

Project management information system (PMIS) has become an essential tool in contemporary organizations. PMIS refers to the tools and techniques used to gather, integrate, and disseminate the outputs of project management processes. The 21st century project managers cannot afford the losses, delays, and disappointments often triggered by redundant projects thus the need to apply a single or a collection of computerized software applications, which provide easier, efficient, and integrated methods for managing project from their inception through to their completion (Rinġis & Bērziša, 2016). It is used to support all aspects of the project from initiation through closing, and can include both manual and automated systems (PMI, 2008). It improves performance because it measures and acts as a report card for both team members and management and most important, it educates the team and makes better managers because it tells true stories (Thomsen, 2018). A PMIS provides information so the team has a common understanding of the facts: a prerequisite for collaboration. It's the cheapest way to gather information because it's only done once. It's a clear window into the project that leaders can use instead of relying on delayed or biased reports filtered through layers of management.

Most project management information systems have functionality that helps project managers to do planning, resources allocation, budgeting, project data management and reporting for decision making. PMIS has thus become a strategic resource for project managers when seeking optimal level of project performance (Obeidat & Aldulaimi, 2016). When using an effective PMIS tool, project managers can proactively identify and manage stakeholder's expectation where they foresee issues within the project long before they happen (Nyandongo, 2021). Ngari and Ndiritu (2017) found out that the use of the software to generate quality information needed by the user (project manager) to perform project tasks helped the project managers perform their tasks in a more professional manner thus increasing the probability of the project success. The quality of the system software has a major impact on the acceptance of the system, its effect on the efficiency and effectiveness of the performance in organizations.

Refugee humanitarian projects play a big role in addressing vulnerable conditions that arise due to community conflicts and political unrest likely to pose shelter challenges leading to greater impacts on the lives and livelihoods of the population. Boateng (2018) highlighted that modern management system is needed to manage projects and the organizations as a whole. The use of PMIS provides optimal benefit to these humanitarian projects where they can achieve impact by delivery of quality services to people within the set scope, budget and timelines.

In Africa, organizations that use information systems perform better than those that do not. The existence of a precise and accurate information system can reduce problems and unwanted errors to increase performance more efficiently and quickly. Information systems are one of the most relevant components of the current business environment. They offer great opportunities for success for the companies, given that they can collect, process, distribute, and share data in an integrated and timely manner (Sanjaya & Andry, 2022). A project is generally considered to be successfully implemented if it comes in on-schedule, comes in on budget, and achieves basically all the goals originally set for it and is accepted and used by the clients for whom it is intended (Mbaluku & Bwisa, 2018).

In Kenya, there are a number of humanitarian organizations that currently in operations both at national and international levels. The sectors including education, agriculture, human rights advocacy, children's rights, poverty alleviation and peace. These organizations support government efforts to improve the population's living standards by implementing diverse donor-funded projects (Miriti, 2020). How these organizations are run or behave depends on the political, economic, and social conditions in the country. One of the critical problems concerning

the humanitarian NGO's in Kenya is the frequent and lengthy delays that occur during relief project implementation (Muiruri, 2016). Project performance is project features that are important to project sponsors, beneficiaries and stakeholders. The operations of humanitarian organizations in Kenya and other countries are hampered by many factors. These have implications for the organizations autonomy. Neamat (2017) conducted a study on factors affecting project performance and revealed that project delay occurs due to shortage and closure of materials; the labors' availability in their work according to project duration; managing of projects and providing the skills of leadership; Alteration in prices of materials; highly qualified and expert persons need; all contribute to performance.

### **Statement of the Problem**

Disasters and political unrest have the ability to destabilize economies by rendering many people homeless thus hindering development. The Vision 2030 is Kenya's blue print that aims to transform the economy to become globally competitive and prosperous by offering quality life to its citizens and even for the most vulnerable groups such as the refugees. The UNHCR Kenya leads action to protect refugees and asylum seekers in Kenya most of whom originate from Somalia (52.6%) and Sudan (25.3%) due to political unrest. Refugees from The Democratic Republic of Congo (DRC) and Ethiopia have also been making their way to Kenya as the political situations in their countries remain fragile.

According to UNHCR Report 2023, there are also 15% of urban refugees in Nairobi City, a population of 95,000 urban refugees. In reference to the HIAS Refugee Assistance Report 2022-2023, the Kenyan Government enacted restrictions on freedom of movement in Daadab and Kakuma refugee camps and limited the criteria for refugees eligible for assistance in Nairobi City. Urban refugees face complex protection and social environment due to barriers to access safe accommodation, healthcare and education. Access to monthly financial stipends is only available for critical lifesaving needs so as to efficiently target the minimal available assistance to the most vulnerable urban refugees. Resources constraints are very prevalent in Nairobi areas such as Kayole, Kawangware, Mathare and Roysambu areas where the refugees reside in groups where 5 – 10 people live in the same household. There are also only 20 to 25 psychologists for psychosocial support of refugees in the city yet refugees report 25% cases of GBV.

Despite the significance of the humanitarian organizations in disaster management, there are still faults in the relief projects delivered. UNDAF (2019) reported that in the UN, 33.3% of relief projects have been successful, 34.8% partially achieved and 31.8% not been achieved. Rambo and Nyonje (2019) found that 54.1% of humanitarian aid projects implemented in Nairobi County do not meet the priority needs of persons in distress and 36% of these projects do not meet the needs of disaster victims. The NGO council (2021) reported that more than half of all projects carried out by non- governmental organizations are not sustainable and collapse in less than one year after the exit of the donors. According to the report, 40% of the projects implemented by NGOs were facing time overrun due to poor management and lack of timely allocation of resources. The Government of Kenya, UNHCR and their implementing partners require integrated project management information systems to facilitate effective coordination of activities in refugee camps such as Daadab that hosts 45% of refugees and Kakuma that host 41% of refugees as well as urban refugees in Nairobi City. There exists several studies on PMIS; Sala, Otieno, Nzuma, and Mureithi (2020) reported that the humanitarian aid response during disasters has been inadequate, characterized by low coordination, a lack of goodwill, and insufficient commitment. Due to the complexity of refugee projects in registration, protection, education, economic empowerment and resettlement needs of the asylum seekers in Nairobi County, this study determines the effect of project management information system on performance of refugee humanitarian projects in Nairobi County, Kenya.

### **General Objective**

To establish the effect of project management information systems and performance of refugee humanitarian projects in Nairobi City County, Kenya.

### **Specific Objectives**

- i. To assess the effect of resource management on performance of refugee humanitarian projects in Nairobi City County, Kenya.
- ii. To evaluate the effect of PMIS user acceptability on performance of refugee humanitarian projects in Nairobi City County, Kenya

### **Theoretical Review**

#### **Resource Based View Theory (RBV)**

The Resource Based View Theory was proposed by Wernerfelt (1984) and Rumelt (1984). The theory emphasizes on utilizing tangible and intangible resources to gain a competitive advantage over other companies. The RBV theory is important to this study as it highlights the resources needed to effectively manage projects. RBV indicates that by using tangible and intangible resources, a company can help to finish projects on time, with the needed quality and within budget (Barney, 1986). According to the RBV theory, a competitive firm tends to use appropriate resources and is more serious in implementation when compared to other companies in the same industry. However, businesses and project managers face resource and time constraints throughout project implementation, forcing them to make modifications that are needed to promote firm implementation (William & Dettmer, 2010). The firm's resources that can be used include machinery, intellectual property, equipment, trademarks, and processes. They also utilize contemporary equipment that can lower cost overruns and enable the project to be finalized on time (Gimeno, 2011). According to Robert and Bradley (2013), a firm can attain a competitive edge if it leverages its the value of its resources. They recommended the adoption of resources like personnel abilities, equipment, capital and patents. In addition, such a company can readily provide projects that satisfy consumer expectations. According to Peteraf and Berney (2012), the RBV theory encourages competition between firms based on resources. The resources that a company has at their disposal impact project implementation. This theory indicates the financial, physical, and technological resources needed for effective implementation of projects.

#### **Results Based Management Theory**

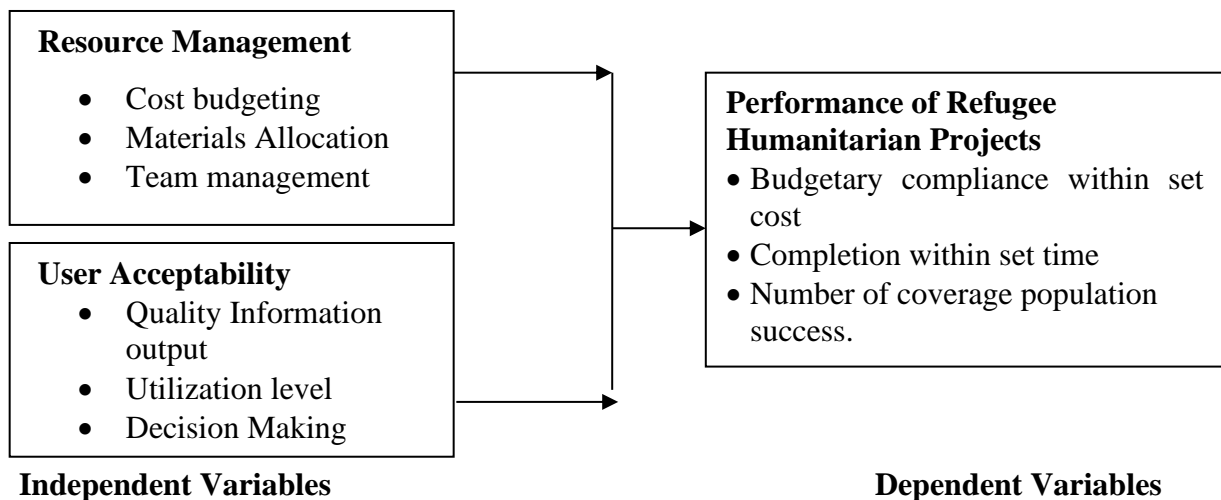
The Results Based Management Theory (RBMT) originated in the mid-1980s from the Australian government. The theory was popularized by the Organization for Economic Co-operation and Development (OECD) in 1990. The RBM is utilized in this study to provide basis for project progress reports which are used to improve monitoring on project quality. The core aspects of the RBM is the fundamentals of detailed planning, including the definition of objective, mission and outcome-based process tools. RBM is an evolving procedure that involves daily input from the participants which helps in improving a program or a project. RBM stresses monitoring as a continuing process, as well as lessons from the regularly discussed monitoring process (UNDP, 2012). An imperative aspect of effective monitoring is to ensure that information systems are established and that data are collected over a consistent period. Baseline data usually obtained at the outset to demonstrate that the system or mission is doing at a specified time (Valadez & Bamberger, 2012). Although monitoring considers basically a managerial task and intrinsic to the operation of a system or initiative, assessment is autonomous and external. RBM requires external approval of the published findings for it to be deemed credible. This reflects on the anticipated and accomplished accomplishments, explores outcomes chain, methods, and contextual causes.

## Technology Acceptance Theory

Davis (1989) introduced the Technology Acceptance Theory is widely applied to investigate user acceptance of technology. The goal of the theory was to provide an explanation of the determination of technology acceptance. The model is generally capable of explaining user behavior across a broad range of end user computing technology (Davis, 1989). TAM posts that perceived ease of use (PECU) and perceived usefulness (PU) are important factors that determine the user attitude toward his/her intention to use and actual usage of IT. Venkatesh and Bala (2008) set forth three major determinants of adoption and utilization of information systems, which included accessibility (user-friendliness), usefulness (suitability, convenience) and acceptance (ease of use). According to Davis, Bagozzi and Warshaw (1989), accessibility (user-friendliness) is the extent an end-user believes that using a new information system would increase their productivity. The more a user finds an information system easier to use, the more they will operate it with ease. According to TAM, perceived usefulness and perceived ease of use, both influence one's attitude toward system usage, which influences one's behavioral intention to use a system, which, in turn, determines actual system usage. Kondrup (2004) contend that TAM's unique feasibility in explaining the acceptable integration of various IT services in organizational environments is of high value to practitioners and scholars seeking to justify IT usage in their respective systems. Breen and Zhang (2008) explain TAM as a model that posits that the perceived usefulness and ease of use of an IT tend to determine one's (or an organization's) intention to utilize the respective IT. If the technology fits the purpose of the task at hand and works effectively and efficiently in the process, then acceptance of that technology is likely to ensue in the respective environment. Experienced users play significant part in acceptance and adoption of any new technology.

## Conceptual Framework

The conceptual framework in Figure 2.1 demonstrates how the study variables are related. The independent variables are; project scheduling, resource management. The dependent variable is the performance of refugee humanitarian projects. These variables and relationships are presented in Figure 2.1.



**Figure 1: Conceptual Framework**

## Resource Management

Project resources are components that are necessary for successful project implementation. They include anything required from the project planning to the project delivery phases. A lack of resources is therefore a constraint on the completion of the project, that's why resource management is the key project management activity that defines a great part of the project success. The allocation of resources to the project plan is part of the overall process of planning, estimating and resourcing the project. Each time the plan is reviewed and revised, resourcing will

be addressed (Gulghane & Khandve, 2016). Meredith, Shafer, and Mantel (2017) state that resources, whether people, money, hardware, or something else, are required throughout the project development process. Every project manager should monitor the use of resources trends and must plan the exact amounts of resources required for the entire project based on experience and available inputs.

According to Ashley (2016), finance and especially human resources management which is a key to the success of projects implemented by different NGOs and the government organizations. The organizations exploit and use all the needed and available resources efficiently as a factor of achieving success of projects under implementation. According to Shash and Qarra, (2018), inadequate cash flow that comes as a result of poor estimation and budgeting leads to adjournments in finishing the project and huge extra costs are experienced. Cost estimation helps the project management to make realistic estimates of the projects and make a work breakdown schedule that rhymes with the project schedule. Abdi (2020) noted that a key benefit to resource planning is that it helps organizations to fulfill task specifications efficiently. Successful resource scheduling allows in different ways to solve problems related to resource availability and job efficiency. Efficient resource allocation allows project managers prepare to allocate resources to the task and effectively manage them. Reporting requires daily tracking of key elements of project performance in terms of inputs, actions and outcomes.

### **User Acceptability**

User acceptance is the confirmation, through testing, that the delivered system meets all requirements, functions according to design parameters, and satisfies all business, technical, and management stakeholders. Planning for user acceptance testing begins in the Concept Development Phase with the definition of deliverable acceptance criteria, which should include user acceptance criteria by which to test the system during the Test Phase. User acceptance criteria are documented in the Project Scope Statement and are updated later upon completion of the Requirements Analysis Phase. The user acceptance criteria are utilized as part of the requirements traceability to guide the design, development, testing, and acceptance of a system (Qorbanzada, 2022). User acceptance testing (UAT) is an important part of project management, as it helps to ensure that the software or system being developed meets the requirements and expectations of the end users or customers.

Every single user needs to accept the newly deployed system in the project-based organization for accomplishing the benefits. Before acceptance, effective evaluation is needed to judge whether the system is fulfilling the requirement and needs or not. Jeong (2015) noted that user acceptance delays may hinder the achievement of the client's project objectives and cause schedule delays or cost overruns. During testing, project managers and developers look to see how the software will function in real-world scenarios, such as within a specific business environment (Papazoglou & Nelles, 2022). End user acceptance (EUA) means that user is satisfied and motivated for adopting a particular system and technology. Zhao, Fang, and Jin (2018) identified that for any business user acceptance is influenced by TAM factors and trust. Hasan (2017) stated that acceptance should be at organizational level as well as individual level. Costa et al. (2016) revealed the antecedents that play a significant role in adoption of new technology. These include system quality, behavioral intentions, management support, training, PU and PEOU. To overcome the resistance, organization need to deal with the employees sensibly by knowing their caliber, interests, beliefs, values and their needs. Main causes of user acceptance delays are unclear user requirements, changes in user requirements, poor-quality development outputs, excessive functional and non-functional errors, lack of user involvement, unclear user roles and responsibilities, and unclear criteria of user acceptance test.

## **Empirical Literature Resource Management and Project Performance**

Sivakumar (2019) studied the impact of schedule management planning on project management effectiveness. A questionnaire was used to collect data from 208 employees. Results showed that schedule management plan have a significant and positive impact on project performance. Schedule management plan helps in time management of each project along with providing the facility of monitoring different tasks in a project. This not only provides the benefit of optimal usage of resources, timely completion of projects, and effective results, but also helps in enhancing the productivity of employees. Further, clearly defined roles and responsibilities, project life cycle, risks, and time management are the main factors which affect the project management effectiveness.

Baleni and Gande (2023) assessed the effect of project planning and scheduling on projects' success in Botswana. The sample was 72 employees of the mining company. Data was collected using questionnaires utilizing Google forms. Findings showed that project scheduling techniques are not significant predictors of project success of capital projects at the mining company. The study concluded that project planning best practices have benefited capital projects at the mining company, although with a moderately high success rate. Mavuti, Kising' u and Oyoo (2019) assessed the effect of project management practices on performance of KPA-funded projects. The study found that planning activities play an essential role in the successful implementation of the project

Makori and Mundia (2019) sought to establish the influence of scheduling techniques on project performance of registered building works contractors in Nakuru County, Kenya. The study adopted a Descriptive survey research design. The target was 572 building works contractors and 85 were sampled. Questionnaires were used to collect primary data. The findings indicated that there exists a strong positive and significant relationship between critical path methods and Gantt chart techniques and project performance of registered building works contractors. The study concluded that through critical path method, project managers are able to accurately determine the timelines of various project activities and through Gantt charts project managers are able to track project outcome on time. Obegi and Kimutai's (2017) studied effect of resource scheduling on the performance of NGO projects in Nairobi City County. Results showed that effective resource scheduling is one of the central project success factors. The study findings highlighted that the occasional monitoring of budget to assess expenses vis-à-vis project budgets, project changes during implementation, equipped project staff, and periodic project performance assessment. The project performance was influenced by resource scheduling because it ensured that the project was operating within budget and the changes are made to adapt to the dynamic nature of the projects, and the staff had what was needed for the job.

Mogoa and Muchelule (2023) analyzed the effect of project scheduling management on performance of construction projects in Mombasa County, Kenya. The target was 175 contractors. This study adopted a cross-sectional survey design. The study concluded that tasks dependencies of the project are effectively considered by the project leadership during project scheduling. Also Gantt Chart is prominently used by the project team to visualize project tasks dependencies and the construction projects task dependencies are well documented and that the critical path of the project task dependence is focused with resources. The schedule of the project tasks is communicated frequently to the project team and communication is centralized throughout the project life cycle as well as internal communication amongst the project team is always promoted throughout projects' life cycles.

Ronoh and Kirui (2020) investigated the influence of resource scheduling on the performance of residential construction projects in Nairobi City County, Kenya. The target was 79 gated community residential construction projects. Data was collected using questionnaires. The study found a significant relationship between resource scheduling and project performance. The study concluded that the proper allocation of project equipment facilitates smooth operations and successful project completion. The study recommended that project managers, contractors, and supervisors should ensure they clearly set roles for the individuals, teams, tasks, or departments to improve the performance of the project.

### **User Acceptability and Project Performance**

Alotaibi (2019) sought to find out the PM practices used in Saudi Arabia. The study employed a questionnaire to collect data from 276 project managers and contractors. The study concluded that although there are a variety of reasons for cost overrun and project failure, the acceptance and use of Project Management Practices improve perceived project success, and reduce project failures. Kokkinidis, Patronas, Goudos, Maikantis, and Nikolaidis (2023) examined the impact of educational software characteristics on software performance in Greece. Data was obtained from 236 users. The findings suggested that user acceptance and performance appraisal are exceptionally interrelated in regard to educational applications. The study further argued that user acceptance is positively related to the performance of educational software.

Azeroual, Saake, Abuosba and Schöpfel (2020) studied the extent to which quality of data represent a critical success factor for the user acceptance in German universities. The study was conducted with 240 studies. Findings showed that user acceptance is a common measure of project success. The respondents felt that the IT project is easy to use. Mutiso (2020) sought to establish the effect of IS implementation on user performance in the county government of Machakos, Kenya. This study used a descriptive designs and explanatory study designs. The population target of the study was 464 employees from Machakos county government headquarter offices. Primary data was collected using questionnaires. The study revealed that IS ability is to provide high quality information, which reduces errors and resolve performance problems when they occur. The study concluded that Information System is a major factor influencing user performance in Machakos county government, Kenya. Mukhongo (2020) analyzed the determinants of implementation of information technology projects by commercial banks in Kenya. The study adopted a cross-sectional survey design and primary data was collected using questionnaires from 40 licensed and operational commercial banks. The target was 29,326 staff members. Questionnaires were used to collect data. Findings showed that user involvement was found to have a positive influence on effective implementation of IT projects. The study concluded that user support and involvement are critical in realizing the envisaged results of successfully implementing IT projects.

### **RESEARCH METHODOLOGY**

The researcher adopted a descriptive survey design. Lewis, Saunders and Thornhill (2009) points out that descriptive research designs are characterized by systematic collections of information from subjects of a given population through questionnaire. The study targeted 15 refugee humanitarian projects in Nairobi County who are the implementing partners of UNHCR. These projects formed the unit of analysis while the unit of observation was 250 key technical project personnel including project managers, project officers and monitoring officers as the respondents of this study who are involved in relief aid projects of refugees and asylum seekers. Although there are many NGOs in the county, the study only focused on refugee projects that have Headquarter operational centers in Nairobi County Kenya. This way, the researcher assessed the use of Project Management Information Systems in project scheduling, resource management, progress monitoring and data management for completing projects within set time, budget and



scope in number of coverage population. The sample size of 154 respondents was determined using Yamane 1967 sampling formula. In this study, stratified random sampling was used. Questionnaires were used to collect data as the primary data collection tools.

A pilot test was conducted with 15 project managers representing 10% of the sample as recommended by Orodho (2014). Data collected during the pilot test was used to measure questionnaire validity and reliability.

Data was analyzed using SPSS Version 28. Descriptive and inferential statistics were used. Descriptive statistics was used to meaningfully describe the distribution of results depending on the variables in the study and the scale of measurements used. It expressed the variables in frequencies, percentages, means and standard deviation. Inferential statistics was used including correlation and regression analysis to determine dimensions of relationship of variables. Findings were tabulated.

## FINDINGS AND DISCUSSIONS

### Descriptive Analysis

In this section the study presents findings on Likert scale questions where respondents were asked to indicate their level of agreement with various statements that relate with the effect of project management information system on performance of refugee humanitarian projects in Nairobi City County, Kenya. They used a 5-point Likert scale where 1-strongly disagree, 2-disagree, 3-moderate, 4-agree, 5-strongly agree.

### Resource Management

The first objective of the study was to assess the effect of resource management on performance of refugee humanitarian projects in Nairobi City County, Kenya. Respondents were therefore asked to indicate the level of agreement with listed statements related to project resource management. Table 1 presents summary of the findings obtained.

**Table 1: Descriptive Analysis on Resource Management**

Statement	Mean	Std. Dev.
The organization conducts extensive training programs for its employees in all aspects of quality	3.983	0.410
The organization employs resource optimization strategies to minimize wastage and maximize efficiency in resource utilization.	3.949	1.035
Project material is availed as and when requested	3.905	0.705
There is thorough planning of all the resources used in carrying out it projects	3.852	0.154
The project staff receive performance feedback from the project manage regularly	3.779	1.284
Project managers utilize project funds effectively	3.742	0.111
The roles, responsibilities and competency of the project are defined when employees sign for agreement	3.685	0.446
Project managers use cost budgeting as a of tool of project cost management	3.601	0.211
There is always adequate and efficient allocation of resources needed in implementing projects	3.584	0.980
<b>Aggregate Score</b>	<b>3.787</b>	<b>0.593</b>

The study found that the respondents agreed on average that the organization conducts extensive training programs for its employees in all aspects of quality (M= 3.983, SD= 0.410); that the organization employs resource optimization strategies to minimize wastage and maximize efficiency in resource utilization (M= 3.949, SD= 1.035) that project material is availed as and when requested (M= 3.905, SD= 0.705). They also agreed that there is thorough planning of all

the resources used in carrying out its projects ( $M= 3.852$ ,  $SD= 0.154$ ); that the project staff receive performance feedback from the project manager regularly ( $M= 3.779$ ,  $SD= 1.284$ ); and that project managers utilize project funds effectively ( $M= 3.742$ ,  $SD= 0.111$ ). They were further in agreement that the roles, responsibilities and competency of the project are defined when employees sign for agreement ( $M= 3.685$ ,  $SD= 0.446$ ); that project managers use cost budgeting as a tool of project cost management ( $M= 3.601$ ,  $SD= 0.211$ ); and that there is always adequate and efficient allocation of resources needed in implementing projects ( $M= 3.584$ ,  $SD= 0.980$ ).

The findings show that the respondents agreed on average that resource management affects performance of refugee humanitarian projects in Nairobi City County, Kenya as shown by an aggregate mean of 3.787 ( $SD= 0.593$ ). The finding aligns closely with literature by Sushma et al. (2017) emphasized the crucial role of resource planning and allocation in minimizing project delays and optimizing project outcomes, particularly within the construction industry. Additionally, Nyakarengo and Wanjiku (2023) highlighted the positive effect of efficient management of project resources, including human, financial, and physical resources, on project performance. These studies collectively suggest that effective resource management practices, such as those facilitated by project management information systems, can contribute significantly to enhancing the performance of humanitarian projects by ensuring optimal resource utilization and minimizing wastage, ultimately leading to improved project outcomes.

### User Acceptability

The second objective of the study was to evaluate the effect of PMIS user acceptability on performance of refugee humanitarian projects in Nairobi City County, Kenya. Respondents were asked to indicate their level of agreement with listed statements related to user Acceptability. Table 2 presents summary of the findings obtained.

**Table 2: Descriptive Analysis on User Acceptability**

STATEMENT	Mean	Std. Dev.
My system users usually hold consultations with relevant stakeholders on new projects	4.001	0.194
The staff have requisite end-user experience on system related projects.	3.988	1.133
I find it easy to get [the system] to do what I want to do in performing work-related activities	3.985	0.34
The staff are adequately trained on new industry wide projects	3.882	0.195
Using the system in my work enable me to accomplish my tasks more quickly.	3.874	1.102
My interaction with [the system] at work is clear and understandable.	3.696	0.627
System users always participate in project activities aimed at actualizing new projects	3.609	0.366
The information disseminated to users is of high quality	3.605	0.100
<b>Aggregate Score</b>	<b>3.830</b>	<b>0.507</b>

The findings in Table 2 show that the respondents agreed on average that their system users usually hold consultations with relevant stakeholders on new projects ( $M= 4.001$ ,  $SD= 0.194$ ); that the staff have requisite end-user experience on system related projects ( $M= 3.988$ ,  $SD= 1.133$ ); and that find it easy to get [the system] to do what they want to do in performing work-related activities ( $M= 3.985$ ,  $SD= 0.340$ ). They also agreed that the staff are adequately trained on new industry wide projects ( $M= 3.882$ ,  $SD= 0.195$ ); that using the system in their work enable them to accomplish their tasks more quickly. ( $M= 3.874$ ,  $SD= 1.102$ ); that their interaction with

[the system] at work is clear and understandable ( $M= 3.696$ ,  $SD= 0.627$ ); that system users always participate in project activities aimed at actualizing new projects ( $M= 3.609$ ,  $SD= 0.366$ ); and that the information disseminated to users is of high quality ( $M= 3.605$ ,  $SD= 0.100$ ).

The findings supported by an aggregate mean of 3.830 ( $SD= 0.507$ ) show that the respondents agreed on average that PMIS user acceptability affects performance of refugee humanitarian projects in Nairobi City County, Kenya. The finding is well-supported by insights from the literature by Alotaibi (2019) who highlighted the importance of user acceptance of project management practices in improving perceived project success and reducing project failures. Similarly, Kokkinidis et al. (2023) emphasized the interrelationship between user acceptance and performance appraisal, particularly in educational software applications. These studies collectively suggest that ensuring the user acceptability of PMIS, possibly through user involvement and support, can play a crucial role in enhancing the performance of humanitarian projects by promoting effective utilization of project management tools and fostering stakeholder satisfaction and engagement.

### Project Performance

The main objective of the study was to assess the effect of project management information system on performance of refugee humanitarian projects in Nairobi City County, Kenya. Respondents asked to indicate the extent to which they agree with statements on project performance aspects. Table 3 presents summary of the findings obtained.

**Table 3: Descriptive Analysis on Project Performance**

Statements	Mean	Std. Dev.
The project was completed within the planned timeframe.	3.921	0.337
Timely delivery of project outputs positively impacted overall project success.	3.871	0.889
The number of populations reached accurately reflects the project's impact and reach	3.868	0.116
Delays in project delivery were minimal and manageable.	3.792	0.185
The project successfully reached the intended number of beneficiaries.	3.742	0.786
The project outputs met the predetermined quality standards.	3.728	0.953
The project effectively targeted vulnerable populations within the community.	3.712	0.904
The quantity of project deliverables effectively met the needs of the target population.	3.641	0.805
The project delivered the expected quantity of services as per the plan.	3.581	1.308
<b>Aggregate Score</b>	<b>3.762</b>	<b>0.698</b>

The findings show that the respondents agreed that project was completed within the planned timeframe ( $M= 3.921$ ,  $SD= 0.337$ ); that timely delivery of project outputs positively impacted overall project success ( $M= 3.871$ ,  $SD= 0.889$ ); and that the number of populations reached accurately reflects the project's impact and reach ( $M= 3.868$ ,  $SD= 0.116$ ). The study also agrees that delays in project delivery were minimal and manageable ( $M= 3.792$ ,  $SD= 0.185$ ); that the project successfully reached the intended number of beneficiaries ( $M= 3.742$ ,  $SD= 0.786$ ); and that the project outputs met the predetermined quality standards. ( $M= 3.728$ ,  $SD= 0.953$ ). They further agreed that the project effectively targeted vulnerable populations within the community ( $M= 3.712$ ,  $SD= 0.904$ ); that the quantity of project deliverables effectively met the needs of the

target population ( $M= 3.641$ ,  $SD= 0.805$ ); and that the project delivered the expected quantity of services as per the plan ( $M= 3.581$ ,  $SD= 1.308$ ).

The findings indicating respondents' agreement on various aspects of project delivery and impact align closely with literature such as Muute (2020) who explored project planning practices and performance within the construction industry and highlighted the importance of human resource planning, time management, and adherence to project budgets in ensuring timely project completion and delivery. Similarly, Nyakarengo and Wanjiku (2023) examined the influence of project resources management on the performance of agricultural projects and emphasized the positive effect of efficient management of resources, including human and financial resources, on timely project completion, satisfaction of project beneficiaries, and improved project deliverables. These studies collectively suggest that effective project planning, resource management, and adherence to predetermined quality standards are critical factors contributing to the successful delivery and impact of humanitarian projects, possibly facilitated by the implementation of robust project management information systems.

### Correlation Analysis

Correlation analysis measures the strength and direction of the linear relationship between two variables. By computing correlations, the study can determine whether there is a significant relationship between the variables and the direction of the relationship (positive or negative). The results of the correlation analysis provide valuable information for conducting regression analysis, as it helps to identify the variables that have a significant impact on performance of refugee humanitarian projects in Nairobi City County, Kenya and the nature of the relationship. If the correlation values are  $r = \pm 0.1$  to  $\pm 0.29$  then the relationship between the two variables is small, if it is  $r = \pm 0.3$  to  $\pm 0.49$  the relationship is medium, and when  $r = \pm 0.5$  and above there is a strong relationship between the two variables under consideration. Table 4 presents the findings obtained.

**Table 4: Correlation Analysis**

		Project performance	Resource Management	User acceptability
Project performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	138		
Resource Management	Pearson Correlation	.761**	1	
	Sig. (2-tailed)	.000		
	N	138	138	
User acceptability	Pearson Correlation	.810**	.163	1
	Sig. (2-tailed)	.000	.079	
	N	138	138	138

The correlation analysis revealed significant relationships between project performance and each of the variables studied. In this study, the Pearson correlation was used.

The study found that resource management exhibited a strong positive correlation with project performance ( $r = 0.761$ ,  $p < 0.05$ ), indicating that efficient allocation and management of resources are associated with better project performance. This finding is supported by studies such as Sushma et al. (2017) and Nyakarengo and Wanjiku (2023), which highlighted the positive impact of resource planning and allocation on project success.

Finally, user acceptability demonstrated the strongest positive correlation with project performance ( $r = 0.810$ ,  $p < 0.05$ ), indicating that higher levels of user acceptance of project management practices and tools are associated with better project performance. This finding is consistent with insights from Alotaibi (2019) and Kokkinidis et al. (2023), which emphasized the positive impact of user acceptance on perceived project success and the performance of educational software applications.

### Multiple Regression Analysis

The study assessed the effect of project management information system on performance of refugee humanitarian projects in Nairobi City County, Kenya. Therefore, using multiple regression analysis, the study examined the combined effect of project management information system (resource management and PMIS user acceptability) on performance of refugee humanitarian projects in Nairobi City County, Kenya. The findings were presented in three tables discussed in sub-sections below.

### Model Summary

The study used model summary to test the amount of variation in the dependent variable as a result of changes in the independent variables. The study tested the amount of variation in performance of refugee humanitarian projects in Nairobi City County, Kenya as a result of changes in resource management, and PMIS user acceptability.

**Table 5: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.844 <sup>a</sup>	.712	.703	.45801

a. Predictors: (Constant), User acceptability and Resource Management

The model summary indicates that the model, which includes user acceptability, and resource management as predictors accounts for a substantial proportion of the variance in project performance, with an R square value of 0.712. This means that approximately 71.2% of the variability in project performance can be explained by the combination of these predictors. The adjusted R square value of 0.703 suggests that the model retains its predictive power even after adjusting for the number of predictors and sample size. Overall, these findings indicate that the model, incorporating user acceptability and resource management, provides a reasonably good fit for predicting project performance within the context of the study.

### Analysis of Variance

The study used analysis of variance to test the significance of the model. Significance was tested at 95% confidence interval.

**Table 6: ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	68.872	2	34.44	166.38	.000 <sup>b</sup>
	Residual	27.900	135	.207		
	Total	96.772	137			

a. Dependent Variable: Project performance

b. Predictors: (Constant), User acceptability and Resource Management

The ANOVA results indicate that the regression model, which includes user acceptability, and resource management as predictors, is statistically significant in predicting project performance

( $F = 166.38$ ,  $p < 0.05$ ). This suggests that there is a significant relationship between the combination of these predictors and project performance. Thus, the overall model is deemed highly significant in explaining variations in project performance.

### Coefficients

The coefficients findings unveil the influence of each predictor variable on project performance within the regression model, with each variable demonstrating a distinct significance.

**Table 7: Beta Coefficients of Study Variables**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.311	.229		1.358	.177
1 Resource Management	0.368	.084	.267	4.381	.002
User acceptability	0.411	.078	.369	5.269	.000

a. Dependent Variable: Project performance

From the coefficients in Table 8, the following regression model was fitted;

$$Y = 0.311 + 0.368 X_1 + 0.411 X_2$$

Resource management exhibits a coefficient value of 0.368 ( $p = 0.002$ ), indicative of a significant positive impact on project performance. This finding implies that efficient resource allocation and management play a critical role in optimizing project success, particularly within the construction industry. This resonates with insights from Sushma et al. (2017), highlighting the importance of resource management practices in ensuring timely project completion and cost-effectiveness.

User acceptability emerges as the most influential predictor with a coefficient value of 0.411 ( $p < 0.001$ ), indicating a highly significant positive relationship with project performance. This implies that the acceptance and effective utilization of project management practices and tools significantly contribute to project success. Supported by Alotaibi's study (2019), this underscores the importance of user involvement and satisfaction in driving superior project outcomes and the successful implementation of software applications.

### Conclusions

The first research question was "To what extent does resource management affect the performance of refugee humanitarian projects in Nairobi City County, Kenya?" and it guided the investigation into the relationship between resource management practices and project performance. The study found that resource management significantly influences project performance, with an emphasis on efficient allocation and utilization of resources as well as resource optimization strategies to minimize wastage and maximize efficiency. Therefore, it is concluded that effective resource management positively impacts the success of humanitarian projects in Nairobi City County, Kenya.

The research question "To what extent does PMIS user acceptability affect performance of refugee humanitarian projects in Nairobi City County, Kenya?" guided the study into the influence of user acceptability of Project Management Information Systems (PMIS) on project outcomes. The study identified a significant relationship between PMIS user acceptability and project performance, highlighting the importance of user satisfaction and engagement in utilizing project management tools effectively. Interaction with PMIS needs to be clear and

understandable to end-users to ensure quality information dissemination. Hence, it is concluded that PMIS user acceptability plays a crucial role in enhancing the performance of humanitarian projects in Nairobi City County, Kenya.

### Recommendations

Based on the findings that resource management significantly affects the performance of refugee humanitarian projects in Nairobi City County, Kenya, several recommendations can be made to enhance resource management practices. Firstly, organizations involved in refugee humanitarian projects should prioritize comprehensive training programs for employees to ensure they possess the necessary skills and knowledge for effective resource utilization. Additionally, implementing resource optimization strategies to minimize wastage and maximize efficiency should be a key focus area. This may involve regular assessments of resource needs, transparent planning processes, and the adoption of innovative technologies to streamline resource allocation. Moreover, project managers should ensure clear roles, responsibilities, and competency requirements are defined for project staff, and cost budgeting should be integrated as a tool for effective project cost management. By implementing these recommendations, organizations can improve resource management practices and ultimately enhance the performance of refugee humanitarian projects in Nairobi City County, Kenya.

To improve PMIS user acceptability and consequently enhance the performance of refugee humanitarian projects in Nairobi City County, Kenya, several recommendations can be provided. Firstly, organizations should prioritize user consultations and involvement in the design and implementation of PMIS to ensure systems meet user needs and preferences. Adequate training and support programs should be implemented to enhance user competency and confidence in utilizing PMIS effectively for work-related activities. Moreover, organizations should focus on enhancing the usability and clarity of PMIS interfaces to promote user understanding and engagement. Regular feedback mechanisms should be established to solicit user input and address any usability issues or concerns promptly. By implementing these recommendations, organizations can improve PMIS user acceptability and foster a supportive environment for project success in Nairobi City County, Kenya.

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