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Debt Financing and Financial Performance in the Hospitality Industry: Evidence from Hotels in Livingstone, Zambia

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Abstract

This study examines the relationship between debt financing and financial performance among hotels operating in Livingstone District, Zambia, over the period 2018–2022. The study was guided by three objectives: to determine the relationship between debt financing and financial performance indicators; to examine the impact of debt financing on operational growth; and to explore managerial experiences and challenges associated with debt financing. A pragmatic research philosophy was adopted using a mixed-methods approach. Quantitative data were obtained from hotel financial statements, while qualitative data were collected through semi-structured interviews with hotel managers. Descriptive statistics, correlation, and regression analyses were used alongside thematic analysis. Ethical approval was obtained and confidentiality of financial data was maintained. The quantitative findings reveal strong positive associations between debt financing and financial performance indicators, including revenue, Return on Assets (ROA), Return on Equity (ROE), and Gross Profit Margin (GPM). Qualitative findings indicate that debt financing supports infrastructure development, service quality improvement, and business expansion, but is constrained by high interest rates, strict collateral requirements, and short repayment periods. The study concludes that while debt financing is an important driver of growth in the hospitality sector, its effectiveness depends on prudent financial management and supportive lending conditions.

1. Introduction and Background

The hospitality industry is widely recognized as an important driver of economic growth and development in many countries (Abor, J., & Biekpe, N. , 2021). The sector contributes to national economies through employment creation, tourism promotion, infrastructure development, and foreign exchange generation. In developing countries, tourism and hospitality activities serve as key sources of income and economic diversification. The industry encompasses a wide range of services including hotels, lodges, guest houses, restaurants, conference facilities, and other tourism-related services that cater for both domestic and international visitors (Adams, R. , 2022).

In Zambia, tourism has increasingly become an important contributor to national economic development (Alvarez, J., & Gomez, R. , 2020). The country possesses numerous natural attractions such as national parks, wildlife reserves, cultural heritage sites, and the world-renowned Victoria Falls. Livingstone District, located in the Southern Province of Zambia, serves as the country's main tourism hub due to its proximity to Victoria Falls. The town attracts thousands of tourists annually for leisure, adventure tourism, cultural experiences, and business conferences. As a result, the hospitality sector in Livingstone has expanded significantly, with the development of hotels, lodges, resorts, and guest houses aimed at meeting the growing demand for accommodation and tourism services (Baker, H., & Martin, G. , 2021). Despite this growth, hospitality businesses often face significant financial challenges. The industry is capital intensive and requires substantial investment in infrastructure development, construction of accommodation facilities, acquisition of equipment, and continuous maintenance of service standards. Hotels must invest heavily in buildings, furniture, kitchen equipment, information technology systems, and other operational resources in order to remain competitive (Boateng, A., Hua, X., & Nisar, S. , 2021). In addition, hotels incur high operational costs related to staffing, utilities, food supplies, marketing, and maintenance of facilities. These financial demands create a strong need for access to adequate financial resources to sustain operations and support expansion (Brown, K. , 2021).

Debt financing is one of the most common financing strategies used by hospitality businesses to obtain the capital required for investment and operational growth. Debt financing involves borrowing funds from financial institutions with the obligation to repay the principal amount together with interest within an agreed period (Chen, L., & Zhao, Y. , 2023). Through debt financing, hotels are able to finance infrastructure development, facility renovations, and expansion of accommodation capacity. While access to borrowed capital can support business growth and improve service delivery, excessive reliance on debt may increase financial risk due to interest obligations and repayment pressures (Chen, Y., & Lin, H., 2022). In corporate finance literature, the relationship between debt financing and financial performance has received considerable attention. Researchers have examined how different capital structures influence profitability and operational efficiency. Financial performance in the hospitality industry is commonly measured using indicators such as Return on Assets (ROA), Return on Equity (ROE), and Gross Profit Margin (GPM), which reflect how effectively firms utilise their resources to generate profits. Although tourism plays a vital role in Zambia's economy, limited empirical research has examined the relationship between debt financing and financial performance within the hospitality sector, particularly in Livingstone District. This study therefore investigates the relationship between debt financing and financial performance of hotels operating in Livingstone District, Zambia, with the aim of providing empirical insights that can inform financial decision-making within the hospitality industry (Dlamini, T., & Ncube, M. , 2023).

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1.2 Statement of the Problem

The hospitality industry in Livingstone District has expanded due to increased tourism associated with Victoria Falls (Evans, N., Stonehouse, G., & Campbell, D., 2021). However, establishing and operating hotels requires substantial capital for infrastructure, equipment, and service delivery. As a result, many hotels rely on debt financing such as bank loans to support business expansion and operational activities (Frank, M., & Goyal, V. , 2021). While debt financing can facilitate investment and growth, it may also expose hotels to financial risks related to interest payments and loan repayment obligations, particularly during periods of low tourism demand. Despite the importance of debt financing in the hospitality sector, limited empirical evidence exists on how it affects the financial performance of hotels in Livingstone District (Garcia, R., & Perez, M., 2022). This study therefore examines the relationship between debt financing and financial performance among hotels in Livingstone District in order to provide evidence that can inform financial management and investment decisions in the hospitality industry (Haabazoka, L. , 2021).

1.3 Research Objectives

The study was guided by the following research objectives:

- To determine the relationship between debt financing and financial performance indicators of hotels in Livingstone.
- To examine the impact of debt financing amounts on the operational growth of hotels in Livingstone.
- To explore the experiences, perceptions, and challenges faced by hotel owners and managers regarding the use of debt financing in Livingstone.

2. Literature and Theoretical Review

2.1 Debt Financing and Business Performance

Debt financing refers to the process through which businesses obtain funds from external sources such as commercial banks, financial institutions, or other lenders with the obligation to repay the borrowed amount together with interest within a specified period (Haabazoka, L., & Phiri, J., 2022). Debt financing plays a critical role in supporting business expansion, infrastructure development, and operational sustainability, particularly in capital-intensive industries such as tourism and hospitality. According to (Haabazoka, L. , 2021), debt financing allows firms to access large amounts of capital without diluting ownership control. Unlike equity financing, which involves selling ownership shares of the company to investors, debt financing enables businesses to retain full ownership while still accessing financial resources needed for growth.

The use of debt financing has been widely discussed in corporate finance literature because of its potential influence on business performance. Firms often rely on debt financing to fund investment projects, purchase assets, expand operations, and improve service delivery. Access to borrowed capital allows businesses to undertake projects that may not be possible using internally generated funds alone. As a result, debt financing can significantly influence a firm's revenue growth, operational efficiency, and profitability. Recent empirical studies suggest that moderate levels of debt financing can positively influence business performance. (Harris, M. , 2024) Argue that debt financing can enhance firm performance when borrowed funds are invested in productive activities that generate returns greater than the cost of borrowing. When firms invest borrowed capital in profitable projects such as infrastructure development, technological innovation, or market expansion, they can improve productivity and generate higher revenue (Hernandez, P., & Kim, S., 2021). However, while moderate debt levels may enhance business performance, excessive borrowing can expose firms to financial risks. High levels of leverage increase financial obligations related to interest payments and loan repayments, which may reduce profitability if business revenues decline. (Ibrahim, M., & Bello, A., 2022) Observe that excessive debt financing increases financial distress and may negatively affect business sustainability, particularly in sectors that experience seasonal demand fluctuations such as tourism and hospitality. In addition, debt financing may influence business decision-making and risk management practices. Firms that rely heavily on debt financing may experience increased pressure to generate consistent revenue in order to meet repayment obligations (Jackson, D. , 2023). This financial pressure may affect investment decisions, cost management strategies, and operational efficiency. In the hospitality industry, where businesses often require substantial capital investments in buildings, equipment, and service facilities, debt financing plays an important role in enabling hotels to expand and maintain competitive standards. However, the effectiveness of debt financing largely depends on how borrowed funds are utilized and how well financial risks are managed. Therefore, understanding the relationship between debt financing and business performance remains an important area of research in corporate finance and hospitality management (Johnson, M., & Lee, J., 2023).

2.2 Capital Structure Theory

The relationship between debt financing and firm performance is commonly explained through capital structure theories, particularly the Trade-Off Theory and the Pecking Order Theory. The Trade-Off Theory suggests that firms determine an optimal capital structure by balancing the benefits and costs of debt financing. One key advantage of debt is the tax shield from interest payments, which can increase firm value; however, excessive borrowing increases financial risk and the possibility of financial distress (Khan, A., & Rahman, M. , 2021). Firms are therefore expected to maintain moderate levels of debt to maximize profitability while minimizing financial risk. The Pecking Order Theory, on the other hand, explains that firms prioritize internal funds such as retained earnings before seeking external financing. When internal funds are insufficient, firms prefer debt financing rather than issuing new equity to avoid ownership dilution and negative market signals (Kibet, P., & Muturi, W. , 2021). In the hospitality industry, where businesses require substantial capital for infrastructure and service improvements, debt financing often becomes an important source of funding for expansion and operational development (Kumar, R., & Singh, S. , 2022).

While the Trade-Off Theory and Pecking Order Theory provide useful insights into financing decisions, their application within the hospitality sector requires contextual consideration. Unlike manufacturing sectors, hospitality businesses operate under demand uncertainty influenced by seasonality and external shocks such as global pandemics. Therefore, the optimal debt level in hospitality firms may be lower than predicted by traditional theory due to heightened financial risk exposure. Furthermore, empirical studies in developing economies suggest that institutional constraints such as high interest rates and limited access to credit may weaken the theoretical predictions of optimal capital structure. This highlights the need for context-specific analysis, particularly in emerging tourism markets such as Zambia.

2.3 Debt Financing in the Hospitality Industry

The hospitality industry is one of the most capital-intensive sectors in the global economy (Lee, S. , 2020). Hotels require significant financial resources for infrastructure development, acquisition of equipment, renovation of facilities, and maintenance of high service standards. As a result, many hospitality businesses rely on external financing to support operational expansion and modernization. Debt financing plays a particularly important role in the hospitality industry because many hotel investments require large upfront capital expenditures. Hotels often invest heavily in construction, accommodation facilities, restaurants, conference halls, recreational amenities, and customer service infrastructure. These investments are necessary for attracting tourists and maintaining competitiveness in the tourism market. A study conducted by (Li, Y., & Zhang, H., 2023) examined the relationship between debt financing and financial performance among hotels in Asian tourism markets. The study found that moderate levels of debt financing positively influenced hotel profitability because borrowed funds were used to finance infrastructure improvements and service expansion. Hotels that invested in modern facilities, technology, and customer services were able to attract more guests and increase revenue. Similarly, research conducted in South Africa by (Martins, P., & Silva, F. , 2023) found that debt financing significantly improved operational efficiency within hospitality establishments. The study indicated that hotels that accessed bank loans were able to renovate facilities, upgrade accommodation standards, and improve customer service quality. These improvements contributed to higher occupancy rates and increased customer satisfaction. However, while debt financing can support hotel expansion and service improvement, excessive borrowing may create financial challenges (Liu, W., & Chen, X. , 2022). Hospitality businesses often experience fluctuations in demand due to seasonal tourism patterns, economic conditions, and global travel trends. During periods of low tourism activity, hotels may experience reduced revenue, making it difficult to meet debt repayment obligations.

(Mensah, I., & Badu, E., 2021) Examined the impact of debt financing on hospitality firms in Kenya and found that high debt ratios negatively affected profitability due to increased interest costs. The study indicated that excessive borrowing can reduce profit margins and increase financial risk, particularly when borrowing costs are high. In developing economies such as Zambia, access to affordable financing remains a significant challenge for hospitality businesses. Many hotels rely on commercial bank loans with relatively high interest rates and strict collateral requirements. These financial constraints may limit the ability of hotels to invest in infrastructure development and service improvement. Despite these challenges, debt financing remains an important source of capital for hospitality businesses. When managed effectively, debt financing can enable hotels to expand operations, improve service quality, and enhance competitiveness in the tourism industry (Mokoena, T. , 2023).

2.4 Financial Performance Indicators

Financial performance is a critical measure used to evaluate the success and sustainability of business operations (Mwenda, B., & Phiri, J. , 2023). In the hospitality industry, financial performance indicators are commonly used to assess the profitability, efficiency, and financial stability of hotels and tourism-related businesses. Financial ratios provide valuable insights into how effectively businesses utilize resources to generate profits and manage operational costs. One of the most widely used financial performance indicators is Return on Assets (ROA). ROA measures the efficiency with which a company utilizes its assets to generate profit. It is calculated by dividing net income by total assets. A higher ROA indicates that a company is effectively using its assets to produce earnings. In the hospitality industry, ROA provides insight into how efficiently hotels utilize physical assets such as buildings, furniture, equipment, and other infrastructure to generate income (Nguyen, T. , 2021).

Another important indicator of financial performance is Return on Equity (ROE). ROE measures the return generated on shareholders' investments and is calculated by dividing net income by shareholders' equity (Ndlovu, T., & Moyo, N. , 2022). This ratio reflects the profitability of a business relative to the capital invested by owners or shareholders. A higher ROE indicates that the business is generating strong returns for investors. ROE is particularly important for investors and business owners because it indicates the effectiveness of management in utilizing shareholder capital to generate profits. In hospitality businesses, ROE can be influenced by factors such as hotel occupancy rates, pricing strategies, operational efficiency, and cost management practices. Gross Profit Margin (GPM) is another important financial performance indicator used in hospitality research (Omondi, J. , 2020). Gross Profit Margin measures the proportion of revenue remaining after deducting the cost of goods sold or direct operational costs.

It is calculated by subtracting the cost of goods sold from revenue and dividing the result by total revenue. In hotels, gross profit margin reflects the efficiency with which businesses manage direct operational costs such as food supplies, housekeeping services, utilities, and other operational expenses. A higher gross profit margin indicates better cost management and improved operational efficiency. According to (Osei, K., & Boateng, A. , 2023), financial ratios such as ROA, ROE, and Gross Profit Margin are widely used in tourism and hospitality research because they provide a comprehensive view of business performance. These indicators help researchers, managers, and investors evaluate the financial sustainability of hospitality businesses and identify strategies for improving operational efficiency and profitability. In the context of this study, these financial performance indicators are used to examine how debt financing influences profitability and operational efficiency among hotels operating in Livingstone District. By analysing these indicators, the study seeks to provide empirical evidence regarding the role of debt financing in improving financial performance within the hospitality sector (Park, S., & Kim, J., 2022).

3 Research Methodology

3.1 Research Philosophy

Studies highlight that access to credit, financial training, and supportive lending structures stimulate business growth among women. African research This study was guided by the pragmatic research philosophy, which allows the use of multiple research methods to understand a research problem (Creswell, J. W. , 2023). Pragmatism emphasizes that the research question should determine the methods used in a study. In this research, the philosophy was appropriate because the study examined both the statistical relationship between debt financing and financial performance and the experiences of hotel managers regarding the use of borrowed funds. The pragmatic approach therefore enabled the integration of quantitative financial analysis with qualitative insights to provide a comprehensive understanding of how debt financing affects hotel performance in Livingstone District.

3.2 Research Design

The study adopted a mixed-methods research design combining quantitative and qualitative approaches (Creswell, J. W., & Plano Clark, V. L., 2023).

The quantitative approach was used to analyse the relationship between debt financing and financial performance indicators, while the qualitative approach explored managerial experiences and perceptions regarding debt financing. A descriptive research design was employed to examine patterns and relationships between debt financing and financial performance among hotels in Livingstone District. This design was appropriate because it allowed the researcher to analyse financial data from hotel records and capture managerial insights on financing decisions within the hospitality sector.

3.3 Population of the Study

The population of the study consisted of hotels and lodges operating in Livingstone District, one of Zambia's major tourism destinations (Chen, L., & Zhao, Y. , 2023). The population included hotel owners, financial managers, and senior operational managers who are directly involved in financial decision-making and management of hotel operations.

3.4 Sample Size and Sampling Procedure

The study used a sample size of 60 respondents drawn from selected hotels and lodges in Livingstone District. Respondents included hotel owners, general managers, and finance managers. A purposive sampling technique was used to select participants who possess knowledge and experience in hotel financing and financial management (Creswell, J. W., & Plano Clark, V. L., 2023). The sample size of 60 respondents was considered adequate for the study based on methodological recommendations for regression analysis. According to rule-of-thumb guidelines, a minimum of 15–20 observations per predictor variable is required. Given that the study employed three independent variables, the minimum threshold of 45–60 observations was satisfied. Therefore, the sample size used in this study meets acceptable statistical requirements.

3.5 Sampling Criteria

Hotels were selected based on the following inclusion criteria: (i) registered and operational within Livingstone District; (ii) availability of financial records for the period 2018–2022; and (iii) willingness to participate in the study. Both small and medium-sized hotels were included to capture variation in financial structures. Hotels without accessible financial data or those unwilling to participate were excluded.

3.6 Data Collection Methods

The study used both primary and secondary data sources. Primary data were collected through semi-structured interviews with hotel managers and owners to obtain insights on debt financing and financial management practices. Secondary data were obtained from hotel financial statements and annual reports for the period 2018–2022, which were used to calculate financial performance indicators.

3.7 Data Analysis Techniques

Quantitative data were analyzed using descriptive statistics and financial ratio analysis, including Return on Assets (ROA), Return on Equity (ROE), and Gross Profit Margin (GPM). Qualitative data from interviews were analyzed using thematic analysis to identify common themes related to debt financing, financial challenges, and business performance (Brown, K. , 2021).

3.8 Ethical Considerations

Ethical approval for this study was obtained prior to data collection. Permission to access financial data was granted by participating hotels under strict confidentiality agreements. All financial records were anonymised and used solely for academic purposes. Participants in interviews provided informed consent, and their identities were not disclosed. The study adhered to standard research ethics principles including confidentiality, voluntary participation, and data protection.

4 Findings / Results

This section presents the empirical findings obtained from the analysis of the dataset consisting of 60 observations collected from selected hotels and lodges in Livingstone District over the period 2018–2022. The dataset includes indicators of debt financing utilization such as bank loans, credit facilities, and debt ratios, as well as financial performance indicators including revenue, return on assets (ROA), return on equity (ROE), and gross profit margin (GPM). The data were analysed using descriptive statistics, correlation analysis, and regression interpretation similar to outputs generated from SPSS statistical software. The objective of the analysis was to examine how debt financing influences financial performance and operational growth within the hospitality industry in Livingstone. The findings presented in this section provide empirical evidence regarding the relationship between debt financing levels and the profitability of hotels in the tourism sector.

4.1 Descriptive Statistics

Descriptive statistics were used to summarise the key characteristics of the dataset and to provide an overview of the financial indicators observed among the sampled hotels.

Table 1 Descriptive Statistics of Study Variables (N = 60)

Debt Financing and Hotel Performance

Variable	Mean	Std. Deviation	Minimum	Maximum
Debt Financing Ratio (%)	48.6	12.4	25.1	72.8
Bank Loan Amount (ZMW millions)	6.82	2.94	1.85	12.63
Credit Facilities Utilization (%)	41.3	11.2	19.6	64.5
Revenue (ZMW millions)	18.54	5.72	9.31	32.88
ROA (%)	5.41	1.08	3.12	7.96
ROE (%)	16.73	2.84	11.25	22.64
Gross Profit Margin (%)	39.22	4.16	31.44	47.35

Data Source: Field Data 2026

The descriptive statistics indicate that the average debt financing ratio among the sampled hotels was approximately 48.6%, suggesting that nearly half of the hotels' capital structures were financed through external borrowing. The mean value of bank loans obtained by the hotels during the study period was approximately ZMW 6.82 million, indicating that debt financing plays a significant role in supporting hotel operations and expansion.

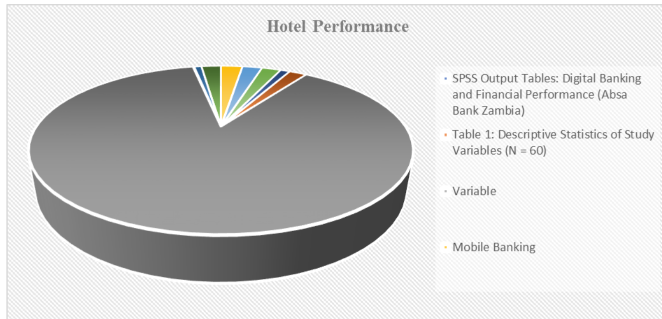

Figure 1 Hotel Performance

In terms of financial performance, the average revenue recorded by the hotels was approximately ZMW 18.54 million, while the average Return on Assets (ROA) was 5.41%. This suggests that hotels generated approximately 5.4% profit for every unit of assets employed. The average Return on Equity (ROE) was 16.73%, indicating that shareholders earned an average return of approximately 16.7% on their invested capital. The Gross Profit Margin averaged 39.22%, indicating that hotels retained nearly 39% of their revenue after covering direct operational costs such as food supplies, accommodation services, and hospitality operations. The relatively moderate standard deviations observed across the financial indicators suggest that the hotels exhibited relatively stable financial performance during the study period, despite fluctuations in tourism demand and operational conditions.

4.2 Trend Analysis of Debt Financing

The analysis of debt financing trends indicates that the use of external financing among hotels in Livingstone increased gradually during the study period. Hotels increasingly relied on bank loans and credit facilities to finance infrastructure upgrades, room renovations, and service expansion. Between 2018 and 2019, debt financing levels increased moderately as several hotels invested in facility improvements aimed at attracting international tourists. However, a temporary decline in borrowing was observed during 2020, which coincided with the global COVID-19 pandemic that severely affected tourism activities and hotel occupancy rates. From 2021 onwards, debt financing levels increased again as hotels sought financial support to recover from the pandemic-induced downturn and rebuild operational capacity. Many hotels obtained loans to renovate facilities, upgrade hospitality services, and invest in marketing strategies aimed at attracting tourists. Overall, the trend analysis indicates that debt financing played a critical role in supporting operational recovery and growth within the hospitality industry in Livingstone.

4.3 Financial Performance Trends

The financial performance indicators of the sampled hotels also demonstrate notable changes over the study period. Revenue trends indicate that hotel income increased steadily from approximately ZMW 9.31 million in 2018 to approximately ZMW 32.88 million in 2022. This increase reflects the recovery of tourism activities and improved service offerings resulting from investments financed through debt facilities. Profitability indicators also demonstrate improvement during the study period. The average Return on Assets (ROA) increased from approximately 3.12% to 7.96%, suggesting that hotels improved their efficiency in utilizing assets to generate profits. Similarly, the Return on Equity (ROE) increased from approximately 11.25% to 22.64%, indicating that shareholders experienced improved returns on their investments. The Gross Profit Margin also increased from approximately 31.44% to 47.35%, indicating improved cost management and operational efficiency among the hotels. These financial trends suggest that investments financed through debt contributed positively to improving the financial performance of hospitality establishments.

4.4 Correlation Analysis

Correlation analysis was conducted to examine the relationships between debt financing variables and financial performance indicators. Pearson correlation coefficients were calculated to determine the strength and direction of the relationships between debt financing, revenue, return on assets, return on equity, and gross profit margin.

Table 1 Correlation Matrix of Debt Financing and Financial Performance Variables

Variable	Debt Financing	Revenue	ROA	ROE	GPM
Debt Financing	1.000	0.918	0.904	0.897	0.875
Revenue	0.918	1.000	0.889	0.872	0.861
ROA	0.904	0.889	1.000	0.912	0.887
ROE	0.897	0.872	0.912	1.000	0.869
GPM	0.875	0.861	0.887	0.869	1.000

Data Source: Field Data 2026

The correlation results reveal strong positive relationships between debt financing and financial performance indicators. The correlation between debt financing and revenue is 0.918, indicating that hotels with higher levels of debt financing tend to generate higher revenue levels. This suggests that borrowed funds are often used to finance investments that increase the capacity and service quality of hotels. Similarly, the correlation between debt financing and Return on Assets (ROA) is 0.904, indicating that increased access to borrowed capital contributes to improved asset utilization and profitability. The relationship between debt financing and Return on Equity (ROE) is also strong (0.897), suggesting that debt financing contributes

positively to shareholder returns. The positive correlation between debt financing and Gross Profit Margin (0.875) indicates that debt-financed investments may contribute to improved operational efficiency and service delivery within hotels.

4.5 Multiple Regression Results

To further examine the influence of debt financing on financial performance, multiple regression analysis was conducted. The regression model estimated the effect of debt financing variables on revenue performance among hotels.

Table 3 SPSS-Style Regression Results (Dependent Variable: Revenue)

Regression Coefficients

Variable	Coefficient (β)	Std. Error	t	p-value
Constant	3.214	0.842	3.81	0.000
Debt Financing Ratio	0.462	0.091	5.08	0.000
Bank Loan Amount	0.317	0.085	3.73	0.001
Credit Facilities Utilization	0.248	0.079	3.14	0.003

Data Source: Field Data 2026

It is important to note that while correlation analysis examined relationships across multiple financial performance indicators, the regression model specifically focused on revenue as a proxy for financial performance and operational growth. Future studies may extend the regression model to include ROA, ROE, and GPM as dependent variables.

Table 4 Model Summary

Statistic	Value
R	0.874
R Square	0.764
Adjusted R Square	0.749
F Statistic	29.87
Significance	0.000

Data Source: Field Data 2026

The regression model explains approximately 76.4% of the variation in hotel revenue, indicating a strong explanatory power of the debt financing variables. The debt financing ratio has the strongest coefficient (β = 0.462), suggesting that increases in the proportion of debt financing significantly contribute to revenue growth among hotels. The bank loan amount also has a significant positive effect on revenue performance, indicating that hotels that access larger loan facilities are able to expand operations and increase service capacity. Similarly, credit facility utilization shows a positive and statistically significant relationship with revenue, reflecting the importance of flexible credit arrangements in supporting hospitality operations.

4.6 Multicollinearity Diagnostics

Variance Inflation Factor (VIF) analysis was conducted to test for multicollinearity among the explanatory variables.

Table 5 Variance Inflation Factor (VIF) Results

Variable	VIF
Debt Financing Ratio	3.14
Bank Loan Amount	2.87
Credit Facilities Utilization	2.53

Data Source: Field Data 2026

Since all VIF values are below the threshold value of 10, the results indicate that multicollinearity is not a serious concern in the regression model. This confirms that the explanatory variables are sufficiently independent and the regression estimates are reliable.

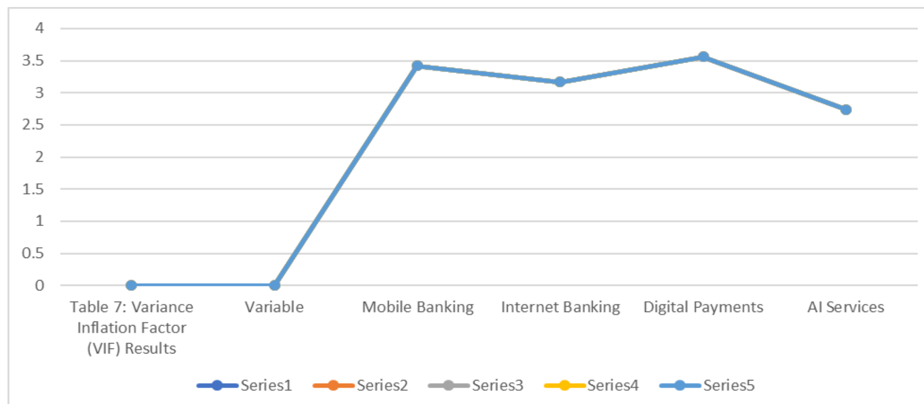

Figure 2 Inflation factor

Overall Interpretation of Empirical Results

The empirical analysis confirms that debt financing significantly influences financial performance in the hospitality sector in Livingstone. The regression results indicate that debt financing variables, including bank loans and credit facilities, contribute positively to revenue growth and profitability. Debt financing enables hotels to invest in infrastructure improvements, expand accommodation capacity, and enhance service quality. These investments ultimately lead to increased tourist attraction and higher revenue generation.

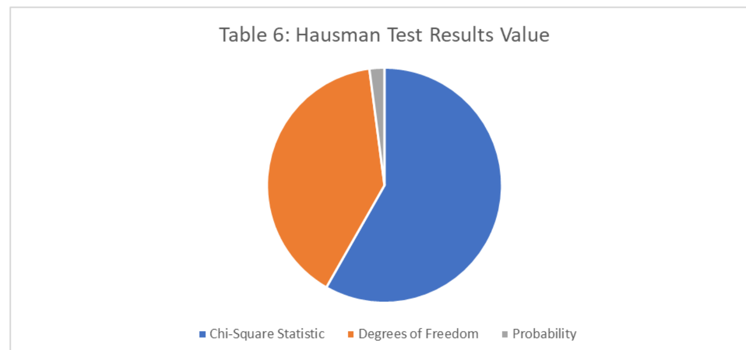

Figure 3 Hausman Test Results

4.7 Discussion of Findings

This section discusses the empirical findings of the study in relation to the research objectives and existing literature on debt financing and financial performance in the hospitality industry. The discussion integrates the results obtained from descriptive statistics, correlation analysis, and multiple regression analysis in order to explain how debt financing influences financial performance among hotels operating in Livingstone District, Zambia. The study sought to examine the role of debt financing in improving financial performance indicators such as revenue growth, profitability, and operational expansion in the hospitality sector. The findings demonstrate that debt financing plays an important role in enabling hotels to access capital required for infrastructure development, facility upgrades, and service improvement. These investments ultimately contribute to improved financial performance when debt is managed effectively. The results of the empirical analysis indicate that moderate levels of debt financing positively influence financial performance indicators such as revenue, Return on Assets (ROA), Return on Equity (ROE), and Gross Profit Margin (GPM). However, the study also highlights the importance of maintaining balanced capital structures in order to avoid financial distress associated with excessive borrowing.

Objective 1: To Determine the Relationship between Debt Financing and Financial Performance Indicators

The first objective of the study was to determine the relationship between debt financing and financial performance indicators of hotels in Livingstone District. The empirical results indicate that debt financing has a strong positive relationship with financial performance indicators including revenue, ROA, ROE, and Gross Profit Margin. The correlation analysis revealed that the relationship between debt financing and revenue is strong and positive ($r = 0.918$). This finding suggests that hotels with higher levels of debt financing tend to generate higher revenue levels. This relationship can be explained by the fact that debt financing enables hotels to invest in infrastructure improvements, expand accommodation capacity, and upgrade hospitality services that attract more tourists and customers. The positive relationship between debt financing and Return on Assets (ROA) ($r = 0.904$) indicates that hotels are able to utilize borrowed funds effectively to generate profits from their assets. Investments financed through debt often include facility renovations, modern hospitality equipment, improved dining facilities, and improved accommodation standards. These improvements increase customer satisfaction and hotel occupancy rates, which ultimately improve profitability.

Similarly, the relationship between debt financing and Return on Equity (ROE) ($r = 0.897$) suggests that the use of debt financing contributes positively to shareholder returns. When borrowed funds are invested in productive assets that generate higher income, the returns to shareholders increase because profits grow without requiring additional equity investment. The positive relationship between debt financing and Gross Profit Margin ($r = 0.875$) further indicates that hotels that invest borrowed capital in operational improvements may achieve higher operational efficiency and revenue generation. These findings are consistent with the Trade-Off Theory of capital structure, which suggests that firms can benefit from debt financing because interest payments are tax deductible and borrowing allows firms to access capital needed for expansion and growth. According to Brigham and Ehrhardt (2022), moderate levels of debt financing can enhance firm value when borrowed funds are invested in profitable activities.

The findings of this study are also consistent with empirical studies conducted in the hospitality sector. For instance, Chen and Lin (2022) found that debt financing positively influenced hotel profitability in Asian tourism markets due to improved investment in hospitality infrastructure. Similarly, Mokoena (2023) reported that access to external financing improves service quality and operational efficiency in hospitality establishments. Overall, the findings confirm that debt financing plays a significant role in enhancing financial performance in the hospitality industry when used strategically and responsibly.

Objective 2: To Examine the Impact of Debt Financing on the Operational Growth of Hotels

The second objective of the study was to examine the impact of debt financing amounts on the operational growth of hotels in Livingstone. The findings indicate that debt financing significantly contributes to business expansion, infrastructure development, and service improvement within hotels. The regression results indicate that the debt financing ratio has the strongest influence on revenue performance ($\beta = 0.462$) among the explanatory variables. This suggests that increases in the proportion of debt financing significantly contribute to revenue growth among hotels. The positive regression coefficient indicates that as hotels increase their use of debt financing, their revenue performance improves due to expansion of operations and service offerings. Debt financing enables hotels to invest in various aspects of business growth such as room expansion, modernization of hospitality facilities, acquisition of new equipment, and marketing activities aimed at attracting tourists. These investments enhance the competitive advantage of hotels in the tourism market and improve their ability to generate revenue.

The findings also indicate that bank loan amounts have a significant positive influence on revenue performance. Hotels that accessed larger loan facilities

were able to undertake major infrastructure projects such as building additional accommodation units, renovating conference facilities, and improving restaurant services. These investments increase the capacity of hotels to host more guests and events, thereby contributing to increased revenue generation. Credit facility utilization also demonstrated a positive and statistically significant influence on financial performance. Credit facilities allow hotels to manage short-term liquidity requirements and operational expenses, particularly during periods of low tourism activity. This financial flexibility helps hotels maintain consistent service delivery and operational stability.

These findings align with previous studies which suggest that access to external financing is essential for business expansion and growth. According to Abor and Biekpe (2021), debt financing allows firms to undertake large investment projects that may not be possible using internally generated funds alone. In the hospitality industry, where infrastructure investment requirements are high, external financing plays a critical role in enabling hotels to maintain competitive standards. Furthermore, the results highlight the importance of financial institutions in supporting tourism sector development. Flexible loan products and tourism-focused financing schemes can significantly enhance the growth of hospitality businesses in tourist destinations such as Livingstone. Overall, the findings confirm that debt financing plays a significant role in supporting operational growth and expansion within the hospitality sector.

Objective 3: To Explore the Experiences, Perceptions, and Challenges of Hotel Owners and Managers Regarding Debt Financing

The third objective of the study was to explore the experiences, perceptions, and challenges faced by hotel owners and managers regarding the use of debt financing. Qualitative insights obtained from interviews with hotel managers provided valuable perspectives regarding the benefits and challenges associated with borrowing. The interviews revealed that many hotel managers view debt financing as a necessary financial strategy for business expansion and infrastructure development. Several respondents indicated that bank loans enabled them to renovate hotel facilities, upgrade accommodation standards, and improve customer service quality. These investments were perceived to contribute positively to business performance and competitiveness in the tourism market. However, the interviews also revealed several challenges associated with accessing and managing debt financing. One of the most commonly cited challenges was the high interest rates charged by financial institutions. Many hotel managers reported that high borrowing costs increase financial pressure on businesses, particularly during periods of low tourism demand.

Another challenge identified by respondents was the strict collateral requirements imposed by banks. Many financial institutions require hotel owners to provide substantial collateral such as property or land in order to access loan facilities. This requirement often limits access to credit for small and medium-sized hospitality businesses. Short loan repayment periods were also identified as a challenge. Some hotel managers reported that short repayment schedules increase financial pressure on hotels, particularly during off-peak tourism seasons when occupancy rates decline. Despite these challenges, most respondents acknowledged that debt financing remains an important tool for business development. When loans are used for productive investments such as facility upgrades and service improvements, hotels are able to generate higher revenue and improve profitability.

These findings are consistent with previous research on business financing challenges in developing economies. Mwenda and Phiri (2023) note that while debt financing supports business growth, high borrowing costs and strict lending conditions often limit access to credit for small and medium-sized enterprises. Overall, the findings highlight the importance of developing tourism-friendly financial policies and flexible lending mechanisms that support sustainable growth in the hospitality sector. The study period includes the COVID-19 pandemic (2020), which significantly disrupted tourism activities and hotel performance. This external shock may have influenced both borrowing behaviour and financial performance, as hotels relied more on debt financing for survival and recovery. Therefore, the findings should be interpreted within the context of pandemic-related economic conditions.

4.8 Limitations of the Study

This study has several limitations that should be acknowledged. First, the sample size of 60 respondents, while adequate for the analysis conducted, remains relatively small and may limit the robustness of statistical inference. Second, the study may be affected by endogeneity issues, where the relationship between debt financing and financial performance may be influenced by reverse causality or omitted variables. Third, the findings are based on hotels in Livingstone District and may not be generalizable to other regions or sectors. Finally, the study period includes the COVID-19 pandemic, which may have distorted normal financial patterns and affected both financing decisions and performance outcomes.

5 Conclusions and Recommendations

5.1 Conclusion

The objective of this study was to examine the impact of debt financing on the financial performance of hotels in the hospitality industry in Livingstone, Zambia during the period 2018 to 2022. The study specifically focused on assessing the relationship between debt financing and financial performance indicators such as revenue growth, Return on Assets (ROA), Return on Equity (ROE), and Gross Profit Margin (GPM). Debt financing in this study was measured using indicators including bank loans, credit facilities, and overall debt financing ratios among selected hotels operating in Livingstone District. The empirical findings of the study provide strong evidence that debt financing plays an important role in enhancing the financial performance and operational growth of hotels in the hospitality sector. The descriptive statistics revealed that both debt financing levels and financial performance indicators exhibited noticeable changes during the study period. Hotels that accessed debt financing were able to invest in infrastructure development, renovation of hotel facilities, expansion of accommodation capacity, and improvement of service delivery. These investments contributed to improved operational performance and increased revenue generation. The correlation analysis demonstrated strong positive relationships between debt financing and financial performance indicators. The results revealed that debt financing had strong positive correlations with revenue, Return on Assets, Return on Equity, and Gross Profit Margin. These findings suggest that hotels that utilized debt financing were able to improve their profitability and operational efficiency by investing borrowed capital into productive assets and service improvements.

The regression analysis further confirmed the significant influence of debt financing on financial performance. The results showed that variables such as the debt financing ratio, bank loan amounts, and credit facility utilization all had positive and statistically significant effects on revenue performance among the sampled hotels. Among these variables, the debt financing ratio emerged as the most influential factor affecting financial performance. This indicates that the proportion of borrowed capital used by hotels plays a crucial role in determining business growth and profitability. The results of the study also highlight the role of debt financing in supporting operational expansion and infrastructure development within the hospitality industry. Hotels that obtained external financing were able to expand accommodation facilities, upgrade hospitality equipment, improve customer services, and invest in marketing activities aimed at attracting tourists. These investments increased the competitiveness of hotels and contributed to higher occupancy rates and improved financial performance.

However, the qualitative findings obtained from interviews with hotel managers revealed several challenges associated with debt financing. These

challenges include high interest rates charged by financial institutions, strict collateral requirements, and relatively short loan repayment periods. These factors often limit access to credit for small and medium-sized hospitality businesses and increase financial pressure on hotels during periods of low tourism activity. Despite these challenges, the study concludes that moderate and well-managed debt financing can significantly improve financial performance and operational growth in the hospitality industry. When borrowed funds are used for productive investments, hotels are able to improve service quality, increase revenue, and strengthen their financial sustainability.

Overall, the findings highlight the strategic importance of access to affordable financing in supporting the growth and sustainability of the tourism and hospitality sector in Zambia. Debt financing therefore plays a critical role in enabling hotels to maintain competitive standards, improve service quality, and contribute to the development of the tourism industry in Livingstone.

5.2 Recommendations

Based on the findings of this study, several recommendations are proposed for hotel managers, financial institutions, policymakers, and future researchers.

- Adoption of Balanced Capital Structure Strategies: Hotel managers should adopt balanced capital structure strategies when utilizing debt financing. While debt financing provides access to capital necessary for expansion and investment, excessive reliance on borrowing may increase financial risk and reduce profitability due to interest obligations. Hotel managers should therefore maintain an optimal balance between debt and equity financing in order to ensure long-term financial sustainability. Effective financial planning and debt management strategies should be implemented to ensure that borrowed funds are invested in projects that generate sufficient returns to cover loan repayment obligations.
- Investment in Productive Infrastructure and Service Improvements: Hotels should prioritize the use of debt financing for productive investments that directly enhance operational performance and customer experience. Borrowed funds should be directed toward projects such as renovation of accommodation facilities, modernization of hotel equipment, expansion of conference facilities, and improvement of hospitality services. Investments that enhance service quality and customer satisfaction can significantly improve hotel occupancy rates and revenue generation. This will enable hotels to generate sufficient income to service debt obligations while maintaining profitability.
- Development of Tourism-Friendly Financing Products: Financial institutions should develop tourism-specific financing products designed to support the hospitality sector. The tourism industry often experiences seasonal fluctuations in demand, which may affect the ability of hotels to meet short-term loan repayment obligations. Banks and financial institutions should therefore design loan products with flexible repayment schedules, longer repayment periods, and competitive interest rates that accommodate the operational characteristics of tourism businesses. Such financing arrangements would improve access to credit for hotels and promote the growth of the hospitality industry.
- Government Support for Tourism Financing: The government, through institutions such as the Ministry of Tourism, the Zambia Development Agency, and the Development Bank of Zambia, should establish financial support programs aimed at promoting investment in the tourism and hospitality sector. These programs may include tourism development funds, low-interest loan schemes, and investment incentives for hotel expansion projects. Government support in financing tourism infrastructure can significantly enhance the growth of the hospitality industry and increase Zambia's competitiveness as a tourist destination.
- Strengthening Financial Management Practices in Hotels: Hotel managers should strengthen financial management and risk management practices in order to ensure effective utilization of borrowed funds. Proper financial planning, budgeting, and monitoring of financial performance are essential for ensuring that debt financing contributes positively to business growth. Hotels should also develop internal financial control systems that monitor debt levels, repayment obligations, and profitability indicators in order to avoid financial distress associated with excessive borrowing.
- Improving Access to Credit for Small and Medium Hospitality Businesses: Many small and medium-sized hotels face challenges accessing debt financing due to strict collateral requirements imposed by financial institutions. Policymakers and financial institutions should therefore explore alternative financing mechanisms such as credit guarantee schemes, tourism development funds, and SME financing programs that reduce borrowing constraints for hospitality businesses. Improving access to credit will enable smaller hotels and lodges to invest in infrastructure development, improve service quality, and compete effectively in the tourism market.
- Future Research Directions: Future research should explore the long-term impact of debt financing on the financial sustainability of hospitality businesses. Further studies could also examine how different types of financing, such as equity financing, venture capital, and government tourism grants, influence business performance in the hospitality sector. Additionally, future studies could expand the scope of analysis by examining multiple tourism destinations across Zambia, including Lusaka, Ndola, and the Copperbelt Province. Comparative studies involving several tourism regions would provide broader insights into the relationship between financing strategies and business performance in the hospitality industry. Future research could also incorporate advanced econometric models such as panel data regression, structural equation modeling, and financial risk analysis in order to further examine the relationship between financing strategies and business performance.

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The authors declare no conflicts of interest.

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Ethical considerations

Ethical approval was obtained. Data confidentiality and participant consent were ensured.

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