The relationship between inventory handling procedures and the financial performance of SMEs in Kampala District, Uganda quantitative, correlational, cross-sectional survey.

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Abstract
Background
Liquidity is a precondition to ensure that firms are able to meet their short-term obligations, and its continued flow can be guaranteed from a profitable venture to guarantee efficient financial performance. Moreover, 40% of the SMEs in Kampala close down operations after two years of operation. This study aimed to investigate the relationship between inventory handling procedures and the financial performance of SMEs in Kampala district**.**

Methodology
A quantitative, correlational cross-sectional research design was employed, utilizing self-administered questionnaires to collect data from 5 SME directors, 159 SME employees, and 10 Uganda Investment Authority officials.

Results
The study recorded relatively high, 80% and 94.3% response rates among SME directors and Employees, respectively, and a lower rate, 60% among UIA (Uganda Investment Authority) employees. The majority, 62.5% were male compared to females, 37.5%, 56.9% were aged 31-45 years, and 71.3% were married. There was a strong positive correlation (r = 0.597) between inventory handling procedures and the financial performance of SMEs positive correlation between inventory handling procedures and financial performance. The Beta coefficient of 0.14 suggests that for every unit increase in inventory handling procedures, financial performance increases by 0.14 standard deviations. The T-value of 2.115 is significant at the 0.05 level. Effective inventory handling procedures were strongly associated with improved financial performance.

Conclusion
Effective Inventory handling policies contribute to efficient operations within SMEs. When these policies are well implemented, they smooth cash flows, reduce operational risks, and improve financial outcomes. Correlational findings underscore the importance of effective financial policies in driving the financial performance of SMEs in Kampala District.

Recommendation
SMEs should evaluate and refine their inventory handling policies to adapt to changing business environments and maximize their financial performance. Enhance and ensure that the financial policies of SMEs are well-coordinated and aligned with their overall business objectives.

Background

Inventory refers to a central management function that serves as a cornerstone of supply chain management and logistics in an enterprise setting. Inventories in warehouses, as regards the organizational context, may be required to fulfill customer demands. The control of inventory is vital to the success of an enterprise, which consequently affects its organizational performance (Munyaka & Yadavalli, 2022). Small businesses are viewed as an essential element of a healthy and vibrant economy. They are seen as vital to the creation of an enterprise culture and to the creation of jobs within the Ugandan frugality (Mayanja & Mayanja, 2020). Inversely, in Uganda, the SMEs hold a central place in the economy, accounting for 90% of business stock (those employing up to 50 workers) and employing roughly 25% of private sector workers (Sunday, Turyahebwa, & Byamukama, 2023).

Liquidity that deals with the operation of current means and current arrears is veritably important as it has a direct impact on the fiscal performance of any establishment or business in respect to profitability (Appuhami, 2008; Deloof, 2003). John Sagan (1955), as cited by De Chazal Du Mee (1998), argues that the net working capital of any enterprise refers to the net current asset position or the excess of current assets over current liabilities grounded in the working capital proposition. The working capital obeys the short-term fiscal conditions of a business enterprise. It is a trading capital, not retained in the business in a particular form for longer than a time (Sathyamoorthi, Mapharing, & Dzimiri, 2020). To some extent, enterprises that invest heavily in force and trade credit can suffer reduced profitability. Therefore, the lesser the investment in current means, the lower the threat, but also the lower the profitability attained (Cosci, Guida, & Meliciani, 2020).

The operation of working capital is important to the fiscal health of businesses of all sizes. The quantities invested in working capital are frequently high in proportion to the total means employed, and so these quantities must be used in an effective way (Mugisha, Omagwa, & Kilika, 2020). In Uganda, Small and Medium Enterprises (SMEs) play a pivotal part in the economy, contributing 20% to the Gross Domestic Product (GDP) and employing over 1.5 million people, which accounts for 90% of total on-farming private sector workers (Akumu et al., 2023). Numerous SMEs in Kampala District warrant the necessary coffers (both fiscal and moral) to optimize their working capital practices; hence, there is a need for capacity-structure programs, training, and mentorship to empower SMEs to better manage their working capital (Obed et al., 2024). This study thus focused on investigating the relationship between inventory handling procedures and the financial performance of SMEs in Kampala district.

Methodology
Study design
The study was a quantitative, correlational, cross-sectional survey. The quantitative paradigm was used, which used techniques and measurements that produce numerical or quantifiable data, and statistical tools were used for analysis (Mugenda & Mugenda, 2003). The study was correlational since Pearson correlation was used in order to determine or describe in quantitative terms the degree to which the variables are related, that is, the degree to which liquidity was related to the financial performance of SMEs. The study used a survey method in order to obtain descriptions of a particular group of SMEs and a cross-sectional survey in that it was used to gather data from a sample of the population at a particular time (Amin, 2005:212).

Population size
In this study, the target population involved 5 directors of selected SMEs, with 250 employees of each, 10 employees from Uganda Investment Authority; thus, a total population of 260 people was selected as study participants.

Sampling strategies
The study was based on sampling because of the large target population.
Using Krejcie and Morgan (1970) as cited in Amin (2005:454), the sample size for 5 Directors of selected SMEs was 159 employees of selected SMEs, and 10 employees from UIA were used. The list of SMEs and their respective employees aided in the use of the simple random sampling method to select the respondents without bias (Amin, 2005). The Directors of SMEs and the Employees of the UIA were purposely selected in order to gain more insights about the working capital practices and financial performance of SMEs, as the target groups have access to such key information.

Table 1: Sample size, sampling techniques

Respondents	Population	Sample size	
SME Directors	5	5	Purposive sampling
SME Employees	250	159	Simple random sampling
UIA employees	10	10	Purposive sampling
Total	**260**	**174**	

Source: Uganda Investment Authority (2023).

Data collection methods
Self-Administered Questionnaires (SAQs) were used because of their nature of use of one one-time data collecting device on the variables of interest in the study (Amin, 2005). Each item on the questionnaire was developed to cover the specific objectives, study questions, and hypotheses under study (Mugenda & Mugenda, 2003).

Data collection instruments
The SAQ is composed of 3 sets. One set was for directors, the second set was for employees, and the third set was

directed to Uganda Investment Authority officials. Each questionnaire consisted of a title, an introduction, and questions on the dependent variable, which is the financial performance of SMEs, which was conceptualized on profitability and solvency performances of the selected small and medium enterprises. Questions on the independent variable were conceptualized into inventory handling procedures.

All questionnaires had a classification item, which helped to identify the respondents from the various SMEs and UIA officials. There were both open-ended questions to obtain the in-depth feeling of respondents and closed-ended questions for easy administration.

Data quality control
Content validity of the instruments was ensured by ensuring that questions or items corresponded to the conceptual framework. The lecturers of business management were used as judges to evaluate the relevance, wording, and clarity of the questions or items; they were the experts, like accountants and financial managers. The content validity index (CVI) was computed (0.84) and compared with 0.7 as suggested by Amin (2005), and thus the instruments were accepted.

The reliability of the instrument was computed using a split-half reliability test and Spearman's Brown Prophecy, which were applied to obtain the result. The Cronbach alpha coefficient of 0.8 was obtained and compared with 0.7 as suggested by Amin 2005).

Procedure

Permission from the School of Graduate Studies and Research to continue with the study was sought. A letter of introduction to carry out a study for academic purposes from the University was obtained, the study assistants who helped in the distribution and collection of the questionnaires to the SMEs, and UIA officials.

Data analysis
The SAQs, which had complete data, were edited, categorized, and entered into SPSS for summarizing using simple and complex frequency tables or cross-tabulation. The computation of relative frequencies, mean, and standard deviation was done using SPSS at the univariate level. At the bivariate level, SMEs' financial performance was correlated with the respective concepts of profitability and solvency using Pearson methods as appropriate. At the multivariate level, SMEs' financial performance regressed with all the concepts of liquidity at once using multiple linear regression.

Ethical approval
Permission from the School of Graduate Studies and Research to continue with the study was sought. A letter of introduction to carry out a study for academic purposes from the University was obtained, the study assistants who helped in the distribution and collection of the questionnaires to the SMEs, and UIA officials.

Informed consent
There was full disclosure, total comprehension, and respondents voluntarily consented to participate in the study.

Results
Response rate for the study

Table 2: Response rate for the study

Respondents	Questionnaires issued	Questionnaires returned	Response rate
SME Directors	5	4	80%
SME Employees	159	150	94.3%
UIA employees	10	6	60%
Total	**174**	**160**	**91.9%**

According to findings in Table 2, the response rates for SME Directors and Employees were relatively high, with 80% and 94.3% respectively. This indicates a strong level of engagement and willingness to participate among SME stakeholders. However, the response rate for UIA (Uganda Investment Authority) employees is comparatively lower at 60%. This suggests challenges in obtaining responses from this group, potentially due to time constraints. The overall response rate for the study was 91.9%, calculated by dividing the total number of questionnaires returned (160) by the total number of questionnaires issued (174), and then multiplying by 100.

Despite the variation in response rates across respondent types, the overall response rate of 91.9% is considered

satisfactory for a research study. It indicates a high level of participation and provides a robust dataset for analysis. Overall, the response rate demonstrates the feasibility and success of data collection efforts for the study, providing a solid foundation for analyzing the relationship between liquidity and the financial performance of SMEs in Kampala District, Uganda.

Demographic characteristics of the respondents

Gender, age, marital status, and level of education were used as demographic characteristics of the respondents, and the findings are as follows.

Table 3: Demographic characteristics of the respondents

Characteristic	Frequency	Percent (%)
Gender		
Male	100	62.5%
Female	60	37.5%
Total	160	100%
Age (years)		
18 - 30 years	46	28.8%
31 – 45 years	91	56.9%
46 – 60 years	19	11.9%
61& Above years	4	2.4%
Total	160	100%
Marital status		
Single	36	22.5%
Married	114	71.3%
Separated	6	3.8%
Widowed	4	2.4%
Total	160	100%
Level of education		
Primary	21	13.1%
Secondary	46	28.8%
Certificate	32	20%
Diploma	36	22.5%
Bachelors	21	13.1%
Masters	4	2.4%
Total	**160**	**100%**
Years of working with SME(s)		
0-5years	89	55.6%
6-10 years	59	36.8%
11+ years	12	7.6%
Total	**160**	**100%**

Source: Primary data (2024).

According to findings in Table 3 on the characteristics of the respondents, the following were observed.

Gender distribution

The study had more male respondents (62.5%) compared to female respondents (37.5%).
This gender distribution suggests a gender disparity in the SME sector in Kampala District, with more male participation in small and medium enterprises.

Age distribution

According to findings, the majority of respondents were aged between 31 and 45 years (56.9%), followed by those aged 18-30 years (28.8%), indicating that the working-age population is actively involved in SME activities. The lower representation of older age groups (46-60 years and 61 & above years) implies that younger individuals are more engaged in SMEs in Kampala District.

Marital status

A significant percentage of respondents were married (71.3%), while a smaller proportion was single (22.5%). The marital status distribution may indicate that individuals with family responsibilities are actively involved in SMEs in the region.

Level of Education

According to findings, there was a diverse educational background among the respondents, with the highest percentage holding secondary education (28.8%) and diploma qualifications (22.5%). The representation of different education levels suggests a varied skill set and knowledge base among SME owners or employees in Kampala District, which can impact the financial performance of the businesses.

Years of Working with SME(s)

The majority of respondents had 0-5 years of experience working with SMEs, accounting for 55.6% of the total. A significant proportion of respondents had 6-10 years of experience, making up 36.8% of the total. A smaller percentage of respondents had 11 or more years of experience working with SMEs, representing 7.6% of the total.

The higher percentage of respondents with 0-5 years of experience indicates that there was a substantial number of relatively new entrants in the SME sector in Kampala District.

Individuals with 0-5 years of experience may be more prone to challenges related to business management, financial decision-making, and navigating the complexities of running an SME. Respondents with 6-10 years of experience may have acquired a certain level of proficiency in managing liquidity, financial resources, and operational aspects of SMEs, potentially leading to improved financial performance. Those with 11 or more years of experience likely bring a wealth of knowledge and expertise to the table, which could positively affect the financial stability and growth of SMEs.

The distribution of years of experience among respondents reflects a range of expertise levels within the SME sector in Kampala District, Uganda. Individuals with varying years of experience play crucial roles in shaping the liquidity management and financial performance of SMEs.

Table 4: Inventory handling procedures and financial performance of SMEs in Kampala District, Uganda.

Statement	Mean	Std
SMEs have inventory Management Systems in place.	4.3	0.4
SMEs have established minimum and maximum stock levels for each item	4.5	0.3
SMEs have a method in place for evaluating their inventory	4.2	0.5
SMEs conduct thorough inspections of new stock	4.8	0.1
SMEs have proper storage spaces for stock	4.2	0.4
SMEs have efficient order processing procedures	1.6	0.2
SMEs regularly reconcile physical inventory counts with the records in the inventory management system	2.5	0.3
SMEs generate inventory reports	4.1	0.3
SMEs build strong relationships with suppliers	3.9	0.5
SMEs continuously evaluate and improve their inventory handling procedures	2.3	0.5

To explore the relationship between inventory handling procedures and financial performance of SMEs in Kampala District, Uganda, descriptive analysis of responses that were captured using Likert 5 point scale where 5- Strongly Agree (SA), 4- Agree (A), 3-Not sure (NS), 2-Disagree (D), 1-Strongly Disagree (Purwanto et al.), Mn- Mean, Std-standard deviation were used.

According to findings, the statement "SMEs have inventory Management Systems in place" had a mean of 4.3 and a standard deviation of 0.4. The statement "SMEs have established minimum and maximum stock levels for each item" had a mean of Mean=4.5, Std=0.3.

The statement "SMEs have a method in place for evaluating their inventory" had a mean of 4.2 and a standard deviation of 0.5. The mean score for having a method in place for evaluating inventory was also high. The statement "SMEs conduct thorough inspections of new stock" had a mean of 4.8 and a standard deviation of 0.1. The statement "SMEs have proper storage spaces for stock" had a mean of 4.2 and a standard deviation of 0.4. The statement "SMEs have efficient order processing procedures" had a mean of 1.6 and

a standard deviation of 0.2. The low mean score for efficient order processing procedures is a concern. The statement "SMEs regularly reconcile physical inventory counts with the records in the inventory management system" had a mean of Mean=2.5, Std=0.3. The mean score for reconciling physical inventory counts with records is moderate.

The statement "SMEs generate inventory reports" had a mean of 4.1 and a standard deviation of 0.3. The high mean score indicates that SMEs in Kampala District were actively generating inventory reports. The statement "SMEs build strong relationships with suppliers" had (Mean=3.9 Std=0.5). The statement "SMEs continuously evaluate and improve their inventory handling procedures, Continuous Improvement" had (Mean=2.3, Std=0.5).

Correlational findings on the relationship between inventory handling procedures and financial performance of SMEs in Kampala District, Uganda.

Table 5: Correlational findings on the relationship between inventory handling procedures, polices, and financial performance of smes in Kampala District, Uganda.

		Inventory handling procedures
Financial performance of SMEs	Pearson Correlation	0.597**
	Sig. (2-tailed)	0.000
	N	160

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

The correlation between Inventory Handling Procedures and Financial Performance of SMEs was 0.597. There was a strong positive correlation (r = 0.597) between inventory handling procedures and the financial performance of SMEs. This suggests that as SMEs implement better inventory handling procedures, their financial performance tends to improve. Similar to accounts receivable policies, this correlation is highly significant at the 0.01 level.

Discussion

Inventory handling procedures and financial performance of SMEs in Kampala District, Uganda

According to findings, the statement "SMEs have inventory Management Systems in place" had (Mean=4.3, Std=0.4. The high mean score indicates that SMEs in Kampala District generally have inventory management systems in place. This is positive as having such systems can lead to better inventory control and management.

The statement "SMEs have established minimum and maximum stock levels for each item" had a mean of Mean=4.5, Std=0.3. The high mean score suggests that SMEs in Kampala District have set minimum and maximum stock levels for each item. This can help prevent overstocking or stockouts and contribute to efficient inventory management.

The statement "SMEs have a method in place for evaluating their inventory" had a mean of 4.2 and a standard deviation of 0.5. The mean score for having a method in place for evaluating inventory was also high. This indicates that SMEs were using proper valuation methods such as FIFO or LIFO, which is important for financial reporting accuracy.

The statement "SMEs conduct thorough inspections of new stock" had a mean of 4.8 and a standard deviation of 0.1. The very high mean score suggests that SMEs in Kampala District are diligent in conducting thorough inspections of new stock. This helps to ensure product quality, prevent inventory shrinkage, and maintain customer satisfaction.

The statement "SMEs have proper storage spaces for stock" had a mean of 4.2 and a standard deviation of 0.4. The mean score for having proper storage spaces for stock was also high, indicating that SMEs are mindful of storing their inventory in organized and efficient ways.

The statement "SMEs have efficient order processing procedures" had a mean of 1.6 and a standard deviation of 0.2. The low mean score for efficient order processing procedures is a concern. This suggests that there were inefficiencies in the order fulfillment process, which could impact customer satisfaction and overall financial performance.

The statement "SMEs regularly reconcile physical inventory counts with the records in the inventory management system" had a mean of Mean=2.5, Std=0.3. The mean score for reconciling physical inventory counts with records is moderate. This area may require improvement to ensure accurate inventory management and financial reporting.

The statement "SMEs generate inventory reports" had a mean of 4.1 and a standard deviation of 0.3. The high mean score indicates that SMEs in Kampala District were actively generating inventory reports. This practice provides valuable insights for decision-making and performance evaluation.

The statement "SMEs build strong relationships with suppliers" had a mean of 3.9 and a standard deviation of 0.5.

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The mean score for building strong relationships with suppliers was moderate. Establishing good supplier relationships was key to ensuring timely deliveries, quality products, and favorable terms.

The statement "SMEs continuously evaluate and improve their inventory handling procedures, Continuous Improvement" had (Mean=2.3, Std=0.5). The low mean score for continuously evaluating and improving inventory handling procedures suggests that there is room for enhancement in this area. Continuous improvement is crucial for adapting to market changes and optimizing operations.

The findings indicate that SMEs in Kampala District generally have good practices in place regarding inventory management, such as inventory systems, stock level control, inspections, and storage. However, some areas may require attention, such as order processing efficiency, inventory reconciliation, supplier relationships, and continuous improvement efforts. Addressing these areas could further enhance the financial performance of SMEs in Kampala District.

While SMEs generally demonstrate good practices in inventory management, such as having inventory systems in place and setting minimum and maximum stock levels, there are areas for improvement, such as order processing efficiency and continuous improvement efforts. The literature underscores the importance of optimizing inventory handling procedures to minimize costs and maximize profitability.

The correlation between Inventory Handling Procedures and Financial Performance of SMEs was 0.597. There was a strong positive correlation ($r = 0.597$) between inventory handling procedures and the financial performance of SMEs. This suggests that as SMEs implement better inventory handling procedures, their financial performance tends to improve.

Conclusion

SMEs generally demonstrate strengths in inventory management, with high scores in areas such as having inventory management systems, setting stock levels, conducting inspections of new stock, and maintaining proper storage spaces. These practices contribute to efficient inventory control and management.

Recommendation

Addressing the identified areas for improvement in financial management practices, leveraging strengths in inventory management, and emphasizing the implementation of effective financial policies can contribute to enhanced financial performance and the sustainability of SMEs in Kampala District, Uganda.

SMEs should establish policies and procedures for identifying, managing, and writing off bad debts. Management of SMEs should implement strategies to minimize the occurrence of bad debts, such as setting credit limits and monitoring inventory procedures.

List of abbreviations
CVI: Content Validity Index
GDP: Gross Domestic Product
KACITA: Kampala City Traders Association
ROA: Return on Assets
ROE: Return on Equity
SME: Small and Medium Enterprises
SPSS: Special Package for Social Scientists
UIA: Uganda Investment Authority

Conflict of interest
The author declares no conflict of interest.

Author contribution
PR-Study developer, coordinator, and data analyzer.
AR supervised the study.

Data availability
Data is available upon request

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