

# Inventory management, managerial competence and financial performance of small businesses

Financial  
performance of  
small  
businesses

379

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## Abstract

**Purpose** – The purpose of this study is twofold (1) to establish the relationship between inventory management, managerial competence and financial performance and (2) to test whether inventory management mediates the relationship between managerial competence and financial performance.

**Design/methodology/approach** – We employed cross-sectional and correlational research designs. A questionnaire survey of 304 small businesses in Uganda was utilized. Hypotheses were tested using a bootstrap analysis technique with the aid of Analysis of Moments Structures (AMOS) software.

**Findings** – Results indicate that inventory management and managerial competence are significantly associated with financial performance of small businesses. Further, inventory management partially mediates the relationship between managerial competence and financial performance.

**Originality/value** – Rather than focusing on only the direct effects of managerial competence and inventory management, moreover independently, the indirect effect of inventory management is tested. Further, the behavioral perspective of inventory management, as opposed to financial ratios, is utilized.

**Keywords** Inventory management, Managerial competence, Financial performance, Small businesses, Uganda

**Paper type** Research paper

## 1. Introduction

Financial performance among small businesses has continued to attract the keen interest of academicians and policy makers across the globe over several decades (Afrifa *et al.*, 2014; Kaguri, 2013; Kasekende, 2018; Mangena *et al.*, 2012); because of its implications on the financial health and ultimate survival of these businesses (Nyabwanga *et al.*, 2012; Agyei-Mensah, 2011; Gul *et al.*, 2013; Oladipupo and Okafor, 2013; Sanda *et al.*, 2011; Olawale, 2014; Ssekakubo *et al.*, 2014). Financial performance reflects management effectiveness and efficiency in making use of a company's resources, and this, in turn, contributes to the country's economy at large (Kamukama *et al.*, 2017; Akisimire *et al.*, 2016). In Africa, several business units/firms have collapsed, and one of the reasons for such collapses is poor



financial performance. For example, over 70% of small businesses in South Africa collapse within the first five years of operation (see [Solomon et al., 2013](#)), about 70% of small and medium enterprises (SMEs) collapse within 24 months in East Africa ([Ojiambo, 2016](#)) and in Kenya alone, about 46% of SMEs close within the year of founding, and another 15% in the year after that ([Kangethe, 2018](#)). In Uganda, the poor financial performance of small businesses is evident in the continuous small businesses' collapses, where 30% of them do not survive to celebrate even their third anniversary ([Afunadula, 2018](#)).

Earlier scholars provide explanations for financial performance such as corporate boards and ownership structure ([Mangena et al., 2012](#)), family firms and family generation ([Muttakin et al., 2014](#)), inventory management ([Afrifa et al., 2014](#); [Magoutas et al., 2012](#); [Gul et al., 2013](#); [Orobia et al., 2013](#); [Koumanakos, 2008](#)), code of corporate governance ([Haji and Mubaraq, 2015](#)), mergers and acquisitions ([Nagasha et al., 2017](#); [Lakstutiene et al., 2015](#); [Tao et al., 2016](#); [Ndung'u, 2011](#); [Akben-Selcuk and Altiok-Yilmaz, 2011](#); [Wanguru, 2011](#); [Vennet, 1996](#); [Delaney and Wamuziri, 2004](#)), board governance and intellectual capital ([Nkundabanyanga, 2016](#); [Nkundabanyanga et al., 2014](#)), ownership concentration and identity ([Desoky and Mousa, 2013](#)), bribery ([Williams et al., 2016](#)), board structure ([Bhatt and Bhattacharya, 2015](#)), learning capability ([Goh et al., 2012](#)), managerial competence ([Kamukama et al., 2017](#); [Moreau and Mertens \(2013\)](#); [Zacca and Dayan \(2018\)](#)), innovative capability and strategic goals ([Donkor et al., 2018](#)) and quality management ([Roca-Puig and Escrig-Tena, 2017](#)). However, most of the above studies have used evidence from other countries other than Uganda except for [Kamukama et al. \(2017\)](#), who conducted their study on the financial performance of Uganda's commercial banks, and found that managerial competence is significantly associated with financial performance. Also, it was the same result for [Nkundabanyanga \(2016\)](#) and [Nkundabanyanga et al. \(2014\)](#), who provide evidence from service firms in Uganda, which do not hold inventory.

Existing literature suggests that effective and efficient inventory management can have a significant impact on financial performance ([Afrifa et al., 2014](#); [Magoutas et al., 2012](#); [Gul et al., 2013](#); [Orobia et al., 2013](#); [Koumanakos, 2008](#)). There is also support for the relationship between managerial competence and financial performance ([Kamukama et al., 2017](#); [Olawale, 2014](#); [Sanda et al., 2011](#); [Ssekakubo et al., 2014](#); [Nkundabanyanga et al., 2014](#); [Nyabwanga et al., 2012](#); [Moreau and Mertens, 2013](#); [Zacca and Dayan, 2018](#)). We offer that while inventory management and managerial competence can individually explain the financial performance of a business, the mechanism in which managerial competence affects financial performance is better felt through inventory management. We argue as follows:

First, inventory management involves determining the right quantities to order and to hold at a given time because of the associated costs ([Koumanakos, 2008](#); [Magoutas et al., 2012](#); [Gul et al., 2013](#); [Afrifa et al., 2014](#)). Holding too much inventory increases tied-up capital which results into deterioration, obsolescence, damage and loss of inventory through pilferage and burglary ([Dong and Su, 2010](#); [Gul et al., 2013](#); [Karim et al., 2017](#)). On the other hand, shortage of inventory is associated with interruption of sales due to stock-outs, poor consumer relations and underutilized machines and equipment ([Dong and Su, 2010](#); [Gul et al., 2013](#); [Olowolaju, 2013](#); [Karim et al., 2017](#)). This is only not possible if the individual involved possesses the knowledge, skills and abilities necessary in planning, monitoring and controlling inventory level. Thus, when small business managers possess the basic knowledge of inventory management strategies, the skills and abilities of applying the strategies, this will improve the way they manage their inventory ([Orobia et al., 2013](#)), which, in turn, will improve their business sales and profitability. This means that whichever way businesses choose to plan, monitor and control their inventory, the unit heads or managers' "know-what," "know-when," "know-how" and "know-why" cannot be assumed or ignored.

Second, the contribution effect of inventory management and managerial competence on financial performance is supported by the Resource-Based View (RBV). The RBV argues that organizations can sustain performance by leveraging the resources they hold ([Wernerfelt,](#)

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1984; Amit and Schoemaker, 1993; Barney *et al.*, 2001). Owing to the nature of small businesses, management of these businesses revolves around the owner/manager, and therefore, their business knowledge, skills and abilities (D'Amboise and Muldowney, 1988; Martin and Staines, 1994; Orobia *et al.*, 2013) become key resources for improving financial performance. The dynamic capability theory offers further support. The theory considers the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece *et al.*, 1997). In managing inventory, firms must take into account the fact that customer preferences are volatile and avoid overstocking items that may end up having a negative impact on financial performance. Thus, dynamic capabilities are necessary in ensuring inventory is managed efficiently in order to avoid the risk of inability to meet customer demands on the one hand, and prevent excessive investment in inventory on the other hand (Eljelly, 2004; Danlami, 2016; Karim *et al.*, 2017).

To the best of our knowledge, we do not find evidence of studies that investigate the mediation effect of inventory management in the relationship between managerial competence and firm performance using evidence from Uganda's small businesses. We also do not find perception-based studies that employ questionnaires to examine the relationship between managerial competence, inventory management and financial performance using evidence from Uganda. It has been argued by previous scholars (see Bananuka, 2020; Dolinšek and Lutar-Skerbinjek, 2018; Bananuka *et al.*, 2018) that perception-based studies incorporate respondent's (managers') opinions and position on the subject matter. For instance, in inventory management, those managers who may not have been aware of certain techniques that are ideal for improving operations become aware of such techniques, which is not the case with studies that employ disclosure indices or financial ratios. In this study, the respondents were the managers and or owners of small businesses whose perceptions on the study topic are relevant for improving their business operations. The finance literature is replete with studies that use the traditional financial analysis approach for investigations (see Tauringana and Afrifa, 2013). Such studies have tended to employ the classical Popperian view (Popper, 1959), which investigates the outcomes in order to understand the process. As such, they are constrained to answering "what" state the business is in, and have failed to highlight the factors that create the distinctive processes that lead to the efficient and effective management of inventory or lack of. In this study, we provide such evidence through a questionnaire survey of 304 small businesses in Uganda's second largest commercial district and largest in Western Uganda - Mbarara. A bootstrap analysis technique with the aid of Analysis of Moments Structures (AMOS) software was employed to test the study hypotheses. The results showed that inventory management and managerial competence are significantly associated with financial performance. Further, inventory management partially mediates the relationship between managerial competence and financial performance.

The results expand our knowledge on the relationship between inventory management and financial performance, which, as noted by Karim *et al.* (2017), is still mixed. We provide initial empirical evidence on the specific pathway in the relationship between managerial competence, inventory management and financial performance of small businesses by documenting that inventory management mediates the relationship between managerial competence and firm performance. In practice, managers need to update themselves with new knowledge and skills and improve their abilities in managing inventory since poorly managed inventory has a negative effect on financial performance. The various agencies responsible for building capacity for managers of different businesses such as the Ministry of Trade and Industry need to equip managers of small businesses with knowledge, skills and alert them of the abilities for managing inventory in order to improve their financial performance.

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The rest of the paper proceeds as follows: [Section 2](#) is study setting, while [section 3](#) is literature review and hypotheses development. [Section 4](#) explains the study's methodology and [Section 5](#) presents results. [Section 6](#) is discussion of results while [section 7](#) is conclusion and implications.

## 2. Study setting

Uganda is a landlocked country found in East Africa. This landlocked ness has an impact on the development of businesses since businessmen prefer to locate their businesses in areas where there is an improved infrastructure that enable easy access to markets. We see most big businesses established in countries with better infrastructures and this implies that good managers of businesses cannot be found in small businesses in Uganda, and yet, businesses without managers are bound to fail. It is thus important that small business owners acquire managerial competencies that are necessary to improve their financial performance in all means. We reason that managerial competencies will improve inventory management practices, and this will, in turn, improve the financial performance. Uganda has also been characterized by civil wars and political unrest. As a result, Businesses during colonial times collapsed immediately after independence from Britain in 1962. We see Uganda getting back to normal in the 1990s, but still, there remained cases of civil wars. This implies that there are no serious businesses being established by indigenous Ugandans other than small businesses. Given such situations of uncertainty caused by civil wars and political unrest, we see the informal sector being vibrant in Uganda, with so many small businesses being established.

Uganda has been ranked the most entrepreneurial country, but the failure rate of businesses is high, with about 30% of small businesses not surviving to celebrate even their third anniversary ([Afunadula, 2018](#)). These failure rates are a reflection of poor financial performance, a concern that cannot be ignored. For a business to survive, it must be in a position to have continuous sales, an increase in sales, an increase in profits and the ability to meet the obligations when they fall due ([Olwolaju, 2013](#); [Danlami, 2016](#)). It is a known fact that small businesses play a critical role in a country's economy in terms of job creation, income generation and poverty reduction ([Uganda Bureau of Statistics, 2018](#)). In this study, we consider those businesses identified in the census of business establishment 2010/11, which was conducted by the Uganda Bureau of Statistics in the category of micro-business and small businesses as small businesses. This is because, small businesses were defined as those businesses with an annual turnover of between five and ten million Uganda shillings, and micro-businesses were defined as those businesses with an annual turnover of less than five million Uganda shillings. Both micro and small businesses can employ up to 50 people ([Uganda Bureau of Statistics, 2018](#)). As the information on the annual turnover of businesses could not be ascertained by the small business owners themselves but could easily provide information on the number of employees, we considered that small businesses are those that employ less than 50 people. They also make a significant contribution to a country's GDP. The next census of business establishments in Uganda will be carried out in 2020. For the Ugandan case, if the informal sector, where 90% of the small businesses lie, does not perform well, the entire economy will suffer ([Kasekende, 2018](#)).

Small businesses in Uganda lack formal systems, structures and procedures as they rely on mental records, are not under pressure for proper financial reporting and their customers and suppliers are not sufficiently sophisticated to demand for accounting documents such as invoices and statements ([Orobia et al., 2013](#)). These factors have a bearing on how such businesses manage their inventory. As such, we go beyond the "numbers" and adopt the behavioral perspective and introduce the role of managerial competence, which cannot be understood by a mere examination of the financial ratios.

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### 3 Literature review and hypothesis development

#### 3.1 Theoretical foundation

3.1.1 *The resource-based view.* The Resource-Based View (RBV) suggests that a firm's resources and its capability to convert these resources to provide sustainable competitive advantage are the keys to superior performance (Barney, 1991; Grant, 1991; Wernerfelt, 1984). In other words, it is a model that sees resources as key to superior firm performance. Firm resources have been defined as all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. that a firm uses to devise and practicalize its plans to improve its efficiency and effectiveness (Daft, 1983). Barney (1991) groups these resources into tangible resources (physical resources) and intangible resources (nonphysical resources). Two assumptions are fundamental to the RBV: (1) resources are distributed heterogeneously across firms, and (2) heterogeneity across firms can be long-lasting since the productive resources cannot be transferred from firm to firm without cost. The proponents of the RBV state that a firm's resources can provide sustainable performance if they are valuable, rare, inimitable and nonsubstitutable. The RBV is of particular relevance in this study, as it contends that sustainable firm performance is contingent on a business' unique offerings, and the development of this uniqueness over time through nurturing the firm's core competencies. We posit that when owner/managers of small businesses possess the required competencies, they will be able to translate this into improvement in inventory management, which, in turn, will lead to better financial performance.

3.1.2 *The dynamic capability theory.* The Dynamic Capability Theory (DCT) is an extension of the RBV to cater for the changing environment (Teece *et al.*, 1994, 1997). The theory suggests that profitability in an environment of rapid changes and technological advancements can be ensured through perfecting/mastering an organization's own internal technologies, managerial and organizational processes (Teece *et al.*, 1994). Teece *et al.* (1997) define dynamic capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments." They refer to "the capacity of an organization to purposefully create, extend, or modify its resource base" ( Helfat *et al.*, 2007). The DCT is relevant in our study in that it explains the way organizations develop firm-specific competencies to respond to changes in the business environment and how it is ultimately related to the firm's business processes, market positions and opportunities. According to Teece *et al.* (1997), "Processes encompass the way things are done in organizations and they have three roles; coordination, learning and reconfiguration" (pg. 518). "Positions define specific endowments of technology, intellectual property, complementary assets, customer base, and its external relations with suppliers and complementors" (pg. 521). Small businesses operate in a highly volatile market – people's tastes and preferences keep changing rapidly. According to the DCT, such business can only be able to thrive in a rapidly changing environment if they can learn how to cope up with the changes. Small businesses in Uganda are characterized as the "me-too" businesses in the sense that people tend to start doing what others are doing. This has an implication on how they integrate their resources and manage them. There is a likelihood that they will respond to changes in the environment in a similar manner.

Based on the RBV, we reason that the different managerial competencies can explain variations in the financial performance of different firms. In a study by Kaawaase *et al.* (2019), it was argued that RBV provides an explanation for the different levels of intellectual capital in informing differences in a firm's performance. In reference to the current study, the different managerial competencies such as the knowledge, skills and abilities of managers in a firm determine how inventory is managed, and this ultimately explains the level of the financial performance of such firms. Because the RBV is static (Kaawaase *et al.*, 2019; Williamson, 1999) and yet the DC considers environments that are turbulent, we supplement our RBV with DC. It is important for managers of small businesses to keep acquiring more

knowledge and skills, especially soft skills that are relevant to the changing environment. For example, small business managers need to be innovative and customer focused if they are to cope up with the competitive environment. Therefore, knowledge and skills of managing inventory are very critical since holding inventory for long may be disastrous and costly especially perishable inventory but also having stock-outs may lead to customers losing trust in the business and opting for competitors. The failure by managers to transform knowledge, skills and abilities into products and services that are demanded by clients is expected to affect the financial performance of small businesses.

### *3.2 Empirical literature and hypothesis development*

*3.2.1 Managerial competence and financial performance.* Managerial competence refers to the knowledge, skills and abilities in planning, monitoring and controlling operations of an organization (Armstrong, 2006; Hormiga *et al.*, 2011). Managing activities requires the ability of an individual to access and gather data, process it into useful information and arrive at an appropriate and useful decision in order to initiate the actions necessary to accomplish the assignment in an acceptable manner. Previous studies report that managerial competence is positively linked to financial performance. For instance, Sanda *et al.* (2011) examined the managerial competence challenges of executives of small firms and their nonperformance in the Ghanaian industrial environment. Their findings revealed a positive relationship between the managers' behaviors and the performance of the firms. The researchers concluded that executives with the necessary managerial capabilities are in a better position to drive the organization towards attaining the organization's set goals.

Similarly, Ahmad *et al.* (2010) contend that financial performance is influenced by a set of skills, related knowledge, traits and attitudes that an individual possesses which allow the person to perform a task or an activity within a specific function or job that in turn influences the financial performance. Further, research by Olawale (2014) on the impact of managerial competencies on the performance of immigrant-owned enterprises in South Africa showed that businesses whose owners had higher education and prior related experience performed better than those whose owners did not have higher education and prior related experiences. In the same vein, Ssekakubo *et al.* (2014) investigated the relationship between managerial competence and the financial performance of savings, credit and cooperative societies (SACCOs) in the Eastern part of Uganda, and the results showed a positive relationship between managerial competence and financial performance. Similar results on the relationship between managerial competence and financial performance were found by Mitchelmore and Rowley (2010), Zacca and Dayan (2018) and Ng and Kee (2018). In this study, we expect that any improvement in the managerial competence of the owner/manager will be associated with improvement in financial performance. Thus, we hypothesize that:

*H1.* There is a positive relationship between managerial competence and the financial performance of small businesses.

*3.2.2 Inventory management and financial performance.* The primary objective of inventory management is to avoid too much and too little inventory so that uninterrupted production and sales, minimum holding costs and better customer services is achieved (Olowolaju, 2013; Nyabwanga *et al.*, 2012; Koumanakos, 2008); and when this is achieved, profitability and liquidity position of the organization is improved. An effective inventory management system involves good planning and budgeting systems as well as reliable sales forecasts (Atrill, 2006; Pandey, 2006). This means that organisations should have good reporting systems and application of inventory management techniques such as the economic order quantity and the ABC analysis methods to try to optimize inventory levels. According to Gitman (2009), organisations that manage their inventory efficiently and effectively do not

experience production stoppages or holding costs. Yet, previous studies show that inventory management in SMEs remains a challenge; For instance, [Agyei-Mensah \(2011\)](#) examined working capital management practices in the Nigerian small businesses and reported that 70% never review stock levels and 80% never use the economic order quantity model. Likewise, [Howorth and Westhead \(2003\)](#) investigated take-up of working capital management routines in UK SMEs and found that 89% of the respondents never use the economic order quantity technique, while 51% review stock level and 46% prepare stock budgets. [Nguyen \(2001\)](#) investigated financial management practices in the Vietnamese small businesses, and reported that 46% of the respondents always prepare inventory budgets; 51% review inventory levels monthly; 94% determine inventory levels based on the owner/manager's experience, while 89% do not know the economic order quantity model. Earlier scholars like [Chittenden et al. \(1996\)](#), [Grablowsky \(1984\)](#), [Grablowsky and Rowell \(1980\)](#) report similar findings.

Organizations need to emphasize effective and efficient inventory management in order to avoid stock-outs while minimizing holding costs ([Tauringana and Afrifa, 2013](#)). This requires one to know the strategies involved in determining optimal inventory level, inventory planning, monitoring and control. In other words, it requires the “know-what,” “know-why,” “know-when” and “know-how” of handling inventory. It requires skills and the ability to make things happen. This is where the issue of competence comes in. Managers with proven skills and abilities in inventory management systems enable businesses to transform inventory into a proactive force that lowers inventory investment, and thus reduces carrying costs, and boosts confidence in physical supply and distribution service levels ([Tauringana and Afrifa, 2013](#)).

A study by [Danlami \(2016\)](#) investigated the effect of inventory management on the financial performance of Nigerian conglomerate companies for a period of 2010–2014. The Pearson correlation and multiple regression results revealed a positive and significant relationship between inventory management and financial performance. The researcher concluded that the absence of proper inventory management strategies impedes the sales and profit levels of the companies. Similarly, a study by [Hamza et al. \(2015\)](#) examined the role of inventory management on the financial performance of SME's in the northern region of Ghana. Their results revealed that SME's financial performance is positively related to the way inventory is managed. Inventory is one of the most difficult assets to manage in an organization given the fact that it is susceptible to theft and obsolescence caused by changes of tastes and preferences ([Peel et al., 2000](#); [Haworth and Westhead, 2003](#)). It is, therefore, paramount to keep track of inventory movements and avoid unnecessary losses that may, in the end, hamper the financial performance of a firm ([Ogbo and Onekanma, 2014](#)). We thus hypothesize that:

*H2.* There is a positive relationship between inventory management and financial performance.

In addition, we test whether inventory management mediates the relationship between managerial competence and financial performance. In the current highly competitive environment, the role of managerial competences in managing inventory cannot be ignored ([Magoutas et al., 2012](#)). This is true because, once those in charge of inventory in an organization possess the necessary knowledge and skills, it becomes easy for them to utilize the various inventory management techniques such as just in time, economic order quantity and others, something that may ease the determination of the re-order level quantities from time to time. Besides, knowledgeable and experienced individuals are in a position to negotiate for better cost and timing with suppliers. As such, it is easy for such individuals to institute measures to ensure that inventory levels are neither too high nor too low ([Kamukama et al., 2017](#)). In their study, [Tauringana and Afrifa \(2013\)](#) reported that

individuals with competencies in managing inventory levels are in a position to determine the required inventory quantity, identify reliable suppliers, establish the time to place orders and avoid stock-outs and overstocking, and this, in turn, may lead to improved financial performance.

Unfortunately, studies that investigate the mediating role of inventory management in the relationship between managerial competence and financial performance are scarce. Available studies are limited to testing the direct effects of managerial competence and inventory management on financial performance (see [Afrifa et al., 2014](#); [Magoutas et al., 2012](#); [Gul et al., 2013](#); [Kamukama et al., 2017](#); [Ssekakubo et al., 2014](#); [Nkundabanyanga et al., 2014](#); [Nyabwanga et al., 2012](#); [Moreau and Mertens, 2013](#); [Zacca and Dayan, 2018](#)) and yet, we are aware of costs associated with inventory management such as holding and handling costs which carry financial implications. We believe that properly managed inventory saves costs and increases sales since scenarios such as stock-outs may not be existent. Once customer orders are fulfilled, they will inform other customers and this directly has an impact on financial performance. However, it takes a manager with sufficient skills, knowledge and abilities to have inventory management techniques that are aimed at minimizing costs and maximizing revenue. In this study, we try to test whether, indeed, managers with competencies such as knowledge, skills and abilities can properly manage inventory to improve the firm's financial performance. We thus hypothesize that:

- H3.* Inventory management mediates the relationship between managerial competence and financial performance.

## 4. Methodology

### 4.1 Design, population and sample

This study utilized cross-sectional and correlational research designs. The population comprised of 4,408 small businesses operating in the Mbarara district (Business and Licensing department, as at 30<sup>th</sup> September 2016), out of which a sample size of 354 was determined using the mathematical formula by [Yamane \(1967\)](#). The choice of the Mbarara district is because it has the highest concentration of businesses in western Uganda and is the second-largest commercial city in Uganda after Kampala ([Uganda Bureau of Statistics, 2011](#)). A simple random sampling method was used to select the participants in this study. We received only 304 useable questionnaires (86% response rate), which were considered for analysis. The owner or manager filled the survey questionnaire. Going by exception, the majority of the participants were male (63%) aged between 30–40 years (40%). Surprisingly, we found individuals below the age of 18 years already owning and managing small businesses. We wondered whether such people could properly manage their businesses. It should be noted that, according to the Constitution of the Republic of Uganda, a mature person is aged 18 years and those below are considered children. Respondents with diploma qualifications were the highest (27%) followed by those with secondary certificates (26%). In terms of marital status, 66% of the respondents were married (see [Table 1](#) for respondents' profile).

### 4.2 Measures and the questionnaire

A closed-ended questionnaire was utilized to collect the data as opposed to an open-ended questionnaire. Our choice is based on the following reasons, as suggested by [Sudman and Bradburn \(1982\)](#). First, it allows for the computation of mean scores, which facilitate other statistical analyses. Second, there is less likelihood of researcher bias in summarizing the responses. Last, it is easy to establish not only the direction of the responses but also the degree of intensity with which the views were held. The questionnaire was developed using items measure developed and tested by previous scholars ([Boyatzis, 2008](#); [Sanda et al., 2011](#);

Category	Scale	<i>n</i> = 304 (100%)
Gender	Male	192 (63%)
	Female	112 (37%)
Age	10–20 years	7 (2%)
	21–30 years	66 (22%)
	31–40 years	123 (40%)
	41–50 years	73 (24%)
	Above 50 years	35 (12%)
Education Qualification	Primary certificate	47 (15%)
	Secondary certificate	79 (26%)
	College certificate	22 (7%)
	Diploma	84 (28%)
	Bachelor's degree	66 (22%)
	Others	7 (2%)
Marital Status	Married	200 (66%)
	Single	99 (32%)
	Divorced	5 (2%)

Source(s): Primary data

**Table 1.** Demographic characteristics

Global Variable	Dimensions and issues to examine	Measurement	Sample questionnaire items
Managerial competence (Boyatzis, 2008; Sanda <i>et al.</i> , 2011; Ssekakubo <i>et al.</i> , 2014)	<i>Knowledge</i> -How much knowledge does the respondent have in selected management aspects	Respondents' mean rank of 5 items included in the questionnaire on a 4-point scale ranging from "not at all knowledgeable" to "very knowledgeable"	Gathering up-to-date information required to perform duties
	<i>Skills</i> -How skillful the respondent is in the selected management activities	Respondents mean rank of 7 items included in the questionnaire on a 4-point scale ranging from "not at all able" to "very able"	Problem identification
	<i>Ability</i> -Gauging the level of abilities in the prescribed management activities	Respondents' mean rank on 5 items included in the questionnaire on a 4-point scale ranging from "not at all skilled" to "very skilled"	Meeting the objectives/goals of the business
Inventory management (Orobia <i>et al.</i> , 2013; Agyei-Mensah, 2011)	Activities involved in planning, implementing, monitoring and control of inventory	Respondents' mean rank on 6 items included in the questionnaire on a 4-point scale ranging from "never" to "always"	Make plans on when to stock goods
Financial performance (Afrifa, 2013; Nyabwanga <i>et al.</i> , 2012; Walker and Brown, 2004; Simpson <i>et al.</i> , 2004a,b)	Perceived growth in sales, profits, and cash in the last three year period	Respondents' mean rank of 6 items included in the questionnaire on a 4-point scale ranging from "less than 5%" to "over 11%"	Sales volume has steadily increased

**Table 2.** Operationalization and measurement of variables

Ssekakubo *et al.*, 2014; Orobia *et al.*, 2013; Agyei-Mensah, 2011). Nonetheless, a few modifications were made to suit the study context. The indicator variables of managerial competence, inventory management and financial performance were anchored on a four-point scale and varied as presented in Table 2.

#### 4.3 Control for common methods variance

Cognizant of the fact that common methods variance (CMV) affects questionnaire-based studies in social sciences (Gorrell *et al.*, 2011), we attempt to detect whether CMV is present as it leads to a false internal consistency. We employ several methods to control the CMV in this study. First, multiple scales are used for perceptive, independent constructs. Second, the respondent's anonymity is protected so that their responses are more aligned to the research goal. Besides, the respondents are expressly assured that there are no right or wrong answers as long as the responses are honest. The objective was to reduce the respondent's apprehension over their responses hence reducing the chance that they can edit their answers to give what they perceive as the best answers. Third, we limit reverse scoring and avoid "double-barrelled" questions so as to reduce the risk of reducing scale reliability. Lastly, the survey tool was pre-tested for the survey by a representative group of respondents (academics and practitioners) in order to support the instrument's content validity.

#### 4.4 Data screening and quality control

The field data was first screened to take care of missing values and outliers. There were no scenarios of missing values since we ensured that the questionnaire was fully filled before leaving the respondent's venue. This was achieved by explaining to the respondent the importance of having a fully completed questionnaire to avoid some respondents complaining of unfair treatment. Politeness was observed throughout the exercise. For outliers, there were none. We used the statistical package for social scientists (SPSS) for our analysis. This was followed by parametric assumption tests. All the assumptions were upheld. Confirmatory factor analysis was performed to verify the dimensionality and assess whether or not the measurement models provided an adequate fit to the data. Item loadings, average variance extracted (AVE) and composite reliabilities were used as indicators of validity and reliability. Table 3 shows that the AVE for the global variables (managerial competence, inventory management and financial performance) and the constructs were above the recommended cut-off of 0.5 (Hair *et al.*, 2010), indicating convergent validity.

In assessing discriminant validity, correlations among constructs were compared with the respective construct reliabilities, as recommended by Hair *et al.* (2010). It was found that no correlation coefficient exceeded the construct's reliability, as shown in Table 4. Thus, indicating the measurement scales' ability to discriminate between measures that are supposed to be distinct. The retained items were then used to compute the study constructs to enable further analyses. Before going to the field, we gave our research instrument to four academicians and five practitioners to evaluate our questionnaire. Their suggestions were carefully reviewed and the questionnaire was adjusted accordingly so that only valid questions are retained.

## 5. Results

### 5.1 Statistical modeling and hypothesis testing

A model for managerial competence, inventory management and financial performance was estimated using SEM. The model fit was tested using the goodness-of-fit index (GFI) which should be  $\geq 0.90$ , Tucker–Lewis index (TLI) should be  $\geq 0.90$ , Comparative fit index (CFI) should be  $\geq 0.90$ , Normed fit index (NFI) should be  $\geq 0.90$ , root mean square error of approximation (RMSEA) should be  $\leq 0.06$  and the ratio of chi-square to degrees of freedom (CMIN/DF) should be  $< 3$ . The critical ratio (CR) was used for statistical significance of parameter estimates (Hu and Bentler, 1999; Hair *et al.*, 2010; Kim *et al.*, 2007). The results in Figure 1 show that the model fit indices were within acceptable standards and estimates of the hypothesized relationships (see also Figure 2).

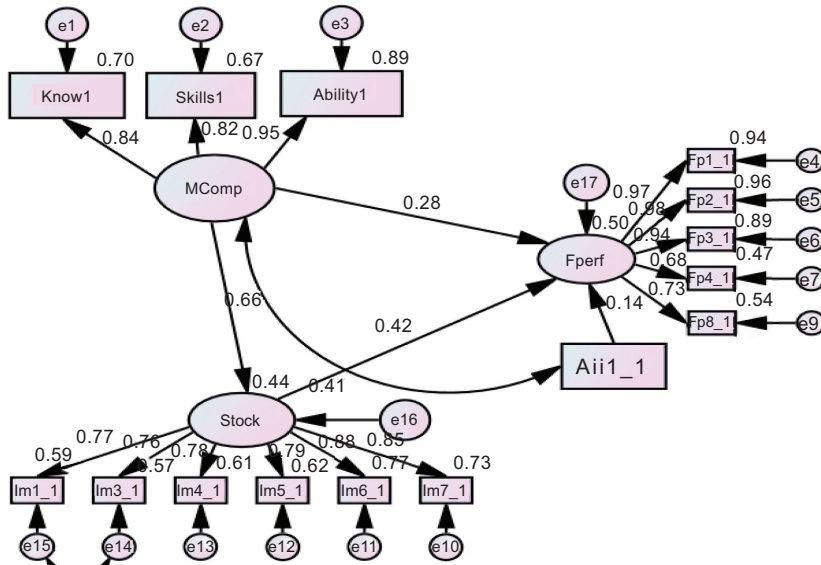
Item	Std. Est	C.R.	Cronbach's alpha	AVE	Financial performance of small businesses
<i>Managerial Competence Knowledge</i>			<i>0.880</i>	<i>0.634</i>	<b>389</b>
Gathering up-to- date information required to perform duties	0.811				
Determining the size of the product/service market	0.845	18.370			
Coming up with new business ideas/innovations	0.829	17.885			
Basic accounting principles	0.795	16.891			
Motivating subordinates	0.692	14.073			
<i>Ability</i>				<i>0.552</i>	
Meeting the objectives/goals of the business	0.766				
Upholding work procedures and standards	0.733	14.389			
Taking timely decisions	0.748	14.731			
Helping the employees to come up with new ideas	0.76	15.017			
Getting things done as expected	0.707	13.788			
<i>Skills</i>				<i>0.538</i>	
Problem identification	0.766				
Leadership	0.711	13.649			
Managing change	0.768	14.92			
Employee motivation	0.722	13.896			
Inter-personal relations	0.651	12.363			
Communication	0.76	14.737			
Supervision	0.749	14.508			
<i>Inventory management</i>			<i>0.918</i>	<i>0.654</i>	
Make plans on when to stock goods	0.784				
Write down details of stock whenever purchases are made	0.773	15.624			
Review stock levels	0.781	15.819			
Limit access to the storage facilities	0.783	15.877			
Check stock conditions	0.878	18.352			
Maintain some stock in order to be on the safe side	0.848	17.564			
<i>Financial performance</i>			<i>0.929</i>	<i>0.691</i>	
Sales volume has steadily increased	0.966				
The profits have steadily increased	0.982	54.625			
Sales volume has increased	0.941	41.361			
Total assets have increased	0.685	16.943			
The total cost of operation has increased	0.597	13.57			
Cash levels have improved	0.734	19.274			

**Table 3.**  
CFA regression weights

Item	1	2	3	4	5
Managerial knowledge –1	<i>0.894</i>				
Managerial ability –2	0.639**	<i>0.890</i>			
Managerial skills –3	0.807**	0.771**	<i>0.857</i>		
Inventory management –4	0.509**	0.623**	0.600**	<i>0.918</i>	
Financial performance –5	0.535**	0.591**	0.543**	0.620**	<i>0.929</i>

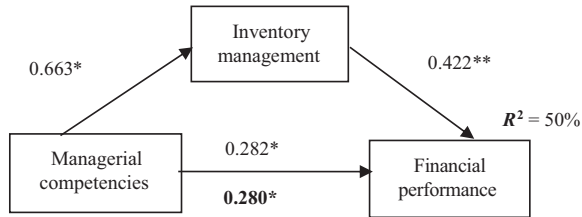
**Table 4.**  
Discriminant validity (correlation coefficients and reliabilities)

In this study, we test the mediation effect of inventory management in the relationship between managerial competence and financial performance. We do this by testing the direct and indirect effects using the bootstrapping procedure as recommended by Preacher and Hayes (2008) and Hayes and Preacher (2010). The results are presented in Table 5.



**Figure 1.**  
Structural model for  
hypothesis testing

Chi-square = 222.237, df = 85, p = 0.000 RMSEA = 0.068, GFI = 0.921, TLI=0.964 CFI = 0.971, NFI = 0.954



**Figure 2.**  
Mediation effect

**Note(s):** \*\*. Correlation is significant at the 0.01 level (2-tailed)  
\*. Correlation is significant at the 0.05 level (2-tailed)

**Table 5.**  
Total, direct and  
indirect effects

Item	Business age	Managerial competence	Inventory management
<i>Standardized Total Effects</i>			
Inventory management	-	0.663*	-
Financial performance	0.139*	0.562*	0.422**
<i>Standardized Direct Effects</i>			
Inventory management	-	0.663*	-
Financial performance	0.139*	0.282*	0.422**
<i>Standardized Indirect Effects</i>			
Inventory management	-	-	-
Financial performance	-	0.280**	-

**Note(s):** \*\*Correlation is significant at the 0.01 level (2-tailed); \*Correlation is significant at the 0.05 level (2-tailed)

**Source(s):** Primary data

The results reveal the following. First, there is a significant direct effect of managerial competence on financial performance ( $\beta = 0.282$ , S.E = 0.106,  $t = 4.566$ ). This provides support for hypothesis 1 (H1). The results imply that positive changes in managerial competence are associated with positive changes in financial performance. Second, there is a significant direct effect of inventory management on financial performance ( $\beta = 0.422$ , S.E = 0.099,  $t = 7.060$ ). This implies that positive changes in inventory management affect financial performance positively, thus providing support to hypothesis 2 (H2). Third, the standardized indirect effect termed as an index of mediation for the indirect effect of inventory management is 0.280 (95%, CI [0.224, 0.367]). This represents 49.8% (approx. 50%) of the total effect. This implies that while 50% of the effect of managerial competence is transmitted indirectly through inventory management, the remaining 50% effect is directly transmitted. There are arguments that if the indirect effect is above 0.5, then it is full mediation. However, the mediation remains partial if the correlation between the predictor variable and the outcome variable reduces but remains significant. In any case, inventory management mediates the relationship between managerial competence and financial performance and thus, hypothesis 3 (H3) is also supported.

Overall, the predictors explain approximately 50% of the variance in financial performance. We now discuss these results in detail in the section that follows.

## 6. Discussion

The overarching theme arising out of this study is that managerial competence improves the financial performance of small businesses through inventory management. Based on the RBV and the DC theories, it is now clear that managerial competencies such as knowledge, skills and abilities are important resources in ensuring proper management of inventory in order to improve the financial performance of small businesses. In this study, inventory management is taken to mean the actions involved in planning, monitoring and controlling inventory in a manner that will ensure that the business maintains an optimum level of inventory at all times. This, therefore, requires an application of proper planning, monitoring and control strategies, of which the right knowledge, skills and abilities is pertinent. By their nature, small businesses may not have the advanced technologies of managing inventory; however, in their rudimentary way, it is important that they manage their inventory well. Empirical studies preceding our study have shown this evidence. A study by [Orobia et al. \(2013\)](#) revealed that typical inventory planning in small businesses starts with generating a list of inventory requirements (a shopping list). This list doubles as an inventory/purchase budget and a purchase requisition note. The list is then matched against the cash available and credit is only sought in case of insufficient cash. In record keeping, some owner/managers record inventory in “a way that they can understand,” while others feel there was no need to keep records so long as they could remember (recall) what came in and what went out. In monitoring inventory levels, an assumed inventory limit is usually set below which inventory is not allowed to drop. A physical inventory count against the set limit is conducted on a daily basis. These are some of the actions involved in managing inventory in a typical small business in a developing country like Uganda.

Nonetheless, results reported in our study posit that owner/managers are unable to manage inventory effectively and efficiently without the necessary knowledge, skills and abilities. As earlier mentioned, the knowledge on sophisticated techniques such as the economic order quantity, ABC analysis and other inventory modeling tools may not be applicable in the inventory management processes for small businesses in Uganda. What seems relevant is the basic knowledge to plan, monitor and control of inventory. This basic knowledge can be obtained through formal education and prior related experiences. In fact, the demographic statistics reveal that majority of the respondents are diploma holders.

Further, initiation of different activities involved in managing inventory depends on the person's perceived abilities or capacity to perform the given tasks, implying that when owner/managers of small businesses perceive they have the capability to perform certain tasks, this perception will drive them into action. According to [Ajzen \(1991\)](#), peoples' actions are driven by their innermost thoughts on whether they have the abilities perceived as important for task performance, as well as the belief that they will be able to effectively convert those skills into a chosen outcome. Scholars like [Wood and Bandura \(1989\)](#) state that such beliefs can be built through mastery experience. They add that one's mastery experiences reinforce self-efficacy beliefs through the cognitive processing of such information. In that, if one has repeatedly viewed these experiences as successes, self-efficacy beliefs will increase; if these experiences were viewed as failures, self-efficacy beliefs will decrease. This suggests that when people develop a sense of confidence in their capabilities through experiencing success, then failures and setbacks may be more effectively managed. Thus, if owner/managers can build their confidence through mastery experiences, they can develop ways of managing inventory. This, in turn, will enhance inventory management incidence.

The objective of inventory management is to, on the one hand, minimize the associated carrying and holding costs, and on the other hand, to maximize the associated benefits; of which managerial competence is pertinent as supported by the arguments of [Kamukama et al. \(2017\)](#) and [Karim et al. \(2017\)](#). When owner/managers possess the necessary managerial competence, this will improve the way they manage inventory, which in turn will improve the financial performance of small businesses. Thus, the results on the mediating role of inventory management in the relationship between managerial competence and financial performance mean that the specific mechanism or pathway by which the relationship between managerial competence and financial performance occurs is indirect, although inventory management takes away part of the contribution. The results on the relationship between managerial competence and financial performance are consistent with previous scholars such as [Ahmad et al. \(2010\)](#), [Moreau and Mertens \(2013\)](#), [Olawale \(2014\)](#), [Ssekakubo et al. \(2014\)](#), [Kamukama et al. \(2017\)](#) and [Zacca and Dayan \(2018\)](#) who contend that a firm's financial performance is improved by individuals with specific knowledge, skills and abilities to do different managerial functions because they are in a position to initiate programs that give the firms a competitive advantage over their rivals. Further, the results on the relationship between inventory management and financial performance are supported by [Danlami \(2016\)](#); [William and Nyambura \(2015\)](#) who contend that proper inventory management leads to growth in sales and profits. The findings are further supported by [Nyabwanga et al. \(2012\)](#), and [Hamza et al. \(2015\)](#), whose studies concluded that financial performance can be improved if proper inventory management practices are implemented by firms/business. Similar findings on the relationship between inventory management and financial performance were established by other scholars like [Afrifa et al. \(2014\)](#), [Magoutas et al. \(2012\)](#), [Gul et al. \(2013\)](#) and [Koumanakos \(2008\)](#). Unfortunately, studies on the mediating role of inventory management in the relationship between managerial competence and financial performance are scarce. This study, therefore, provides empirical evidence on this.

## 7. Conclusion and implications

The aim of this paper was to report the results of a study carried out to (1) establish the relationship between managerial competence, inventory management and financial performance of small businesses and (2) ascertain whether inventory management mediates the relationship between managerial competence and firm performance. These objectives were achieved through a questionnaire survey of 304 small businesses. Results

suggest that both managerial competence and inventory management are significantly associated with firm performance. Further, inventory management mediates the relationship between managerial competence and financial performance. These results imply that managers need to be innovative and acquire more soft skills that are relevant for coping up with the turbulent environment, as emphasized in the DC theory.

Largely, the findings of this study have important implications for academics, practitioners and regulators. Those in the academic sphere are now aware that inventory management mediates the relationship between managerial competence and financial performance, unlike previously, when academicians knew of the direct effect of managerial competence to financial performance. The managers and owners of small businesses now appreciate the importance of acquiring soft skills which are customer focused. Those in the practice of managing business now appreciate that being innovative in inventory handling helps to improve performance. The owner/managers need to be pro-active and familiarize themselves with better work methods that can improve inventory management and this will lead to improved financial performance. Policymakers such as the Government through the Ministry of Trade may require managers of such small businesses to acquire or have relevant skills for managing inventory. This may be done through developing policies that aim at empowering managers and owners of businesses to obtain more knowledge and skills that are critical for improving firm performance.

The study limitations can be seen as avenues for future research. The extant literature is short of studies on the mediating role of inventory management in the relationship between managerial competence and financial performance and this deprived our study of the opportunity to cross-validate the findings on mediation. Future studies should be conducted to confirm these results. This study employed only a single research methodological approach. Future research could be undertaken using a mixed approach and triangulation to compare findings. Finally, this study only considers financial performance and neglects nonfinancial performance. It is important that there are studies on nonfinancial performance using evidence from Uganda. Nevertheless, the study makes a contribution to financial performance studies by documenting evidence of the mediating role of inventory management in the relationship between managerial competence and financial performance. For purposes of external validity, a similar study should be conducted elsewhere to determine whether or not similar results may be found.

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