

Exploring the Role of Mobile Money in Advancing Financial Inclusion within 3–5 Star Hotels in Nairobi, Kenya: Trends, Opportunities, and Operational Barriers

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**Abstract:** The proliferation of mobile money services has significantly reshaped financial landscapes across sub-Saharan Africa, offering novel pathways toward enhanced financial inclusion (Demirgüç-Kunt et al., 2018). In Kenya, platforms such as M-Pesa have been pivotal in bridging gaps in access to financial services, particularly within sectors traditionally reliant on cash-based transactions. This study investigates the role of mobile money in advancing financial inclusion among 3–5 star hotels in Nairobi, Kenya, with particular emphasis on adoption trends, emerging opportunities, and operational barriers. Drawing on the Technology Acceptance Model (TAM) (Davis, 1989) and Financial Inclusion Theory (Sarma, 2008), the research examines how perceptions of usefulness and ease of use shape the uptake of mobile money technologies and how these systems contribute to expanding financial access within the hospitality industry. Employing a mixed-methods research design, the study integrates quantitative survey data with qualitative insights from hotel managers to offer a nuanced understanding of mobile money integration. Initial findings suggest that mobile money adoption has streamlined payment processes, improved liquidity management, and expanded the client base by offering more flexible payment options. Nevertheless, the research identifies persistent challenges, including cybersecurity vulnerabilities, system interoperability issues, regulatory compliance burdens, and operational disruptions, which collectively constrain the full realization of mobile money's potential in the hotel sector. The study contributes to the growing body of literature on digital financial services by illustrating the dual role of mobile money as both a technological innovation and a financial inclusion mechanism within an urban hospitality context. The findings offer actionable insights for hotel operators, mobile service providers, and policymakers seeking to harness digital payment platforms to foster greater operational resilience and inclusive economic growth.

**Keywords:** Mobile Money; Financial Inclusion; Technology Acceptance Model; Hospitality Industry; 3–5 Star Hotels; Nairobi; Digital Financial Services; Operational Barriers

## 1.0 Introduction

Financial inclusion has emerged as a cornerstone of sustainable economic development, underpinning efforts to reduce poverty, promote equitable growth, and enhance the resilience of underserved populations. The World Bank (2022) estimates that over 1.4 billion adults globally remain unbanked, with Sub-Saharan Africa bearing a disproportionate share of this financial exclusion. In response, digital financial services particularly mobile money has gained global recognition as effective tools for expanding access to financial systems, especially in regions where traditional banking infrastructure is limited or inaccessible (World Bank, 2022; GSMA, 2021).

East Africa has positioned itself as a global leader in mobile money adoption, with Kenya often cited as a model for mobile financial innovation. Platforms such as M-Pesa have revolutionized the way individuals and businesses engage in financial transactions, contributing significantly to financial inclusion across multiple sectors (Jack & Suri, 2014). The Kenyan government, through its Vision 2030 development blueprint, has explicitly recognized the role of mobile and digital technologies in fostering inclusive economic growth and improving service delivery across industries, including tourism and hospitality (Government of Kenya, 2018).

Mobile money usage in Kenya has become deeply embedded in everyday economic life. While much of the existing research has focused on the impact of mobile money on low-income households, micro-enterprises, and

informal economies, less attention has been paid to its adoption within formal business environments such as the hospitality industry. This sector, particularly 3–5 star hotels in urban centers like Nairobi, plays a vital role in Kenya's economy, contributing to employment, foreign exchange earnings, and national GDP. The study titled *Exploring the Role of Mobile Money in Advancing Financial Inclusion within 3–5 Star Hotels in Nairobi, Kenya: Trends, Opportunities, and Operational Barriers* addresses this gap by examining how mobile money is being integrated into hotel operations, what opportunities it presents for financial inclusion, and the operational challenges encountered in the process.

Despite the rapid growth of mobile money services in Kenya, research has largely focused on their impact within informal economies, rural communities, and micro-enterprises, leaving a significant knowledge gap regarding their integration into formal business sectors such as the hospitality industry. Specifically, while mobile money platforms like M-Pesa have become ubiquitous in everyday transactions, the extent to which 3–5 star hotels in Nairobi have adopted these technologies, and the resulting implications for financial inclusion, remains underexplored. This gap is critical given the role of the hospitality sector as a major contributor to Kenya's GDP, employment, and international competitiveness (Government of Kenya, 2018).

Furthermore, understanding the adoption and operational challenges of mobile money in upscale hotels is increasingly important as consumer expectations shift toward cashless and digital payment options, particularly in the aftermath of the COVID-19 pandemic (World Bank, 2022). Hotels that fail to adapt to these technological trends risk alienating a growing segment of digitally-savvy customers and may struggle to optimize operational efficiency and financial transparency.

At the same time, the integration of mobile money services within formal hospitality settings raises complex operational, regulatory, and cybersecurity concerns. Without a clear understanding of these barriers and the opportunities mobile money presents, both hotel operators and policymakers may miss crucial avenues for advancing digital financial inclusion within one of the most visible and economically significant sectors of the Kenyan economy.

By investigating mobile money usage within this underexplored context, the study contributes to a more holistic understanding of digital financial inclusion. It highlights key trends such as increased adoption of mobile payments for reservations and service transactions, emerging opportunities for enhanced guest convenience and revenue tracking, and persistent barriers including regulatory compliance, interoperability issues, and cybersecurity risks. These findings are critical not only for stakeholders in Kenya's hospitality sector but also for broader policy and industry efforts aimed at strengthening the role of mobile money in driving inclusive and resilient economic development.

This research is therefore essential in filling a critical gap in the literature by systematically exploring trends, opportunities, and operational barriers associated with mobile money usage in Nairobi's 3–5-star hotel industry. The findings are expected to inform hotel management practices, guide policymakers in creating enabling regulatory environments, and contribute to the broader discourse on digital financial inclusion strategies in developing economies.

### 1.1 Research Objective and Contribution

The primary objective of this study is to critically examine how mobile money adoption advances financial inclusion within 3–5 Star hotels in Nairobi, Kenya, by identifying prevailing trends, emerging opportunities, and operational barriers associated with its use in the hospitality sector. This research contributes to the growing body of knowledge on digital financial inclusion by extending analysis beyond informal and rural contexts to a formal, urban service industry critical to Kenya's economy. By focusing on 3–5 star hotels, an often overlooked sector in mobile money research, the study provides new empirical insights into how digital financial technologies are reshaping service delivery, financial practices, and customer engagement in the hospitality industry. Furthermore, the findings offer actionable recommendations for hotel operators, policymakers, and financial service providers seeking to optimize mobile money integration, thus promoting greater economic inclusion, operational resilience, and technological advancement within Kenya's digital economy

## 2.0 Literature Review

### 2.1 Mobile Money and Financial Inclusion

Mobile money has been globally recognized as a transformative tool for enhancing financial inclusion, particularly in developing economies where traditional banking infrastructure remains limited. According to the World Bank (2022), digital financial services, including mobile money, have significantly expanded access to financial systems, allowing underserved populations to engage in saving, borrowing, and secure transactions. GSMA (2021) further emphasizes that Sub-Saharan Africa accounts for nearly half of all mobile money accounts worldwide, with services like M-Pesa in Kenya leading the movement.

Research by Jack and Suri (2014) demonstrated that mobile money services not only facilitate everyday transactions but also contribute to poverty reduction and risk mitigation among users. Subsequent studies have reinforced these findings, highlighting how mobile financial services lower transaction costs, increase financial resilience, and open new economic opportunities for individuals and businesses (Demirgüç-Kunt et al., 2018). However, most literature focuses on low-income households, rural settings, or micro-enterprises, leaving a research gap concerning the integration of mobile money within formal, urban industries such as hospitality.

### 2.2 Mobile Money Adoption in Business Sectors

While early research predominantly addressed individual-level adoption, recent studies have explored how businesses leverage mobile money to improve operational efficiency, enhance customer experience, and secure revenue streams. Munyegera and Matsumoto (2018) found that mobile money use among small and medium enterprises (SMEs) led to increased sales volumes and improved financial management practices. In the Kenyan context, Gikandi and Bloor (2010) noted that businesses adopting mobile payment platforms experienced greater financial transparency and expanded their customer base.

Despite these advantages, businesses also face significant challenges related to mobile money adoption, including concerns over data security, transaction limits, regulatory compliance, and interoperability between different financial platforms (Kikulwe, Fischer, & Qaim, 2014). These operational barriers are particularly pronounced in sectors requiring high levels of financial accountability and customer service excellence, such as the hospitality industry.

### 2.3 Mobile Money and the Hospitality Sector

The hospitality industry is a major economic contributor in many emerging markets, yet studies focusing on technological innovations in this sector especially mobile money adoption are limited. According to Law, Leung, and Buhalis (2019), digital payment systems have become essential components of modern hotel management, improving operational efficiency and enhancing guest satisfaction. In Kenya, mobile money's penetration into the hospitality sector is seen as an opportunity to cater to a growing tech-savvy local and international clientele (Kenya Tourism Board, 2020).

Nevertheless, barriers persist. Hotels must navigate cybersecurity risks, ensure seamless integration of mobile money with other financial systems, and train staff adequately to manage new technologies (Adukaite et al., 2017). Moreover, upscale hotels, such as 3–5 star establishments, face unique challenges related to customer expectations for premium service quality and data security, raising questions about the readiness of such institutions to fully embrace mobile money solutions.

### 2.4 Theoretical Framework

This study was anchored on two key theories: Technology Acceptance Model (TAM) and Financial Inclusion Theory.

### 2.4.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model was proposed by Davis (1986; 1989). It explains user adoption of technology based on two key constructs: *Perceived Usefulness* (PU), the degree to which a person believes that using a particular system would enhance their job performance and *Perceived Ease of Use* (PEOU) the degree to which a person believes that using a system would be free from effort. In the context of this study, TAM will be used to understand the acceptance and integration of mobile money technologies by 3–5 star hotels in Nairobi. The model explains how perceived benefits and simplicity of mobile money influence adoption rates within hotel operations. The relationship between system qualities (external factors) and the likelihood of system use is examined by the TAM theory in regard to perceived usefulness and ease of use (Legris et al., 2003). Based on the theory of reasoned action (TRA), TAM suggests that behavioral intention, attitude toward use, perceived ease of use, and perceived use would all predict real technology usage (Gbongli et al., 2019).

### 2.4.2 Financial Inclusion Theory

Financial Inclusion Theory emphasizes that economic growth and poverty reduction are greatly influenced by equitable access to financial services. It highlights that when individuals and businesses (such as hotels) gain access to affordable financial services — savings, payments, insurance, and credit, they are better positioned to participate in economic activities and improve their financial wellbeing. In this study, Financial Inclusion Theory supports the view that mobile money platforms facilitate financial inclusion for hotels by simplifying transactions, promoting customer reach, and reducing operational barriers traditionally associated with banking. According to this theory, wealth creation and economic expansion depend on having access to financial services via technology (Ndlovu & Toerien, 2020). According to Coulibaly (2021), McKinnon and Shaw developed a theoretical framework in 1973 that contributed to the explanation of how financial liberalization induced growth.

## 2.5 Research Gap

Although existing literature acknowledges the transformative impact of mobile money across various sectors, there remains a notable gap regarding its adoption, benefits, and challenges within formal, high-end service industries like 3–5 star hotels in Nairobi. The study *Exploring the Role of Mobile Money in Advancing Financial Inclusion within 3–5 Star Hotels in Nairobi, Kenya: Trends, Opportunities, and Operational Barriers* seeks to address this gap by providing empirical evidence on mobile money's role in advancing financial inclusion in Kenya's premium hospitality sector. This contribution is crucial for broadening the understanding of digital financial ecosystems and informing policy and practice within the formal economy.

## 2.6 Research Distinctiveness and Contribution to the Field

While extensive research has documented the transformative impact of mobile money on financial inclusion among low-income populations, rural communities, and micro-enterprises (Demirgüç-Kunt et al., 2018; Jack & Suri, 2014), relatively little attention has been paid to its adoption and operationalization within formal, high-value sectors such as the hospitality industry. Most prior studies have concentrated on informal economic activities or small-scale business operations, often overlooking how mobile money technologies are reshaping formal service industries that cater to both domestic and international clientele.

This study differs from previous research in several important ways. First, it shifts the focus from informal sectors to the formal, structured environment of 3–5 star hotels in Nairobi, which represent a critical and economically significant part of Kenya's tourism and service economy. By doing so, it addresses a significant gap in the literature and contributes to a more nuanced understanding of how mobile money can drive financial inclusion across different sectors of the economy.

Second, unlike earlier studies that predominantly examine either the benefits or the challenges of mobile money adoption in isolation (Gikandi & Bloor, 2010; Kikulwe, Fischer, & Qaim, 2014), this research adopts a comprehensive approach by concurrently analyzing prevailing trends, emerging opportunities, and operational barriers within the hospitality context. This integrated perspective allows for a more holistic understanding of the dynamics influencing mobile money adoption and its implications for business innovation and customer

experience.

Third, by focusing on high-end hotels, the study addresses operational complexities such as heightened cybersecurity demands, regulatory compliance, and client expectations for premium service standards that are typically absent from discussions centered on low-cost, informal, or rural enterprises. These insights are critical for informing sector-specific strategies aimed at fostering digital financial inclusion within sophisticated, service-oriented industries.

Finally, the findings are intended not only to advance theoretical knowledge but also to offer practical recommendations for hotel managers, technology providers, and policymakers. The aim is to optimize the integration of mobile money systems, enhance operational efficiency, and better meet the evolving needs of digitally connected consumers in Kenya's vibrant hospitality market.

Through these distinct contributions, the study offers a broader and deeper understanding of the role of mobile money in advancing financial inclusion and digital transformation within the formal economy of emerging markets.

### 3.0 Methodology

This study adopted a mixed-methods research design to comprehensively explore the role of mobile money in advancing financial inclusion within 3–5 star hotels in Nairobi, Kenya. The combination of qualitative and quantitative approaches enabled a nuanced understanding of both the operational realities and strategic perspectives surrounding mobile money adoption in the hospitality sector. A concurrent triangulation design was employed, allowing the collection of both quantitative and qualitative data within the same timeframe. This design facilitated the cross-validation and integration of findings to ensure a robust analysis of the trends, opportunities, and operational barriers associated with mobile money usage in formal hotel operations. The study targeted 3–5 star hotels located in Nairobi County, as classified by the Tourism Regulatory Authority (TRA). These hotels were selected due to their strategic role in Kenya's tourism sector and their potential for digital financial integration. A purposive sampling technique was used to identify hotel managers, finance officers, front office supervisors, and IT staff as key informants due to their direct involvement with financial and technological systems.

Quantitative data were collected from a sample of 25 hotels, using structured questionnaires administered to a total of 100 respondents. The sample was designed to capture diversity in hotel size, ownership (local vs. international), and customer base.

Quantitative data were collected using a structured questionnaire consisting of closed-ended items designed to assess mobile money adoption rates, transaction volumes, integration with other systems, and perceived benefits. The questionnaire was pilot-tested with 10 respondents to ensure clarity and reliability.

Qualitative data were obtained through semi-structured interviews conducted with 15 key hotel personnel. The interview guide covered topics such as operational challenges, customer preferences, regulatory concerns, and future strategies related to mobile money. All interviews were audio-recorded (with participant consent), transcribed verbatim, and thematically coded.

Quantitative data were analyzed using descriptive statistics (frequencies, means, standard deviations) and inferential statistics (correlation analysis) using SPSS software. This helped identify patterns and relationships between variables such as hotel category, level of mobile money integration, and perceived customer satisfaction.

Qualitative data were analyzed thematically using NVivo software. Coding was both deductive (based on the research questions) and inductive (emerging from the data), allowing for a detailed exploration of perceived opportunities and barriers.

### 3.1 Ethical Considerations

Ethical approval was obtained from the relevant institutional review board prior to data collection. Participants were informed about the purpose of the study, assured of confidentiality, and provided written consent. All data were anonymized and stored securely to protect participant identity.

### 4.0 Results

This section presents the quantitative and qualitative findings from the study on mobile money adoption and financial inclusion in 3–5 Star hotels in Nairobi, Kenya. The results are organized around the three core areas of investigation: trends, opportunities, and operational barriers.

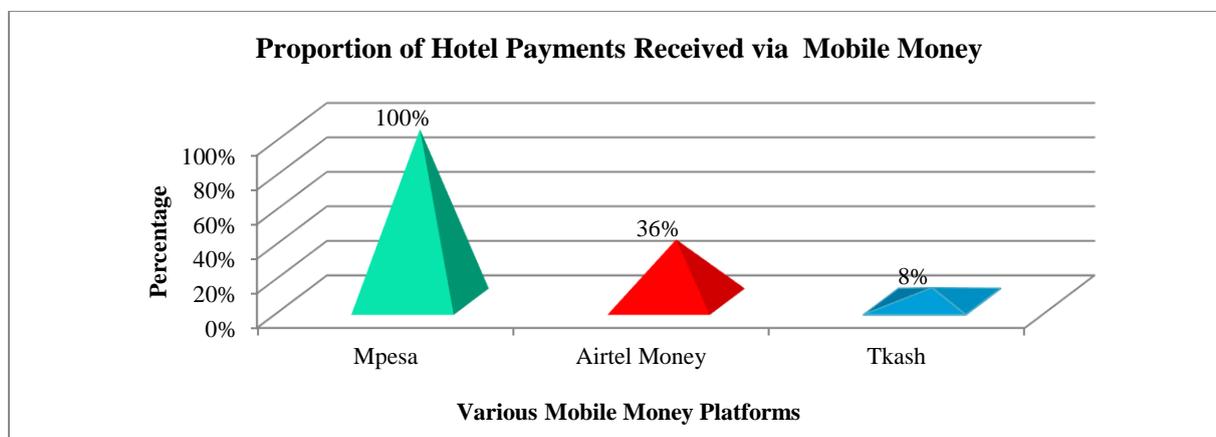
#### 4.1 Mobile Money Adoption Trends

Out of the 25 participating hotels, 92% (n = 23) reported accepting mobile money payments from guests, with M-Pesa cited as the most widely used platform (100% of adopters), followed by Airtel Money (36%) and T-Kash (8%). Table 1 summarizes the prevalence of mobile money platforms across the surveyed hotels.

**Table 1: Adoption of Mobile Money Platforms in among 3-5-star rates hotels**

Mobile Money Platform	Adoption Rate (%)
M-Pesa	100%
Airtel Money	36%
T-Kash	8%

In terms of transaction volumes, 68% of the hotels indicated that mobile money accounted for between 30% and 50% of all customer payments, suggesting a strong but partial shift toward digital transactions (Figure 1).



**Figure 1: Proportion of Hotel Payments Received via Various Mobile Money**

*(actual bar chart.)*

#### 4.2 Perceived Opportunities of Mobile Money

Survey respondents ranked various benefits of mobile money on a Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Table 2 presents the mean ratings.

Table 2: Perceived Benefits of Mobile Money Integration

Opportunity	Mean Score (M)	Standard Deviation (SD)
Faster transaction processing	4.56	0.61
Greater financial transparency	4.28	0.75
Increased customer satisfaction	4.15	0.68
Reduction in cash handling risks	4.02	0.79
Easier financial reconciliation	4.00	0.73

Faster payment processing received the highest mean score (M = 4.56, SD = 0.61).

### 4.3 Contribution of Mobile Money to Hotel Revenue

In terms of revenue contribution, 68% of hotels indicated that mobile money transactions accounted for between 30% and 50% of their total customer payments, while 24% reported mobile money making up over 50% of transactions. Only 8% indicated less than 20% contribution.

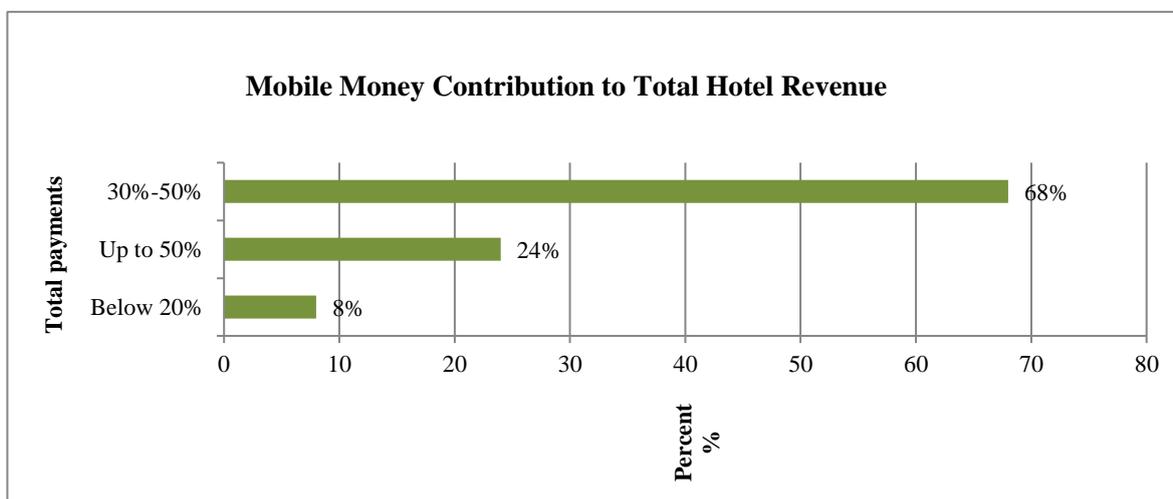


Figure 2: Mobile Money Contribution to Total Hotel Revenue

(Bar chart: 68% = 30–50%; 24% = >50%; 8% = <20%)

### 4.4 Operational Barriers to Mobile Money Utilization

The main challenges cited included high transaction fees (72% of respondents), cybersecurity concerns (64%), and system integration difficulties with existing hotel management software (48%), Staff training and adaptation challenges (32%). Additionally, cybersecurity concerns with the usage of devices and inadequate knowledge have proved to be a major barrier to mobile money utilization as posited by Moletsane and Tsibolane (2020). Public opinion on how technology evolves and the user perceptions' which is dynamic in nature have contributed to mobile money utilization operational barriers.

Table 3: Operational Barriers Identified

Barrier	Percentage Reporting (%)
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Barrier	Percentage Reporting (%)
High transaction costs	72%
Cybersecurity vulnerabilities	64%
Difficulty integrating with PMS systems	48%
Staff training issues	32%

#### 4.5 Increasing Customer Expectations for Digital Payments

Participants consistently noted that local and international guests increasingly prefer mobile money options, expecting fast, contactless transactions.

“Many of our customers, especially younger ones, ask if they can pay everything, even room service, using M-Pesa.” (Front Office Manager, 5-star hotel)

#### 4.6 Operational Challenges and Costs

Respondents cited issues such as frequent system downtimes, reconciliation errors, and perceived high commissions charged by mobile money operators.

“Integration with our existing billing system was expensive and needed custom solutions.” (Finance Manager, 4-star hotel)

#### 4.7 Need for Stronger Regulatory and Cybersecurity Frameworks

Participants emphasized the need for clearer regulations to protect customer data and mitigate risks of fraud when handling high-value transactions.

“We sometimes feel exposed to fraud risks, especially for big transactions, yet there’s little legal recourse if things go wrong.” (Hotel IT Officer, 5-star hotel)

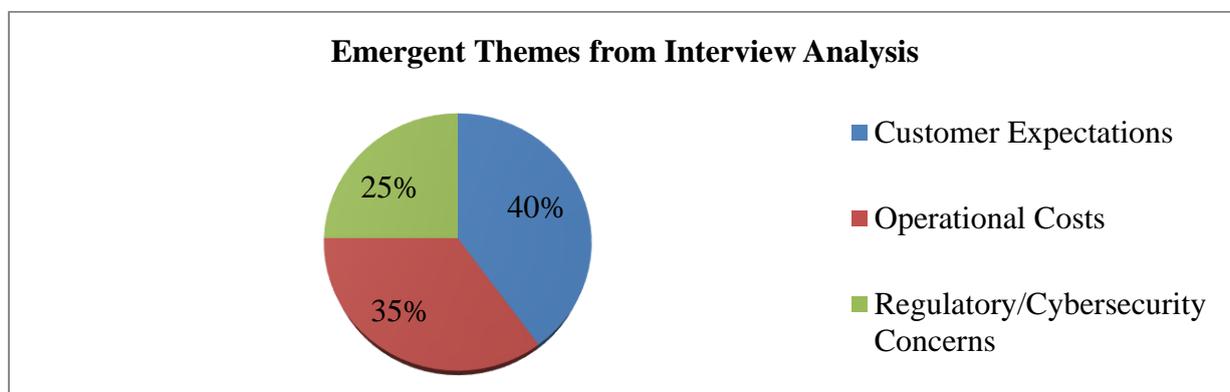


Figure 3: Emergent Themes from Interview Analysis

*(Pie chart showing: Customer expectations – 40%, Operational costs – 35%, Regulatory/cybersecurity concerns – 25%)*

The findings demonstrate widespread adoption of mobile money in Nairobi's 3–5 star hotels, driven by customer demand and operational benefits. However, significant operational and regulatory challenges persist, posing potential barriers to fully leveraging mobile money for enhanced financial inclusion within the sector.

The findings reveal a high level of mobile money adoption among Nairobi's 3–5 star hotels, primarily driven by customer demand for cashless payments and the operational efficiencies mobile money offers. However, hotels face notable barriers related to integration costs, cybersecurity risks, and high transaction fees, potentially limiting the full realization of financial inclusion benefits.

### 5.0 Discussion and Summary of Key Results

The results of this study provide important insights into the role of mobile money in advancing financial inclusion within Nairobi's 3–5 star hotels. Overall, the findings align with global and regional trends emphasizing the growing dominance of digital payment ecosystems (Demirgüç-Kunt et al., 2018; World Bank, 2022), yet also highlight sector-specific opportunities and persistent operational challenges.

The near-universal adoption of M-Pesa among surveyed hotels confirms the platform's continued market dominance in Kenya's digital financial services landscape (Jack & Suri, 2014). The finding that mobile money transactions constitute between 30% and 50% of total customer payments for the majority of hotels indicates significant customer reliance on mobile money even within the premium hospitality sector, traditionally associated with card and cash transactions. This trend reflects a broader shift in consumer behavior toward cashless, mobile-driven financial interactions, consistent with regional reports on East Africa's financial digitalization (GSMA, 2022).

The study reveals that mobile money integration delivers substantial operational benefits to hotels, particularly in terms of faster transaction processing, enhanced transparency, and reduced cash-handling risks. These findings resonate with earlier research by Gikandi and Bloor (2010), which demonstrated that mobile payment systems improve business process efficiencies. The relatively high mean scores for customer satisfaction ( $M = 4.15$ ) suggest that mobile money contributes to an enhanced service experience, positioning hotels that embrace digital payments competitively within the increasingly tech-savvy tourism market.

Despite the clear benefits, the findings highlight significant operational barriers that could undermine the full potential of mobile money in this sector. The high cost of transactions, reported by 72% of hotels, mirrors concerns raised by Kikulwe, Fischer, and Qaim (2014) regarding the affordability of mobile money services for businesses. Furthermore, cybersecurity concerns, cited by 64% of respondents, are particularly pertinent in the context of high-value hotel transactions, which differ markedly from the lower-value transactions typically emphasized in mobile money literature.

The challenges surrounding system integration with hotel management software (reported by 48%) suggest that digital transformation in the hospitality industry requires more tailored technological solutions than those available for informal retail or rural markets. This supports calls by contemporary scholars for sector-specific financial technology innovations to support formal enterprises (Ozili, 2018).

Unlike prior studies focused predominantly on informal sectors or low-income users (Aker & Mbiti, 2010), this research demonstrates that mobile money has penetrated even formal, internationally oriented industries like hospitality. Moreover, the emerging need for enhanced regulatory frameworks and cybersecurity measures distinguishes the operational environment of 3–5 star hotels from that of small businesses, highlighting the unique challenges faced by larger, formal organizations.

### 5.1 Conclusion

This study contributes to the literature by shifting the focus from informal economies to formal service industries and by presenting an integrated view of both opportunities and barriers. The findings underscore the importance of designing mobile money solutions that address the complexities of enterprise-level operations while promoting financial inclusion across different economic strata.

## 5.2 Recommendations

One limitation of this study is its focus on hotels within Nairobi only, which may not reflect the realities of hotels in other parts of Kenya or East Africa. Additionally, the study relied on self-reported data, which could be subject to reporting bias. Future research could explore longitudinal impacts of mobile money adoption in hotels, assess guest satisfaction quantitatively, and examine the effectiveness of mobile money-related cybersecurity interventions in the hospitality industry.

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