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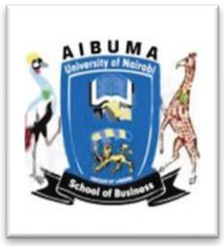

EXPLORING ERP SYSTEM CAPABILITIES FOR INVENTORY ACCURACY IN SUPERMARKET CHAINS: THE EAST AFRICAN SUPERMARKETS

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Abstract

Inventory accuracy is critical for the survival and success of supermarket chains, and there is increased search and application for new solutions and modern technologies to achieve operation inventory accuracy. Accuracy of inventory management is vital for the success of supermarkets for example, it results into lower inventory investment, ensures customer satisfaction and maintain profitability for the supermarket. This is because inventory accuracy enables supermarkets to avoid stock-outs, overstocking and unnecessary carrying costs. This paper aims to explore and describe inventory ERP systems and their capabilities in the achievement of inventory accuracy in supermarket chains hinging on continuous improvement theory and Technology-Organization-Environment (TOE) model. An empirical investigation, using a qualitative case study design was conducted. Collective case study approach was used studying cases of two leading supermarkets (C-ug and N-ke) in Uganda and Kenya. Data was obtained by interviewing two key informants from each supermarket (ERP system controller and stores Manager). Content Analysis and Multiple Response Analysis were used to analyze unstructured questions and structured questions respectively. The findings indicated that an ERP system operates through the integration of internal sections of the supermarket and external players such as the suppliers. Secondly, it was found that a good ERP system should be user friendly, fit for the nature of business of supermarkets with key security features for better functioning in supermarket chains. Finally, the study provides that ERP systems have great capabilities for achieving inventory accuracy in the operations of supermarket chains through real-time inventory monitoring, automated notifications about the status of the goods and the stock levels, provision of demand reports on products and automated inventory tracking In this study, a case study approach was taken when studying the capabilities of ERP in supermarket chains on two supermarkets hence the findings need to be validated by widening the scope of the supermarket chains. Most Previous research takes a wholistic approach when examining the influence of ERP on inventory & warehousing and supply chain disregarding its direct impact on inventory accuracy yet other inventory management Technology applications such RFID have been largely tested on inventory accuracy hence the need to test ERP capabilities on inventory accuracy.

Keywords: *Supermarket Chains, ERP system capabilities, Inventory Accuracy, East African Supermarkets.*

Introduction

Inventory of finished goods is the largest asset in the retail supermarket chain. This is because without inventory, supermarket operators would not operate (Dedeke and Watson, 2008). Hence, proper inventory management is key for the survival, continuous operation of supermarkets and achievement of competitive edge. This renders inventory accuracy vital in the operations of supermarkets. inventory accuracy is said to be achieved when periodic physical inventories and inventory records tally, that is physical stock and inventory records should match to make right informed decisions in operations. It is the ability to maintain an accurate account of inventory quantities, location, and status at any given time. Inventory accuracy contributes to the competitiveness of supermarkets for example, inventory accuracy results into lower inventory investment, ensures customer satisfaction and maintain profitability for the supermarket. This is through enabling supermarkets to avoid stock-outs, overstocking, carrying costs (DeHoratius et al., 2022; Shteren and Avrahami, 2017). This means that inventory inaccuracies are barriers to effective operations of supermarket chains.

Additionally, the accuracy of inventory management is critical for survival of supermarkets as it affects various aspects of their operations. It enables supermarkets to make right operational decisions for example in terms right replenishment decisions and purchasing of products in right conditions. However, most supermarkets for example in East Africa face a challenge of inventory inaccuracies as disclosed by several indicators. The observer (2017) indicates that many Ugandan supermarkets over stock compared to consumer demand. Atholere (2021) disclose that supermarkets experience stock outs, low stock level, product expiries due to poor inventory control records. Moreover, many supermarkets fail to pay their creditors due to mismatch between consumer demand and supplies (The Economic Policy Research Centre, 2017). Many supermarkets lose millions of funds and threats of non-payment of the suppliers due to inventory inaccuracies making many supermarkets to go down the drain and eventual shut downs.

Achieving inventory accuracy is a major challenge for managers in various industries (DeHoratius and Raman, 2008). In practice, the growing importance of competition in logistics, retail and continuous pressure on enterprises for operations efficiency has resulted in searching for new solutions and technologies, and increased application of modern IT systems. The implementation of ERP systems is becoming more widely in many enterprises and the impact of radio frequency identification (RFID) technology on inventory accuracy has been widely studied (Hellstrom and Wiberg, 2010; Hellstrom, 2009; Mehrjerdi, 2009; Wang, Liu and Wang, 2008; Lee, and O¨zer (2007; Vijayaramanand Osyk, 2006). However, ERP technology effect on inventory accuracy has been largely ignored. Most existing studies apply ERP to general supply chain processes. For example, Sandouqa (2020) studies the role of ERP to supply chain integration. Cukur and Svensson (2016) discusses ERP system in operations management. Yi and Tu (2015) discusses ERP in the overall inventory management practices. Woznialowki et al. (2018) specifically distinguishes ERP systems and other warehouse management systems. There is need to explore how an Inventory management ERP operates. There is also need to explore the key features a good ERP should possess as well as the capabilities ERP system in the achievement of inventory accuracy in the supermarket chains.

Continuous improvement theory and Technology-Organization-Environment (TOE) Theory explain the increase implementation of ERP by supermarkets.

The continuous improvement theory (CI) suggests that companies can improve their processes, products, and services through continuous improvement initiatives. According to a study by Sihaam et al. (2019), ERP systems can support CI initiatives by providing real-time data analytics and reporting capabilities, enabling companies to identify areas for improvement in their inventory management processes. This is due to the ability of ERP system to integrate various inventory-related processes into a single system. The theory therefore discloses that supermarkets are adopting ERP systems in order to improve their operational performance. However, this theory does not give attention to forces that might drive the level of improvement which are described by Technology-Organization-Environment (TOE) Theory. From the Technology-Organization-Environment (TOE) Theory, the adoption and implementation of innovations such as technologies is influenced by technological context, organizational characteristics, and environmental aspects (Tornatzky & Fleischer, 1990). The theory explains supermarkets are increasingly adopting ERP systems which can be due to increased implementation by other supermarkets as well as culture of a given supermarket.

Literature Review

The Technology-Organization-Environment (TOE) Theory

The TOE framework explains how the firm context influences the adoption and implementation of innovations such as technologies (Tornatzky & Fleischer, 1990). The TOE framework is an organization-level theory that explains that three different elements of a firm's context influence technological adoption decisions. It is suggested that implementation is influenced by technological context, organizational characteristics, and environmental aspects. These are described as below; The technological context refers to both internal and external technologies relevant for the firm i.e. technologies that are already in use at the firm as well as those that are available in the marketplace. This concerns core capabilities, the pool of technologies inside and outside the SME, quality of the technologies, the technology's technical and organizational compatibility, and perceived relative advantage of the technology for the firm. There are technologies that produce incremental change introduce new features or new versions of existing technologies. These incremental innovations represent the least amount of risk and change for the adopting organization.

Organizational context refers to the characteristics and resources of the firm, including linking structures between employees, intra-firm communication processes, firm size, business scope, business complexity, organizational culture. These define the organizational climate and the organizational readiness to adopt a technological tool. Therefore, need to build a favourable atmosphere for the use of a new technology and provide required resources. The presence of linkages between organization departments promotes the adoption of technological systems for better performances. Generally, necessary preparations are key for an effective implementation of a new technology in an organization (Awa, Ukoha & Emecheta, 2012; Zhu et al., 2010). Environmental aspects refer to structure of the industry, the technology service providers and the regulatory environment. It also competitors, suppliers, customers and other dealings and

conditions. External organizations may affect the implementation of a new technology in several ways. For example, intense competition stimulates the adoption of innovation (Mansfield et al. 1977). Also, dominant firms within the value chain can influence other value chain partners to innovate (Oliveira & Martins, 2011). Also, it is argued that firms in rapidly growing industries tend to innovate more rapidly (Tornatzky and Fleischer 1990). The presence of skilled technology service providers can offer new technologies to the firms (Awa, Ukoha & Emecheta, 2012). Finally, government regulation can have either a beneficial or a detrimental effect on innovation for example through taxes and other policies. Therefore, during the adoption process of a technology, the organization identify its business and technical needs, and recognize the need for the technology (Haddara & Zach, 2011).

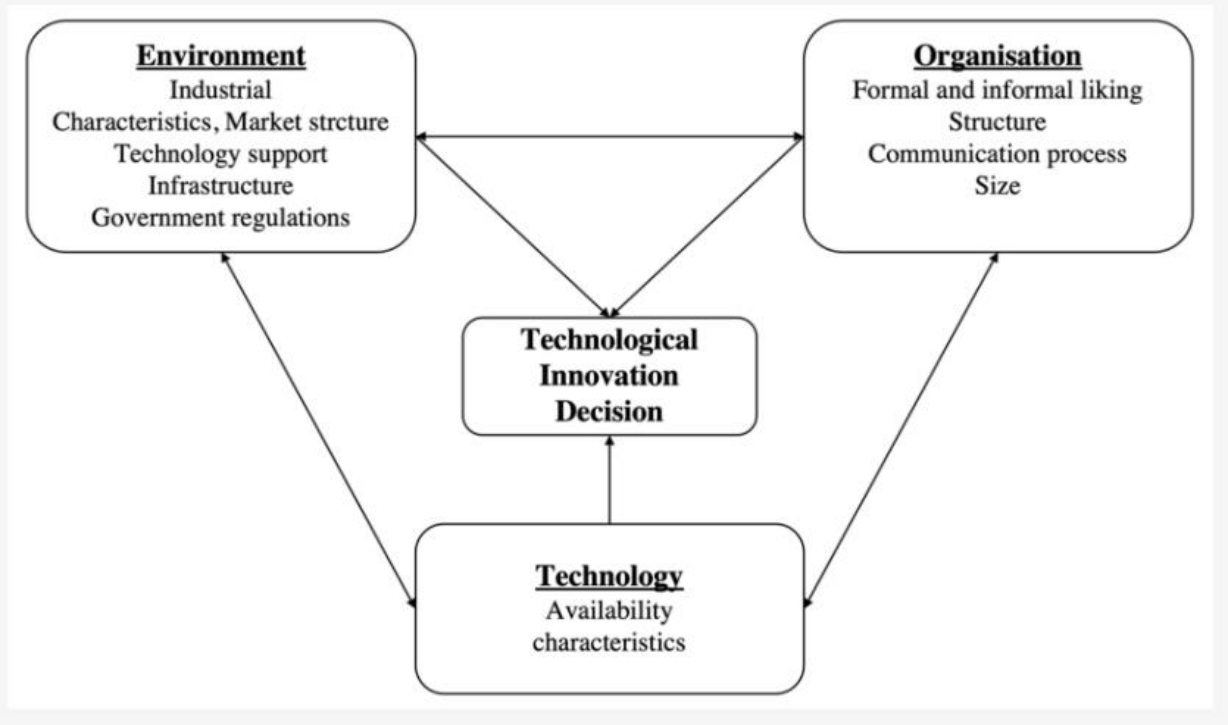


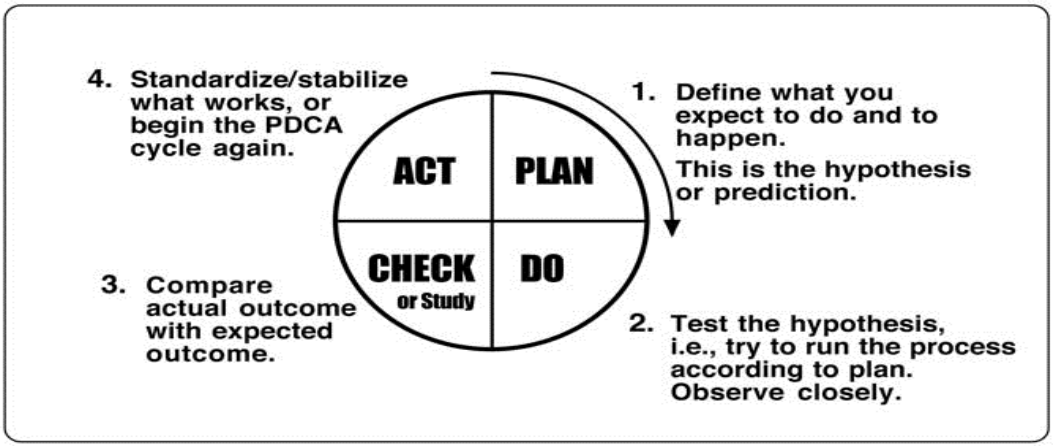
Figure 1: Technology-Organization-Environment Framework

Source: Baker, 2012

Continuous Improvement theory

The continuous improvement theory (CI) suggests that companies can improve their processes, products, and services through continuous improvement initiatives. The concept of continuous improvement was first introduced by W. Edwards Deming in the 1950s. Deming argued that companies could improve their processes and products by continuously monitoring and improving their performance over time. Deming introduced the Plan, Do, Study, Act (PDSA) cycle, also known as the "Deming Cycle" or the "Deming Wheel". It is a systematic approach to improving processes. The idea that the Deming Cycle seeks to present is that improvement is universal and necessary, and that companies should undertake continual improvement initiatives. The PDSA methodology highlights learning of what

works and what doesn't, making sure that what works is implemented and the cycle repeats. During the planning, the firm identify goals and how to implement goals. For doing, the firm actually implements the plans to achieve the goals. During the studying, the firm monitors performance to track progress and improvement opportunities. Lastly, there is acting where the firm can adopt the changes in case the plans or ides implemented work successfully. According to a study by Sihaam et al. (2019), ERP systems can support continuous improvement initiatives by providing real-time data analytics and reporting capabilities, enabling companies to identify areas for improvement in their inventory management processes. This is due to the ability of ERP system to integrate various inventory-related processes into a single system. The theory therefore discloses that supermarkets are adopting ERP systems in order to improve their operational performance. Hence, ERP systems have become increasingly popular in the supermarket industry for inventory management improvements as inventory management is a crucial aspect of supermarket operations, and the accuracy management is essential for their success.



Source: Deming model

Figure 2:The PDCA cycle

Supermarket Chains

A supermarket is a large retail store that offers a wide range of food and household products, including fresh produce, packaged foods, meat and poultry, dairy products, and non-food items such as cleaning supplies and toiletries. Supermarkets typically operate on a self-service model, where customers browse the aisles and select the products they want to purchase. Supermarkets are complex organizations that require efficient management of a variety of business processes, such as purchasing, inventory management, sales, and customer service. The basic operation of a supermarket involves several key steps: The supermarket sources products from suppliers and distributors, negotiating prices and quantities to ensure that they have the products that their customers want at competitive prices. It also sets up its displays and arranges its products in a way that makes it easy for customers to find what they are looking for. The supermarket sets prices for its products based on factors such as the cost of procurement, competition with other stores, nature of products, and demand from customers among others. In addition, supermarket promotes its

products through advertising, sales, and other marketing efforts to attract customers and increase sales (Alansari & Mishra, 2019). Customers visit the store, select the products they want, and pay for them at the checkout counter. Finally, the supermarket manages its inventory levels to ensure that it always has enough stock on hand to meet customer demand for satisfaction, while avoiding excess inventory that could lead to waste or spoilage. Overall, supermarkets operate on a large scale and require efficient management of suppliers, government authorities, logistics, marketing, and customer service in order to be successful.

The ERP System

According to Woźniakowski et al., 2018, Enterprise Resource Planning (ERP) system is "a package used for planning enterprise resources, composed of integrated modules which manage all of the core business processes of the organization". The system combines different business processes of the organization for standardization and improved workflow and accessibility to real-time information. The core functions on the ERP can include; logistics management, inventory management, manufacturing, sales and distribution, financial management, controlling and reporting, human resource management, service and maintenance, and project management (Woźniakowski et al., 2018). Razi and Tarn, 2003 referred ERP system as "an integrated set of application software modules such as accounting, distribution, sales and marketing, material management, human resources, logistics and others". ERP systems are configurable information systems packages that integrate information and information-based processes within and across corporate functional areas such as finance, accounting, human resources, sales and distribution, manufacturing, material procurement, and production (Kumar and Van Hillegersberg, 2000). Hence, the system allows inter-connectivity and coordination of the different operational functions, individuals, work groups in a unified business process of the organization.

From Magnusson & Olsson (2010), ERP systems can be defined as standardized enterprise-wide support systems to support the value chain. This means that the organization have an overview and control of its processes with support of the ERP system. Therefore, the organization can use ERP system to make effective and efficient decisions in order to support the organization to obtain a competitive advantage. The implementation of ERP systems involves integration of operations and processes in a standardized way (Teittinen, et al., 2013). According to Dixit & Prakash (2011), the implementation usually involves broad organizational transformation processes, with significant implications on the organization and its structure, management style and culture, and particularly, on people. The system works in a way where modules operate as an integrated unit by bringing the visibility of real-time information to all departments and thereby focusing on the business process as a whole. The ERP system includes a single repository of data, which allows all businesses to occur seamlessly within a single information system (Razi and Tarn, 2003). However, Razi and Tarn (2003) posited that the ERP system has to be simple enough for practical usage.

ERP Systems on Inventory Accuracy

Inventory accuracy refers to the level of precision and correctness in which a company can track its inventory levels. It is the ability to maintain an accurate account of inventory quantities, location, and status at any given time (Rono, 2020). Inventory accuracy is crucial for the smooth operation of any supermarket. When inventory is accurately tracked and managed,

supermarkets can ensure that they have the right products available to meet customer demand, avoid stockouts, reduce waste, and increase profitability. Hence, supermarkets can use automated inventory management systems that provide real-time inventory tracking and alerts for low-stock items. Inventory inaccuracy is a major challenge for managers in various industries (DeHoratius and Raman, 2008; Kang and Gershwin, 2005). Automatic identification technologies such as RFID offer the potential to increase accuracy. Atali et al. (2006), Fleisch and Tellkamp (2005) and Rekik et al. (2008) have modelled the effect of managing inventory systems with discrepancy problems using RFID-enabled IT systems and found that the RFID technology offers an opportunity for inventory cost reduction. Wang et al. (2008) simulate the impact of RFID on inventory replenishment for a supply chain and found that inventory cost could be reduced while inventory turnover rate could be increased. Inventory management holds a pivotal role in the effective functioning of supermarkets, where the precision of this process significantly influences their prosperity. Within the supermarket sector, Enterprise Resource Planning (ERP) systems have garnered escalating popularity for the purpose of inventory management. Notably, these systems extend their capabilities beyond inventory management, encompassing various financial transactions like accounts receivable, accounts payable, billing, invoicing, and maintenance of the general ledger. Additionally, ERP systems facilitate the generation of financial reports and aid organizations in adhering to accounting standards and regulatory mandates. Another critical aspect is the management of human resources, as ERP systems efficiently handle employee information, attendance tracking, payroll administration, and the streamlining of performance evaluations. Lastly, these systems contribute to the realm of supply chain management by overseeing the seamless flow of products and services from suppliers to customers. This includes comprehensive management of inventory, order processing, and shipping tasks (Kapiton, 2022).

It should be noted that ERP systems have a range of capabilities that enable organizations to achieve greater efficiency, effectiveness, and flexibility in their operations. Kapiton (2022) posited that ERP generate performance reports which organizations can use to make operation decisions. This is due to the ability of ERP systems to integrate various inventory-related processes into a single system. From Mladenova (2020), ERP systems can help in automating inventory tracking and reducing the risk of human error in inventory management. A study by Huang, Rahim, Foster & Anwar (2021) as well as Al-Saidat and Al-Qirim (2018), discovered that ERP systems can provide real-time visibility into inventory levels, reducing the risk of stockouts, and improving supply chain management. In relation to the above, From Obura (2021) revealed that automated Inventory Management Systems provide real-time inventory tracking and alerts for low-stock items. This is because ERP systems can consolidate information from different departments, including procurement, sales, and inventory management. Also, supermarkets can work with suppliers to ensure timely and accurate deliveries. This helps avoid overstocking and understocking. (Obura, 2021). It's important to acknowledge that there exist challenges when it comes to the implementation of ERP systems to enhance inventory accuracy in supermarkets. While these systems offer substantial advantages, there are obstacles that accompany their implementation. One such challenge pertains to the expenses

associated with both introducing and maintaining the ERP systems, a factor that can pose a considerable burden for smaller and medium-sized supermarkets. Additionally, another challenge surfaces in the form of staff training and system customization requirements, which demand significant time and financial investments. In summary, ERP systems offer substantial advantages to enhance inventory accuracy within supermarkets. They offer real-time insight into inventory levels, mitigate the likelihood of stockouts, and enhance supply chain management. Nonetheless, it's crucial to recognize that the implementation and upkeep costs of these systems can be noteworthy, and achieving effective implementation necessitates staff training and system customization.

Methodology

Research Strategy, Data collection and Respondents

For this study, empirical inquiries to investigate the phenomenon within its real-life context was used using a case study research strategy for analytic generalization. a collective case study Was used where we studied cases of two supermarkets in two different countries of East Africa. The leading supermarket in Uganda nicknamed as C-ug, and the leading supermarket in Kenya, nicknamed as N-ke were chosen. From Shareia (2016) and Eisenhardt (1989), archives, observations, questionnaires and interviews are among the data collection methods which can be adopted when undertaking case study research, and in this study we utilized semi-structured interview guide to obtain primary data from the respondents. For each study case, we purposively selected two respondents. These included the manager or controller of the ERP system and the stores manager of supermarket. These people were chosen because are primary possessors of knowledge of how the system operates and its connection with inventory management practices within the supermarket operations. Secondary data was collected through the use of reports, newspapers, conference papers and journal articles of previous scholars. It included local studies conducted in Kenya and Uganda as well as international studies providing insights on capabilities of ERP systems for improving inventory accuracy.

Interview Questions and Data analysis

To get responses relating how the ERP operates, and the features of a good ERP system we based on Uwizeyemungu and Raymond (2004) asking questions relating to Integration, adaptability (flexibility), trasversality (process-oriented view) that is, fit for purpose of the ERP system. We based on Waurzyniak (2000) and Razi and Tarn (2003) to assess the capabilities of ERP systems for inventory accuracy. The questions were related to the ability to have accurate inventory records, ability to monitor the inventory levels, ability to be aware of demand history, ability to be aware of condition of inventory. We also captured questions relating to ability to make timely replenishment decisions, ability to be aware of fast-moving and slow-moving products as well as ability to avoidance of stock-outs, ability to avoid over-stocking and under-stocking. For data analysis; responses to the unstructured questions on the interview guide, content analysis was used for analysis by identifying patterns and themes relating to the study questions. On the other hand, for the structured questions on the interview guide they were analyzed using Multiple Response Analysis.

Results

Description of Case Studies

Case 1: C-ug:

C-ug is a Ugandan supermarket located in the Central Business District of Kampala,

operating four branches. It has operated for a period of over 20 years. The supermarket can serve between 15,000-20,000 clients on a daily basis. The supermarket uses and inventory ERP system called "RITEBOOKS" which it established in 2010. Once goods are received, they are verified and entered into the system and immediately a direct invoice is generated against the supplier.The invoices include the type of item received, quantity, expiry date is captured, date of manufacture, the supplier name and location. After generating the invoice, the system automatically updates the inventory by quantity of item, type and section the item belongs. Ritebook system sends notification to each user internally and the supplier details about receipt of the product. The ERP connects the internal sections of management, stock or inventory, sales department and customer service. Externally, the suppliers are connected and the government tax regulatory body. By design, the system has limitations of access rights for example ICT team can view what tellers are doing but tellers can not view what ICT team is doing. By way of accurate operation, When a sale is made, items are updated by the system automatically. If the product is about the expire, the system sends a notification about those products.

Case 2: N-ke

N-Ke supermarket is a Kenyan retail chain. The supermarket started in 1990 as a small shop located in Nakuru, Kenya. The main supermarket was officially founded in 2012. Over the years, N-Ke supermarket has grown to become one of the largest retail chains in Kenya, with 90 branches in different parts of the country and with over 7,000 employees. To achieve efficiency in operations, the supermarket uses POS (AX) ERP system which was first adopted in 2012. The AX ERP system operates efficiently from the moment a product is received until it is sold at the counter. When a product arrives, it is logged into the system's inventory management module, updating the records with details such as quantity, location, and cost. At the point of sale, the system's POS module is used to deduct the sold quantity from the inventory, ensuring real-time stock level accuracy. Throughout the day, the system continuously tracks sales and adjusts the inventory accordingly. By monitoring inventory levels in real-time, the system can detect potential shortages. When a shortage is identified, the system generates alerts or notifications to the appropriate personnel, signaling the need for reordering. Authorized personnel can access the system's inventory module to review shortage reports and generate purchase orders for replenishment. The system tracks the status of the order, from delivery dates to expected arrival times. Once the ordered products are received, they are logged into the inventory management module, reconciling the received quantities with the ordered quantities. Overall, the AX ERP system seamlessly manages the product lifecycle, ensuring availability for customers and minimizing stockouts through real-time tracking, automated shortage detection, and prompt reordering processes.

Table I: Multiple Response Analysis on features of ERP

Features	Percent of Cases
The different sections of the supermarket get information on inventory records as required using the ERP system	100.00%
Our ERP system gives real-time updates on inventory	100.0%
Our ERP system is fit for our nature of business (transversality)	100.0%
Our ERP system is easy to use	100.0%
Our ERP system is quick	100.0%
Our ERP system is ever available for use and reliable	100.0%
Our ERP system is error free	0.0%
Our ERP is robust as it does not always crash	75.0%
Our ERP system has backup and recovery option	75.0%

Responses (N)=4

Basing on table I, the multiple response analysis shows that responses indicated that their ERP systems do integrate different sections of the supermarkets, give real-time updates on inventory, easy to use, quick, reliable and fit for purpose (scores=100.0%). Also, there was low scores on the aspects of whether their ERP systems do not always crash, and whether their ERP systems have backup and recovery provisions (Scores=75.0%). This means that their ERP systems sometimes experience crashing and weak when it comes to having recovery options. Finally, the respondents rejected the issue that their ERP systems are erorr free with acceptance level of (socre=0.00%). This means that ERP systems are prone to errors. Concerning capabilities of ERP in the achievement of inventory accuracy in table II, the respondents gave high scores (scores=100.0%) for most of the capabilities of ERP such as ability to monitor inventory levels, having accurate inventory records, avoidance of over-stocking and under-stocking, analyzing demand history of goods, avoidance of stockouts of goods, avoidance of expiration goods, being aware fast-moving and slow-moving, making replenishment decisions on time among others. There lowest score (score=50.0%) was on the ability to use ERP for not experiencing over-stocking and under-stocking.

Table II: Multiple Response Analysis on capabilities of ERP

IERP Frequencies

		Responses N	Percent	Percent of Cases
ERP[a]	We are able to monitor the inventory levels of goods due to the use of ERP system	4	10.5%	100.0%
	Our ERP system offer accurate inventory records	4	10.5%	100.0%
	We don't experience over-stocking and under-stocking due to the records of the ERP system	2	5.3%	50.0%
	We analyze our demand history of the goods basing on the ERP system	4	10.5%	100.0%
	We don't always experience stockouts of goods due to the benefits of using ERP system	4	10.5%	100.0%
	We rarely experience product expiration dates due to the accurate information from the ERP system	4	10.5%	100.0%
	We determine our safety stocks basing on the reports from the ERP system	4	10.5%	100.0%
	We are aware of fast-moving and slow-moving products basing on the reports of ERP	4	10.5%	100.0%
	We always make replenishment decisions on time due to the records of the ERP	4	10.5%	100.0%
	Our ERP system enables us to always have the target stock level of goods	4	10.5%	100.0%
Total		38	100.0%	950.0%

a. **Dichotomy group tabulated at value 1. IERP. Inventory Enterprise Resource Planning (IERP)**

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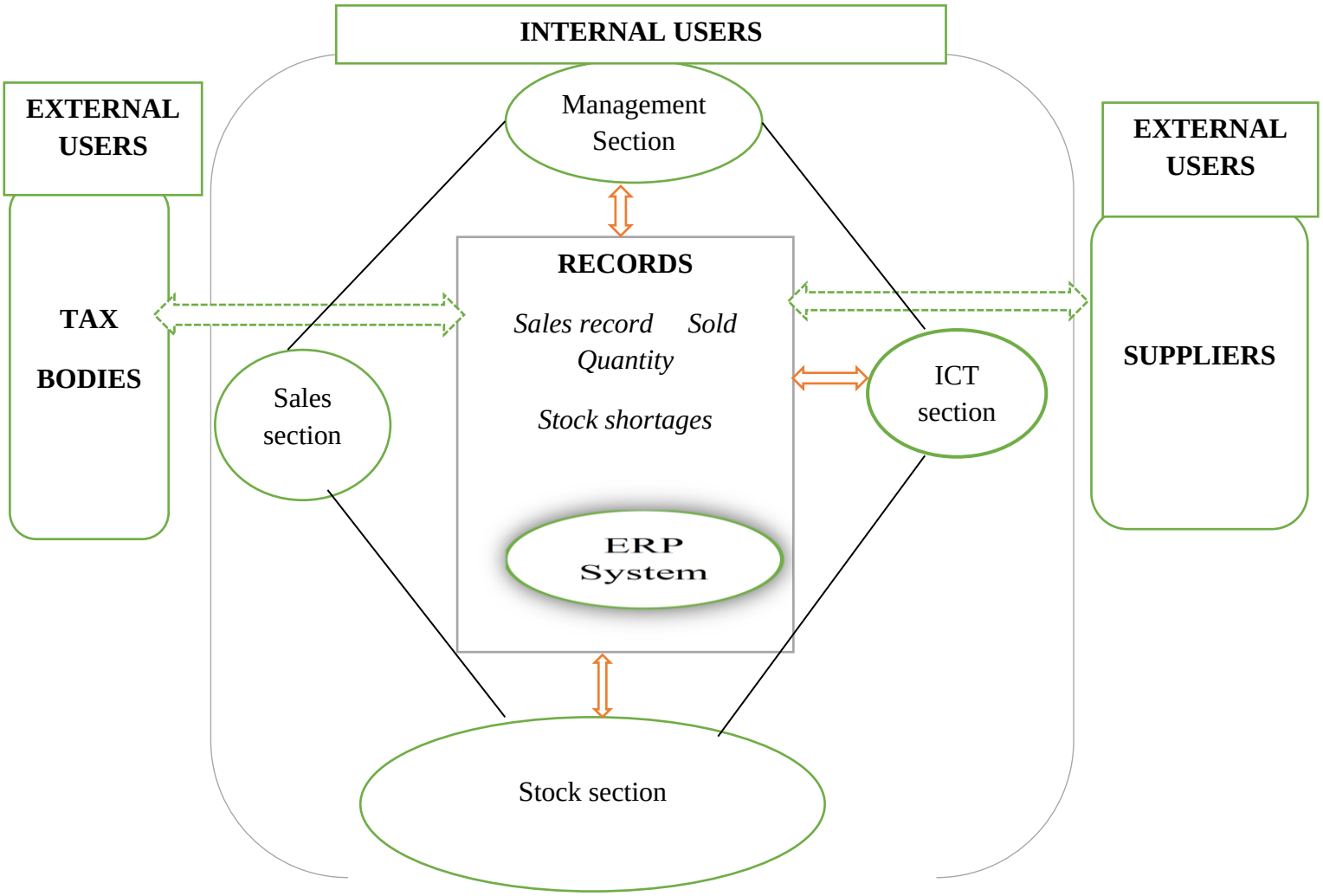
Discussion of the findings

How ERP systems operate



The above ERP system is illustrated basing on the described case studies from the survey. As observed above, the ERP system of the supermarkets integrates internal operational sections and coordinates with selected external actors. Internally, management can access the system in order to observe the performance of the supermarket, the ICT section observe the functionality of the system to track errors and ensuring security. The inventory management or stock sections also have access to the system to track the inventory levels and make informed decisions. Lastly, internally the sales section also access the system to see how sales move in a given period of time. Externally, the both ERP systems link with other parties outside the supermarket operations that is the suppliers are connected to the system to make right replenishment decisions and other requirements. Also, the governments are connected for example for Uganda, the tax collection body have access to the system for its necessary information. For both the internal and external parties, the ERP system gives operation details such as sales records, quantity of goods sold, expiry dates of different products, stock shortages and stock held at hand.

Features of ERP

The respondents revealed that a good ERP should enable different sections of the supermarket get information on inventory records as required i.e., all the relevant stakeholders need to be put on the system for better operations. Case 4 put it that: "*…There is too much connectivity with this system, do you know it integrates with EFRIS system with tax collection body for purposes of tax estimation and management wing and suppliers plus operational sections internally such as sales section and stock section…".* The ERP system gives real-time updates on inventory meaning the ERP systems should be designed in a way that can transfer inventory information automatically. Case 3 disclosed that: "… *ritebooks system gives real time inventory updates and it is fit for use by everyone in the company".* Additionally, Case 1 revealed that: *"…Operations are faster with the use of this system because the system is built in such a way that when a product is about to expire, our system sends a notification and it pops on our side and the supplier's side therefore managing product expiration dates…"*

The respondents indicated that the system is transversality i.e., fit for nature of operations of supermarkets. They also indicated that the ERP system is easy to use, the ERP system is quick and ERP system is ever available for use and reliable. Case 1 discussed that: "*…the system is very simple and easy to use for as long as you are knowledgeable about the codes and applications for a specific branch of this supermarket which are provided from the ICT section…". Another case 4 posited that: "…Exactly it fits with the supermarket operations because the Bar code readers and zebra printing systems are also integrated with this ritebooks system for easy product identification especially products with languages which are not easily understood...".* Another case 1 indicated that*: "Even though the system is available for us to use, sometimes power disrupts our using"*

On the other hand, most the respondents indicated that their ERP systems are not robust moreover they lack backup and recovery options. Though case 3 revealed that: "*I can reveal this that our system has an automatic synchronization after every three hours and this helps in protecting it against hacking and loss of information. So, the system is very secure…"* Case 4 added that*: "It has never crashed but sometimes it can be slow…this need to be improved such that we can serve customers and get inventory updates faster".* Therefore, ERP designers

need to reduce on the possibilities of systems crashing and consider incorporating recovery options. These can deter many firms from adopting ERP systems. The respondents also indicated that ERP systems are prone to errors as revealed by Case 3: "*Errors are inevitable in every system and even in ritebooks we experience them for example human error caused cases that cannot be traced and or if the system is not updated…".* The errors can be minimized on through employees being careful in entering inventory details into the system.

Capabilities of ERP for Inventory Accuracy

It was found from the respondents that ERP enables supermarkets to monitor inventory levels with accurate records. This can be due to the fact information of sold goods are shared with different sections in order to be in the know. Case 2 revealed that: "…*Invoices are generated against a supplier that is a name, the product, location, phone number and supplier ability in terms of quantity. This helps to identify each supplier with the product they deal in making it easy in payments and coordination plus tracking the size of stock against each supplier…".* This is in line with the observation with Huang, Rahim, Foster & Anwar (2021) who found that ERP systems can significantly improve inventory management by providing real-time visibility into inventory levels, reducing the risk of stockouts for improved operations. Secondly, the different operation sections can get real time information on inventory to make decisions on time. This is due to the automatic transfer of information of goods into the supermarket and issued out to clients to make timely decisions such as replenishment decisions for the goods. Case 2 mentioned that: "*Since the system incorporates with suppliers, just on time orders can be placed with supplier and be received within the shortest time possible..."*

The respondents disclosed that ERP enable supermarkets not to experience stock-outs due to the timely notifications on the inventory levels. Case 4 revealed that: *"Our ERP enables us here in making reports about the products e.g., notifications on products that are about to expire, products that have been sold out, the remaining stock…". Additionally, Case 1 disclosed that: "It is easy to generate reports with our ERP system especially on demand history which helps us as management to forecast demand and be able to stock just enough for our clients…".* This finding supplements on Mladenova (2020) findings that ERP systems can improve inventory accuracy by automating inventory tracking and can improve inventory management by providing real-time inventory information, enabling supermarkets to make informed decisions about inventory replenishment. According to a study by Al-Saidat and Al-Qirim (2018), ERP systems can enhance inventory management performance by providing real-time visibility of inventory levels, reducing inventory carrying costs, and minimizing stockouts. From Razi and Tarn (2003), inventory management function is contained in the material procurement module of an ERP system and this assists in calculating safety stock (SS) and Reorder point (ROP) for each item basing on the item's demand history contained in the database.

Furthermore, supermarkets can be aware of fast-moving and slow-moving products due to the demand ERP reports. Case 4 revealed that: "*Our system helps in categorizing stock that is fast moving, medium moving and slow-moving item".* This finding concurs with Obura (2021) who revealed that automated Inventory Management Systems provide real-time inventory tracking and alerts for low-stock items. Again, with ERP reports makes it easy to determine safety stock depending on the demand reports of ERP.

Kapiton (2022) and Omar and Naser (2017) had posited that ERP generate performance reports which organizations can use to make operation decisions. Razi and Tarn (2003) & Waurzyniak (2000) earlier observed that ERP system also allows to analyze the demand history, make forecasting recommendations, and suggest safety stock levels through packages such as demand solutions in conjunction with the existing ERP module to enhance the capability of demand forecast. Accurate information from the ERP system can supermarkets not to experience product expiration dates. It was noted that the ERP system can send notifications about the expiry dates of the products which is vital in making future decisions. Hence; ggenerally, Al-Saidat and Al-Qirim (2018) observed that the integration of different stakeholders allows for better decision making in inventory management.

Conclusion and Recommendations

This study concludes that in supermarket chains, ERP operates through the integration of internal sections of the supermarket, the suppliers and the regulatory government bodies for efficient and effective operation. The study further summarizes that ERP systems should be user friendly, fit for the nature of supermarkets and they should be designed when they are robust with several security features for better functioning in firms. Finally, the study provides that ERP systems have great capabilities for achieving inventory accuracy in the operations of supermarket chains. This is through enabling supermarket chain actors to supermarkets to monitor inventory levels in real-time, providing timely notifications about the status of the goods and the stock levels, providing demand reports of different kinds of products and automated inventory tracking. From these findings, the study recommends that supermarkets should adopt automated inventory management applications such as the ERP. During the adoption, supermarkets should ensure that the key supermarket chain actors are integrated into the system and the ERP system need to be fit for purpose of supermarket operations, easy to use by employees and establish key security system precautions for sustainable use in their operations.

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