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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# Internal control systems, working capital management and financial performance of supermarkets

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**Abstract:** The purpose of this paper is to examine the contribution made by the internal control systems and working capital management on financial performance of supermarkets. This study is cross-sectional and correlational, and it uses firm-level data that were collected by means of a questionnaire survey from a sample of 110 supermarkets in Uganda. Results suggest that working capital management is a significant predictor of financial performance. Contrary to previous thinking internal control systems do not significantly predict financial performance. Therefore, once organizations have appropriate working capital management, they are also likely to have adequate internal control systems that enhance financial performance. This study focuses on supermarkets in Uganda, and it is possible that these results are only applicable to the supermarkets. More research is therefore needed to further understand the contribution of the internal control systems and working capital management on financial performance in other



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### PUBLIC INTEREST STATEMENT

To date, supermarkets are failing to continue operating in the foreseeable future due to poor financial performance. Financial performance is the degree to which financial objectives of the organization are being or have been achieved. Supermarkets in Uganda are failing to achieve their financial objectives due to ineffective internal controls and poor management of working capital. This study suggests that to ensure increase in financial performance, supermarkets ought to improve their working capital management through holding optimal levels of inventory, debtors, cash and creditors. This will ultimately shorten the working capital cycle and thus increase financial performance of the supermarkets. Additionally, the supermarket owners and managers should design, implement and maintain strong systems of internal controls to minimize theft, and to ensure that the entity's operations are conducted in accordance with the provisions of the applicable laws and regulations.

sectors. The results are important for internal control and working capital policy development, for example, in terms of prescribing the internal control systems and working capital requirements for the organizations to enhance financial performance. Internal control systems and working capital management have apparently hitherto been the subject of limited consideration by most supermarkets in Uganda. Nevertheless, this study, in possibly the most thorough treatment so far, highlights the areas requiring improvement to enhance financial performance.

**Subjects: Business, Management and Accounting; Accounting; Auditing**

**Keywords: Internal control systems; working capital management; financial performance**

### 1. Introduction

The aim of this paper is to study the contribution made by the internal control systems and working capital management on financial performance. Financial performance is the degree to which financial objectives of the organization are being or have been achieved (Fullerton & Wempe, 2009; Huselid, 1995). According to Yoo and Park (2007), financial performance is an important aspect of the organization's financial risk management and helps to measure the results of an organization's policies and operations in monetary terms. Besides, the increased need to quantify the organization's overall financial health has elevated the need for examination of financial performance (McGuire, Sundgren, & Schneeweis, 2017). A study of the financial performance of supermarkets is even more important because economic growth has changed the consumption habits of most societies (Hansson & Eriksson, 2002). This in turn has influenced the transformation of traditional shopping outlets and led to the establishment of Supermarkets (Moore & Robson, 2008). Nevertheless, the Global value chain (2016) analysis which provides insights into changes taking place in both global trade and regional trade indicates persistent financial and organizational crisis within supermarkets.

In Uganda, supermarkets are prevalently facing poor financial performance in terms of low profitability, inadequate liquidity and reduced returns on equity which has led to the closure of giant supermarkets like Uchumi, Nakumatt, Payless, Cash and carry and some branches of ShopRite like Metropole branch (Ernst and Young, 2011; Muhumuza & Semakula, 2015; Odyek, 2017; UIA, 2015). Similarly, majority of supermarkets are facing financial crises though they opt not to disclose owing to the adverse impact on the shareholder's wealth, fear of damaging their reputation and losing public confidence (Odyek, 2017; Uganda Small Scale Industries Association (USSIA), 2015; Ishengoma & Kappel, 2008; Tushabonwe, 2006); Kasekende & Opondo, 2003). According to Niresh (2012), working capital management is considered to be a crucial element in determining the financial performance of an organization. However, working capital management in most supermarkets in Uganda is inadequate owing to poor cash management, defective creditors' management, poor inventory management and inappropriate debtor's management (Odyek, 2017; USSIA, 2015). Similarly, internal control systems in supermarket is wanting due to unstandardized control environment, poor information systems and inadequate risk assessment systems (Institute of Internal auditors (IIA) (IIA Uganda Chapter, 2015); American Institute of Certified Public Accountants, 2001; Jones, 2008; Krishnan, 2005; Mawanda, 2008). Yet researchers such as Channar, Khan, and Shakri (2015) and Kaawaase (2013) have advocated the extended role of the internal control systems in enhancing financial performance. We reason that if the contribution of internal control systems and working capital management to the enhancement of financial performance remains a burgeoning concern, to financial managers and organizational executives, this is likely to be an issue in view of their much-needed legitimacy because financial managers can face significant familiarity and social pressure threats arising from their relationship with management (Aktas, Croci, & Petmezaz, 2014). Similarly, the general public might consider the contribution to be important when the financial health of the organization pertains to public-

interest organizations (Ironkwe and Wokoma, 2017) such as those in the trading sector. Besides, whether those who design, implement, and maintain internal controls and those who perform the working capital management such as finance managers, perceive the internal control systems and working capital management the same way is scarcely known. Yet the question of whether studies on internal control systems and working capital management provide finance managers and their organizations with applicable advice on financial performance is critical.

To our knowledge, previous studies have not specifically examined the individual contribution of internal control systems and working capital management to the enhancement of financial performance in a developing economy like Uganda. Moreover, the majority of empirical studies examining the relationship between internal control systems, working capital management and financial performance have been based in countries outside Africa such as Pakistan, Sri Lanka, the USA, Republic of Korea, Australia, Malaysia, the UK, (Channar et al., 2015; Bagh, et al., 2016; Niresh, 2012; Yoo & Park, 2007; Beeler, Hunton, & Wier, 1999; Wijewardena et al., 2008). Consequently, further research needs to be carried out to establish whether available research results could be generalized to other countries like Uganda which is still developing. The aim of this study was achieved through a questionnaire survey of 110 supermarkets in Uganda. The results suggest that although internal control systems and working capital management are significantly related to financial performance, working capital management is the only significant predictor of financial performance in the regression model.

The results in this paper are particularly important for a number of reasons. First, they contribute to the existing literature by showing that when supermarkets manage their working capital well and maintain a strong system of internal controls, they are likely to have increased financial performance. This is important for the owners and managers who need more dividends, bonuses and business growth. Second, the study is important for policymakers and regulators who need to motivate and encourage managers and owners of supermarkets to pay more attention on working capital management and internal controls through improving investors' awareness and improving transparency. Finally, the results suggest observed factors for enhancement of financial performance of supermarkets because of the continued undesirable performance.

The rest of the paper is organized as follows. Section 2 reviews literature and develops hypotheses. This is followed by a discussion of the research methodology in Section 3. Section 4 presents and discusses results. The final section is summary and conclusion.

## **2. Literature review and hypotheses development**

### **2.1. Theoretical foundation**

In this study, we apply the agency theory and the cash conversion cycle theory to explain the relationship between internal control systems, working capital management, and financial performance. According to Jensen and Meckling (1976), an agency relationship is a contract under which one or more persons (the principal/s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. Managers as agents of shareholders have a responsibility to design, implement and maintain adequate systems of internal controls in an organization, this is intended to increase on the financial performance of the organization (Aminu & Zainudin, 2016; Namazi, 2012; Adams, 1994). Moreover, an effective internal control system reduces asset loss, ensures that the organization information is complete and accurate, financial statements are reliable and the organization's operations are conducted in accordance with the provisions of the applicable laws and regulations. Thus, the organization's management (the agents) should design, implement and maintain an effective system of internal controls in order to achieve their financial objectives. Nevertheless, the relevance of agency theory to working capital management could be viewed from the perspective of the organization managers, chief finance officers, and accountants, who make the important decisions regarding the short-term assets and liabilities of a business. Such as the levels of

inventory, debtors, creditors, and cash. These agents are supposed to keep those working capital components at optimal levels to ensure increased financial performance. We reason that, if the managers as agents act in the best interest of shareholder(s), then there is likely to be a better implementation of internal controls systems and enhanced working capital management leading to increased financial performance of organizations. Contrarily, the agency theory does not explain how long a company's cash remains tied up in its operations. Thus, we use the cash conversion cycle theory to explain how organizations can ensure a shorter operations cycle to reduce the implications of poor working capital management. The cash conversion cycle theory developed by Richards and Laughlin (1980) measures the length of time between a company's purchase of inventory and the receipts of cash from its accounts receivables. The cash conversion cycle theory is used by management to see how long a company's cash remains tied up in its operations. When an organization or its management takes an extended period of time to collect outstanding accounts receivables, has too much inventory on hand or pays its expenses too quickly, it lengthens the cash conversion cycle. A longer cash conversion cycle means it takes a longer time to generate cash, which can mean insolvency for organizations. When a company collects outstanding payments quickly, correctly forecasts inventory needs or pays its bills slowly, it shortens the cash conversion cycle. A shorter cash conversion cycle means the company is healthier. Additional money can then be used to make additional purchases or pay down outstanding debt. When a manager has to pay suppliers quickly, it is known as a pull on liquidity, which is bad for the company. When a manager cannot collect payments quickly enough, it is known as a drag on liquidity, which is also bad for the company (Aminu & Zainudin, 2016). Therefore, in the overall, one can conveniently say that the cash conversion cycle theory is the most central one in explaining working capital management as it is concerned with all the concepts and components, ranging from raw materials to finished products, and outputs representing inventory levels, to receivables and payment representing the cash aspect.

## **2.2. Internal control systems**

Internal control systems are processes aimed at assuring the achievement of an organization's objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations, and policies (Michelon, Bozzolan, & Beretta, 2015). Internal control systems begin as internal processes with the positive goal of helping a corporation meet its set objectives (Cunningham, 2004). Indeed, internal control systems are an integral part of any organizations' financial and business policies and procedures (Mwakimasinde et al., 2014; Beeler et al., 1999). This is because internal control systems consist of all the measures taken by the organization for the purpose of; protecting its resources against waste, fraud, and inefficiency; ensuring accuracy and reliability of accounting and operating data; ensuring compliance with the policies of the organization; evaluating the level of performance in all units of the organization (Kabuye, et al., 2017; Eko & Hariyanto, 2011). According to Nyakundi et al., (2014), internal control systems can reveal problems associated with lower revenues, and explore links between earnings management and disclosure of material weakness and fraud. Like others, Fadzil, Haron, and Jantan (2005) suggests that an effective internal control system explicitly correlates with organizational success in meeting its revenue target level. Descriptively, effective internal control for revenue generation involves; regular review of the reliability and integrity of financial and operating information, a review of the controls employed to safeguard assets, an assessment of employees' compliance with management policies, procedures and applicable laws and regulations, an evaluation of the efficiency and effectiveness with which management achieves its organizational objectives (Ittner, Larcker, & Randall, 2003). Later, Abdullahi and Muturi substantiate this by suggesting that management of the organization that is committed to the internal control systems, actively participates in monitoring and supervision of its activities. In this regard, polity and hierarchical structure of a denomination affect the quality of an organization's system of internal control (Duncan, Flesher, & Stocks, 1999). On the contrary, Michelon et al. (2015) found an inverse association between the extent of internal control system disclosure and the proxies for board monitoring. Corroboratively, only general management competencies have a relationship with the economic sustainability of these business entities (Bruwer et al., 2017; Onumah et al., 2012). The above

discourse suggests that the exact influence of the internal controls systems on the financial performance of supermarkets in Uganda remains unknown. Nevertheless, the organization management is in a special position to ensure enhanced financial performance through designing, implementing and maintaining effective systems of internal controls (Sarens and Christopher, 2010). Therefore, internal control systems are vital in the enhancement of financial performance of the organization. We, therefore, hypothesize that:

*H<sub>1</sub>. Internal control systems are positively related to financial performance*

### **2.3. Working capital management**

Consistent with the cash conversion cycle (Richards & Laughlin, 1980), working capital management involves the management of the organizations current assets and current liabilities (Aminu & Zainudin, 2016). Indeed, working capital management is a life-giving force to an organization (Bana, 2012; Mukhopadhyay, 2004) and efficient working capital management is one of the pre-conditions for the financial success of an organization (Ghosh & Maji, 2004). Orobia, Padachi, and Munene (2016) indicate that on average, the most frequently performed routines in managing working capital relate to safeguarding cash and inventory, and credit risk assessment. Yet, payment management routines are least performed (Fiador, 2016). Besides, a reduction in the inventories held and in the number of days that firms take to settle their commercial liabilities and to collect payments from its customers are associated to higher corporate profitability (Pais & Gama, 2015). Lyngstadaas and Berg (2016) further divulge that reducing cash conversion cycle will increase profitability. Many (Baker, Kumar, Colombage, & Singh, 2017; Singh & Kumar, 2014) consider working capital management essential for corporate profitability, liquidity and increase in return on equity. This is galvanized by the fact that efficient working capital management ensures that the organization is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses (Altaf and Shah, 2018). Conversely, Abuzayed (2012) indicates that profitability is affected positively with the cash conversion cycle. This reveals that more profitable firms are less motivated to manage their working capital. In addition, financial markets failed to penalize managers for inefficient working capital management in emerging markets. Similarly, organizational attributes like age, level of education and financial management training are inconsequential in determining the likelihood to undertake working capital management frequently (Orobia et al., 2016; Tauringana & Afrifa, 2013). Therefore, there is a need to further scrutinize organizational physiognomies like working capital management in enhancing financial performance (Altaf, and Shah, 2018). We, therefore, hypothesize that:

*H<sub>2</sub>: Working capital management is positively related with financial performance.*

## **3. Methodology**

### **3.1. Research design, population, and sample**

The research design for this study is cross-sectional and correlational. The population of interest is the supermarkets in Uganda. Specifically, the population includes 160 supermarkets in Kampala, Mukono, and Wakiso. This population consisted of members of the Uganda Small Scale Industries Association (USSIA) (USSIA annual report, 2016; KCCA, 2015, UBOS, 2015). In Uganda, most of the supermarkets registered under USSIA are located in Kampala, Mukono, and Wakiso (USSIA annual report, 2016). We determine the sample size using Krejcie and Morgan (1970) and generate a sample size of 113 supermarkets using simple random sampling technique. This procedure involved generating random numbers to the supermarkets from the first to the last until 113 Supermarkets were selected without replacement. Purposive sampling technique was also used to select respondents in the study. The unit of enquiry is any of the two key people involved in ensuring financial performance (the manager or accountant) in each of the sample firms. The respondents were selected by virtue of their position and knowledge

(McEvily and Marcus, 2005). Only 110 firms responded to our questionnaire giving a response rate of 97.4%.

### **3.2. Questionnaire and variable measurement**

A Likert scale questionnaire, designed to measure the opinion or attitude of a respondent is utilized to obtain self-reported information. The questionnaire design is based on our review of relevant literature regarding internal control systems, working capital management, and financial performance. Financial performance (Profitability, Liquidity, and Return on equity) which is the dependent variable was measured using the respondents' mean rank of 28 items included in the questionnaire as adopted with modifications from (Samiloglu & Demirgunes, 2008); Autukaite and Molay (2011) and Kieschnick, Laplante, and Moussawi (2013). Internal control systems with its dimensions of control environment, control activities, information systems, risk assessment (Li, Tian, & Qi (2012); Onumah, et al., (2012); Pathak (2005) was measured using the respondents' mean rank of the 33 items of information included in the questionnaire on a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). Working capital management is measured using stock management, cash management, creditors' management, debtor's management (Abuzayed, 2012; Pais & Gama, 2015). Thus, respondents are asked to indicate their perception of improving working capital management using 35 items which are anchored on a 5-point Likert scale with 1 = strongly disagree and 5 = strongly agree.

### **3.3. Tests of factorability, validity, reliability, and assumptions of parametrical data**

We used exploratory factor analysis (EFA) based on principal components and Cronbach's  $\alpha$  (Tables 1, 2, and 3) to examine the validity and reliability of the scales as measures of internal control systems, working capital management and financial performance of supermarkets. EFA was also performed to identify patterns in data and to reduce data to a manageable level (Field, 2009). To establish convergent validity, the principal components for each variable are extracted by running principal component analysis using varimax rotation method, and factor loadings below 0.5 coefficients were suppressed to avoid extracting factors with weak loadings. Prior to performing the principal component analysis for scales, we assessed the suitability of the data for factor analysis based on sample size adequacy, the Kaiser-Meyer-Olkin (KMO) and Bartlett tests. The results show the KMO values: internal control systems = 0.625, working capital management = 0.685 and financial performance = 0.670. Bartlett's test of sphericity in all scales reached statistical significance ( $p < 0.05$ ) (significant value was 0.00 for each scale). Collectively, these results support the factorability of the correlation matrices because our correlation matrices are significantly different from the identity matrices in which the variables would not correlate with each other. The determinants for all the three matrices were greater than 0.01, implying that there were no multicollinearity or singularity between variables.

To obtain the content validity index (CVI), we dichotomized the rating scale through a duo split of the scores such that rating scores 1–2 = measure not usable, 3–5 = measure usable. The CVI was computed by obtaining the proportion of items assessed as usable divided by the total number of items (Field, 2009). The CVI for each variable was above 0.7 (internal control systems = 0.915, working capital management = 0.808 and financial performance = 0.875). Thus, the instrument attained content validity.

To determine the internal consistency (reliability) of our scales we computed Cronbach's  $\alpha$  coefficients for the study variables. The standardized  $\alpha$  coefficients for all the scales were found to be above 0.70 (internal control systems = 0.815, working capital management = 0.853 and financial performance = 0.805).

Prior to carrying out tests of hypotheses, we checked our data for normality to determine the applicability of parametric tests. This was done by use of skewness and kurtosis statistics. The skewness scores for all variables were close to 0, and kurtosis results were all within the range of -2 and +2; besides standard errors for each of the variables were not very different from their

**Table 1. Factor structure for internal control systems**

Items	Components			
	Control environment	Control activities	Information Systems	Risk assessment
We ensure communication and enforcement of integrity and ethical values	0.852			
We are committed to competence	0.742			
Our board members participate in the designing, implementing and maintaining of controls	0.730			
We operate under a participatory management philosophy and operating style	0.710			
Our organizational structure is clear and easy to understand	0.700			
We ensure proper assignment of authority and responsibility in our organisation	0.632			
Our human resource policies and practices are up to date	0.621			
Our transactions are properly recorded		0.763		
We ensure the preparation of reliable financial statements		0.762		
We always conduct stock taking		0.732		
We prohibit the same person from conducting related transactions		0.705		
We always carry out monthly reconciliation of bank accounts		0.681		
We have adequate physical inventory procedures		0.674		
We always carryout pre-employment screening of applicants for key positions		0.664		
We have adequate controls for safeguarding equipment against un authorised use		0.645		
We ensure effective verification of all transactions		0.637		
Our controls are always reviewed and audited at regular intervals		0.613		
Our system tracks all our company transactions		0.585		
We use information systems to collect data about our stock			0.827	
We use technologies to manage our business activities			0.799	
We use our system to generate timely reports			0.757	
We use our system to run our day to day business operations			0.747	
We use systems to interact with our customers			0.695	
Our transaction processing system collects data from user inputs			0.673	

(Continued)

**Table 1. (Continued)**

Items	Components			
	Control environment	Control activities	Information Systems	Risk assessment
Our systems helps us to analyse all financial transactions			0.641	
We use our customer relationship system to synchronize sales			0.639	
We ensure preparation of the financial statements				0.753
We report deficiencies in the internal control structure policies				0.752
We have an adequate inventory management policy				0.724
We execute transactions in compliance with applicable regulations				0.722
We ensure instant banking of cash receipts				0.702
We always perform audits to obtain reasonable assurance				0.671
We have an effective accounting information system that helps in timely reporting				0.662
Eigen value		5.868	3.004	2.645
Percentage of variance		17.258	8.836	7.779
Cumulative percentage		17.258	26.094	33.873
KMO measure of sampling adequacy				0.625
Bartlett's test of sphericity				1555.151

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser normalization  
**Source:** Primary data.

respective Skewness and kurtosis scores, and therefore, normality assumption was not violated (Garson, 2012). Levene's test (Levene, 1960) was used to test for homogeneity of variance because it is the most commonly used test for each group (Garson, 2012). The test results are non-significant ( $p > 0.05$ ) for all the predictor variables, and thus homogeneity of variance for the categorical variables in relation to the outcome variable is not violated (Field, 2009).

#### 4. Empirical findings

##### 4.1. Sample characteristics

Results from the analysis indicate that out of the 110 questionnaires collected from the field of study, 29 questionnaires were from managers while 81 questionnaires were from accountants. Study results further reveal that 67.6% of the respondents were females whereas 32.4% were found to be males. Thus, the study was gender sensitive. Besides, the respondents were mature enough to respond to the questions of the study. This is because, 39.6% of the respondents were 26 to 30 years, followed by 18 to 25 years (31.5%) and 31 to 35 years (28.9%). The perceptions and attitudes of the person can also differ by the marital status because the marriage might make the person a little more responsible and mature in understanding and giving the responses to the questions asked. The study findings indicated that majority of the respondents were married (59.5%) and the single were 40.5%. Education is one of the most important characteristics that might affect the person's attitude and the way of understanding any particular subject matter. Thus, the response of an individual is likely to be determined by his or her educational status and therefore it becomes imperative to know the educational background of the respondents. Hence,

**Table 2. Factor structure for working capital management**

Items	Components			
	Stock management	Creditors management	Cash management	Debtors management
We always minimise investment in stock to avoid costs associated with stock	0.854			
We have effective stock records	0.792			
We ensure sufficient cash flow in order to meet our short term debt obligations	0.775			
Our stock are always readily converted into cash	0.754			
We carryout weekly stock taking	0.737			
We have effective stock management systems	0.711			
We always maintain efficient levels of stock	0.679			
We always have sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses	0.661			
We review our stock policy monthly	0.575			
We usually have alternative sources of cash in case we forecast deficit		0.768		
Our firm is profitable		0.762		
We usually remind ourselves when our credit obligation is overdue		0.744		
In this institution we always set an effective credit limit		0.695		
We have an effective credit policy for our trade creditors		0.677		
We always pay our suppliers on time		0.668		
We always pay our suppliers in 30 days		0.660		
We have an exceptional relationship with our creditors		0.642		
We always review our credit policy monthly		0.622		
We always wait longer to pay our bills		0.617		
We always have the ability to pay off our short term debt obligations			0.819	
Our enterprise has always been able to meet current obligations using the current cash flows			0.729	
We have a good working capital ratio			0.675	
Our cash at hand is always adequate to match the demands of our customers			0.666	
We have a suitable cash conversion cycle			0.617	
We always sale our assets to increase cash			0.545	

(Continued)

**Table 2. (Continued)**

Items	Components			
	Stock management	Creditors management	Cash management	Debtors management
We always minimise investment in stock to avoid costs associated with stock			0.500	
We always ensure that all payment arrangements with debtors are always confirmed in writing				0.802
Our credit policy is clearly articulated in writing to all debtors				0.774
Our debtors policies are routinely reviewed				0.767
We routinely monitor the debts outstanding to ensure proper action				0.727
We always contact the debtor promptly to confirm they received their invoice				0.721
We always create a monthly debtors aged analysis				0.695
We ensure close monitoring of the debtors ledger				0.673
Credit data products such as ledger monitoring are increasingly available to identify deterioration in credit worthiness				0.639
Our data integrity ensures credit limits are appropriate				0.581
Eigen value	6.94	2.671	2.554	2.193
Percentage variance	19.828	7.631	7.299	6.265
Cumulative percentage	19.828	27.458	34.757	41.022
KMO measure of sampling adequacy				0.685
Bartlett's test of sphericity				1537.064

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser normalization

Source: Primary data.

the “Educational level” was investigated by the researcher and the majority of the respondents had a diploma (50.5%), followed by Bachelor’s Degree (43.2%) and Postgraduates (6.3%). A considerable number of respondents were educated enough and therefore knowledgeable about the subject matter. Working experience varied greatly among the respondents where 38.7% had experience of 1 to 3 years, 32.4% had between 3 and 5 years of experience, and 28.9% had over 5 years of working experience. In addition to the background characteristics, the study also investigated the number of employees in supermarkets. It is evident that the majority of the supermarkets had 10 to 20 employees (56.8%), followed by over 20 employees (43.2%). This is an indicator of good performance in terms of employment. Besides, 11.23% of the supermarkets sampled earn over Ugx 1 billion in terms of annual turnover, 28.58% earn between Ugx 100 million to 999 million per year and the remaining 60.19% earn below Ugx 100 million in a year.

#### 4.2. Descriptive statistics

Table 4 shows the mean scores of the study variables. Financial performance had the lowest mean score of 3.9050 with a standard deviation of 0.37421. Working capital management had the highest mean score of 3.9853 with a standard deviation of 0.40021. As standard deviations relative to mean values are small; the calculated means highly represent the observed data

**Table 3. Factor structure for financial performance**

Items	Components		
	Profitability	Return on equity	Liquidity
In the last 5 years,our business has introduced products or services that were new or improved to the market	0.803		
The volume of sales of the business has increased for the last 5 years	0.792		
Our operating profit to sales ratio has increased over time	0.779		
The level of profits of the business has been registered over time	0.771		
Our sales have improved over time	0.743		
The firm's equity has grown over the years	0.742		
The volume of purchases of the business has increased for the last 5 years	0.74		
We have registered a higher degree of expansion of our business from its earlier initial size	0.710		
We incur low operating costs on sale	0.706		
The volumes of assets attained have increased for the last 5 years	0.678		
The level of profits of the business has raised for the last 5 years	0.638		
The level of gross profit margin of the business has raised for the last 5 years	0.623		
The total assets are mainly financed by members' equity		0.801	
We always exceed our shareholder expectation		0.783	
We have high earnings		0.763	
Our shareholders have realised a very high firm value		0.729	
We aim at increasing the wealth of our shareholders		0.69	
The dividends declared to shareholders have grown over the years		0.689	
Our business rewards its shareholders at their due date		0.653	
Our return on equity has declined over the years		0.569	
We have the ability to sell our investments on time			0.814
We always have a lot of cash at hand to meet our daily obligations			0.809
We always get actual cash from our customers on a timely basis			0.727
We can easily obtain cash from the sale of our stock			0.725
Our supermarket can easily obtain cash by borrowing			0.696
We always maintain our assets maintenance costs as low as possible			0.653

(Continued)

**Table 3. (Continued)**

Items	Components		
	Profitability	Return on equity	Liquidity
We have easily accesible money in form of cash			0.604
We invest in many assets to keep our liquidity levels high			0.589
Eigen value	5.588	2.91	2.26
Percentage variance	19.27	10.034	29.304
Cumulative percentage	19.27	29.304	37.096
KMO measure of sampling adequacy			0.670
Bartlett's test of sphericity			1219.500

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser normalization  
 Source: Primary data.

**Table 4. Descriptive statistics for dependent and independent variables**

Variables	n	Minimum	Maximum	Mean	Std. Deviation
Internal control systems	110	2.85	4.76	3.9575	.34034
Working Capital management	110	2.85	5.41	3.9853	.40021
Financial Performance	110	2.59	4.69	3.9050	.37421
Valid n (listwise)	110				

Source: Primary data

(Field, 2009). The data also indicate that predictor variables are rated high toward financial performance in the supermarkets. This implies that strong internal control systems and effective working capital management are key toward improving financial performance in the organization.

#### 4.3. Correlation analysis results

We present Pearson's correlation coefficient analysis of the study variables. Correlations from Table 5 indicate a significant positive relationship between internal control systems and financial performance ( $r = 0.368^{**}$  and  $p < 0.01$ ). Meaning that when internal control systems are effective, financial performance is enhanced. Thus,  $H_1$  is supported. Similarly, there is a significant positive relationship between working capital management and financial performance ( $r = 0.546^{**}$  and  $p < 0.01$ ), implying that any positive change in working capital management is related to a positive change in financial performance. Thus,  $H_2$  is accepted.

#### 4.4. Regression analysis results

The difficulty with univariate analyses is that they do not control for other factors, thus making the interpretation of the results difficult. We, therefore, extend the analysis to a multivariate setting. We first examine the correlations among our independent variables to determine whether multicollinearity problems exist. Field (2009) suggests that multicollinearity becomes a problem only when the correlations exceed 0.80 or 0.90. As Table 5 shows, none of the correlations between independent variables is close to these threshold values. Nevertheless, Myers (1990) suggests that some degree of multicollinearity can still exist even when none of the correlation coefficients is very large. Therefore, we also examine the variance inflation factors (VIFs) in our model to further test for multicollinearity. The VIF was 1.399 for both

**Table 5. Pearson correlations between the dependent and independent variables**

Variables	1	2	3
Internal control systems (1)	1		
Working Capital management (2)	.534**	1	
Financial Performance (3)	.368**	.546**	1

Notes: n = 110. \*, \*\*indicate that correlation is significant at the 0.05 and 0.01 levels, respectively (one-tailed)  
 Source: Primary data

variables. This is well below the threshold value of 10 suggested by Field (2009) indicating that multicollinearity does not pose a problem to the regressions. Therefore, we proceed with regression analysis to further test the validity of the hypotheses. We use the regression coefficients as indicators of whether or not the contribution of each variable is significant, and the overall contribution of the variables is indicated by the variance explained ( $R^2$ ) that also shows the explanatory power of the variables.

The results in Table 6 show that internal control systems and working capital management predict 29.4% of the variance in financial performance (Adjusted R Square = .294). This means that there are other factors which explain the remaining 70.6% of the variance in financial performance. *Adjusted R<sup>2</sup>* gives the idea of how well the regression model generalizes the study variables, and ideally every researcher would like its value to be the same or very close to the value of  $R^2$ . But, since  $R^2$  is very sensitive to sample size, the adjusted  $R^2$  was used as a better goodness of fit measure (Field, 2009).

In this study, there is a shrinkage (loss of predictive power) of 1.3% ( $0.307 - 0.294 = .013$ ) between  $R^2$  and *Adjusted R<sup>2</sup>*. Meaning that if the model was derived from the population rather than a sample it would account for approximately 1.3% less variance in financial performance. The results further confirm that working capital management is the only significant predictor of financial performance at 5% significance level or better. Thus,  $H_2$  is further supported. However, internal control systems is not a significant predictor of financial performance, hence,  $H_1$  is not held.

### 5. Discussion

The results reported in this paper suggest that working capital management is a significant predictor of financial performance. For example, the results indicate that when organizations have optimum investments in stock they are likely to minimize costs associated with stock hence profitability. This is in line with the suggestion that on average, the most frequently performed routines in managing working capital relate to safeguarding cash and inventory, and credit risk assessment (Orobia et al., 2016; Fiador, 2016). The results also suggest that alternative sources of cash help in ensuring liquidity and having an effective policy for receivables is key for proper working capital management. This corroborate the results of Aminu and Zainudin (2015) who stresses the need for effective management of the entity's current assets and liabilities to ensure financial performance of the entity. Besides, an entity that has the ability to pay off its short term debt obligations in time and create a monthly debtors aged analysis is likely to manage its working capital effectively and thus achieve the desired financial performance. This is consistent with Deloof (2003) who also suggests effective credit policies are paramount toward proper working capital management and eventual financial performance of the organization. This is further spurred by the fact that efficient working capital management ensures that the organization is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses (Altaf and Shah, 2018). Thus, an organization should ensure proper working capital management in terms of ensuring proper stock management, creditor management, cash management, and effective debtor's management to increase their financial performance.

**Table 6. Regression analysis**

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1								
	(Constant)	1.618	.376		4.303	.000		
	Internal control systems	.117	.105	.106	1.115	.267	.715	1.399
	Working Capital management	.458	.089	.490	5.143	.000	.715	1.399

R = .554, R<sup>2</sup> = .307, Adjusted R<sup>2</sup> = .294, F = 23.665, Sig = .000, e = .31448

Dependent Variable: Financial Performance Source: Primary Data

The results further suggest that, though internal control systems have a significant positive relationship with financial performance, its predictive potential is subdued in the regression model. Nevertheless, this does not invalidate it, since, organizations with effective working capital management are also likely to have effective internal control systems which jointly contribute over 29.4% toward increasing financial performance in the supermarkets. Besides, an organization with effective financial reporting structures, adequate physical inventory procedures and verifies all transactions is likely to have better financial performance. This corroborates with Nyakundi et al., (2017), who indicates that internal control systems can reveal problems associated with lower revenues, and explore links between earnings management and disclosure of material weakness and fraud. Nonetheless, organizations should ensure the use of modern technologies to manage business activities effectively. Other, corroborative studies have indicated that effective internal control systems help to assure the achievement of an organization's objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations, and policies (Michelon et al., 2015). Thus, an organization should at all times ensure a favorable control environment, appropriate information systems, effective risk assessment, strong control activities and management should continuously monitor the operating effectiveness of the internal control systems to enhance their financial performance.

## 6. Summary and conclusion

The purpose of this paper is to examine the contribution made by the internal control systems and working capital management on financial performance in the supermarkets. We surveyed 110 supermarkets and we find that working capital management is a significant predictor of financial performance. Once the organization has effective working capital management, it is likely to also have effective internal control systems to enhance financial performance.

This study offers several implications. We explore the role played by the internal control systems in enhancing financial performance, meaning that organizations that design, implement and maintain effective internal controls and have effective financial reporting structures are likely to enhance their financial performance. This study has also established that proper working capital management through effective stock, creditors, debtors and cash flow management is paramount for improving the financial performance of an entity. For policymakers, the findings of this study will help them in prescribing the operating standards for supermarkets, composition, and expertise of the management and effective controls. Besides, the managers of supermarkets should be independent, competent, get adequate support from the owners to ensure effective controls and proper working capital management. The results are important for internal control systems development, for example, in terms of prescribing the control environment, information systems, risk assessment, control activities and monitoring of controls.

Despite the contributions and implications, this study focused on supermarkets in Uganda to determine the contribution of internal control systems and working capital management on financial performance. It is possible that these results are only applicable to supermarkets unlike other institutions. The study also used more of quantitative data which sometimes misses certain information and limits the respondent's opinions on the study variables. While care was taken to control for response bias, it is unlikely it could be ruled out completely. However, this study clearly brought out the overall contribution of internal control systems and working capital management on financial performance.

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