

# Knowledge Management and Low Operating Cost Indicator of Tax Administration Efficiency

Umale Okoh<sup>1\*</sup>, Muzainah Mansor<sup>2</sup>, Marhaiza Ibrahim<sup>3</sup>

<sup>1</sup> Department of Accounting and Business Administration, Federal University Kashere, P.M.B. 0182 Gombe, Gombe State, Nigeria

<sup>2,3</sup> Tunku Puteri Intan Safinaz School of Accountancy, 06010 Universiti Utara Malaysia, Sintok Kedah, Malaysia

\*Corresponding Author: okohumale@yahoo.com

## ABSTRACT

The desire to reduce the operating cost of tax administration to achieve efficiency is obvious globally. However, knowledge management (KM) can reduce operating costs in tax administration to achieve efficiency. The objective of this study is to explain the various ways KM can reduce the cost of operation in tax administration. Qualitative data were sourced via a face-to-face interview with tax officers at Federal Inland Revenue Service (FIRS), Nigeria. Thus, qualitative data were sourced from 20 tax officers (participants) through a face-to-face interview. The data were sourced from tax officer II, tax officer I, the manager, the senior manager, the assistant director, and the deputy director. Participants (tax officers) were selected from domestic taxes, corporate development, modernisation, enforcement and compliance groups based on their experience. Also, data were sourced from national tax policy and a compendium of tax-related laws documents to support the interview data. Furthermore, semi-structured and open-ended interview questions were used as a guide for the face-to-face interview. The face-to-face interview was recorded with a smart voice recorder. Data were thematically analysed and administered with NVivo 10 qualitative software. In the process of analysis, sub-themes identified and reported based on the objective of the study and responses from participants were low manual operation, mistake, compliance and training cost. This study found that KM can reduce operating costs such as manual operation, mistakes, compliance and training costs in tax administration. Thus, KM can engender efficiency in tax administration through low manual operation, mistakes, compliance and training costs. The study recommends formal implementation of KM in tax administration in order to improve efficiency through low cost of administration.

**Keywords:** Knowledge management; Low operating cost; Tax officers; Taxpayers; Efficiency; Tax administration

## Article Info:

Received 15 April 2022

Accepted 30 May 2022

Published 31 May 2022

## INTRODUCTION

One of the characteristics of a good tax system is the “economy” (Adam Smith, 1979; OECD, 2011; Ayuba, 2014; Deloitte, 2021). The principle of “economy” as a characteristic of a good tax system emphasised the low cost of tax administration. Thus, the cost of tax revenue collection should be as low as possible. Adam Smith (1979) emphasised on principle of the economy (low cost of tax revenue collection) as one of the canons of taxation. Bird (2003) and Ayuba (2014) said the most efficient and effective tax administration is the one that cost less in its operation and collects a large amount of tax revenue. Semenova et al. (2017) affirmed that the most critical indicator (element) of tax administration efficiency is the low cost of tax administration. Deloitte (2021) added that the cost of tax revenue collection should be lower than the tax revenue collected. Tax administration efficiency is anchored on the use of information technology and e-Governance innovation to reduce costs by an organisation (OECD, 2011). Thus, the low cost of tax administration is an indicator of tax administration efficiency. Studies emphasised the low cost of operation as a tax administration’s internal objective/goal (Adam Smith, 1979;

Crandall, 2010; Keen, 2014; Ayuba, 2014). Despite the emphasis on the low cost of tax administration as an internal objective and efficiency, the desired result has not been achieved, especially in the developing country.

However, studies showed knowledge management (KM) can reduce the cost of operation in an organisation (Liebowitz, 1999; Alhamoudi, 2010; Yahyapour et al., 2015). KM is a set of processes that regulate the creation, storage, retrieval, dissemination and leverage of knowledge to improve administrative performance (Pina et al., 2013). KM improves administrative efficiency and performance in general (Asian Productivity Organization, 2013; Hamilton et al., 2014; Bem et al., 2016; Busanad, 2016; Okoh et al., 2020, 2021, 2022). Specifically, KM can reduce the cost of operation in tax administration (Sejdija, 2012; Rosdi et al., 2016). KM provides quality and timely information to both tax officers and taxpayers as a result of information/knowledge storage, retrieval and dissemination. KM reduces the cost of manual information acquisition, storage and dissemination, a mistake during work execution, compliance and training.

Therefore, the tax administration objective of the low cost of operation can be achieved via KM implementation in tax administration. Although KM can reduce the cost of administration, the study that focuses on KM and the low cost of operation as an indicator of tax administration efficiency is limited. Moreover, there is a paucity of research that identified the different ways KM can reduce operating costs in tax administration. Therefore, this study is different from other research on KM and the operational cost of an administration (organisation). Hence, the research question for this study is: How does knowledge management reduce the cost of operation in tax administration? Based on the research question, the objective of this study is: To explain the various ways knowledge management can reduce the cost of operation in tax administration.

Administrative processes and practice in the case study (FIRS) conformed with KM practice. FIRS creates, stores, retrieves and applies knowledge in its administrative processes. Also, tax administration processes in FIRS employ electronic services (e-service). However, there is no formal document for KM implementation in FIRS. This study is structured into an introduction, literature review, methodology, results, discussion and conclusion. The next section reviews related literature on tax administration efficiency, KM and tax administration operating cost.

## **BACKGROUND OF STUDY**

This section reviews related literature for this study. The literature review includes tax administration efficiency, KM and tax administration operating cost. Hence, the next section presents literature on tax administration efficiency.

### **Tax Administration Efficiency**

The need to generate adequate tax revenue for national development and provide better services to citizens has increased the quest for tax administration efficiency (OECD, 2011; Yan et al., 2022). According to Semenova et al. (2017), improving tax administration efficiency would solve key issues that balance stakeholders' (states, tax officers & taxpayers') interests with respect to an integrated tax system, operational and strategic objectives and economic development. There are diverse approaches, perspectives and indicators (measures) employed to determine tax administration efficiency (Klun, 2004; Serra, 2005; OECD, 2011; Semenova et al., 2017). These include input, output, outcome, quality, productivity, taxpayers' satisfaction and compliance (Klun, 2004; Serra, 2005; Ladislav & Vladimir, 2015; Semenova et al., 2017; Musimenta, 2020). For example, Klun (2004) focuses on tax system simplicity, cost of administration (operation) and compliance, tax voluntary compliance, an inspection of tax and productivity of tax administration. Serra (2005) identified tax revenue collection maximisation, compliance cost minimisation and satisfaction of taxpayers as tax administration performance indicators. Semenova et al. (2017) emphasised on the high rate of tax revenue collection, prevention of tax abuse, low cost of tax administration, transparent tax authorities and taxpayers' satisfaction with services. Eichfelder and Schorn (2012) stated a number of dispute situations, criminal fraud prosecuted and imposition of maximum penalties on cases of tax offences as indicators of tax administration efficiency.

This study focuses on low operating costs as an indicator of tax administration efficiency. Studies including Crandall (2010), OECD (2011), Ayuba (2014), Ladislav and Vladimir (2015), Semenova et al. (2017) identified low operating cost as an indicator of tax administration efficiency. The need to provide better services to citizens has increased attention to tax administration efficiency through cost reduction (OECD, 2011). Tax administration efficiency depends on how the organisation used information technology and e-Governance strategy to reduce costs (OECD, 2011). In the same vein, Ayuba (2014) stated that efficient and effective tax administration in developing countries reduces the cost of internal operations. Semenova et al. (2017) stated that the most critical condition for tax administration efficiency is a reduction in the cost of administration. Other studies that affirmed low cost of operation as a critical component of tax administration efficiency include Keen (2014) and Crandall

(2010). This study focuses on low cost as an indicator of tax administration efficiency because it is a critical factor that enhances tax revenue availability for economic growth, development and provision of better services to citizens. Reduction in the cost of tax administration means the availability of more tax revenue for government expenditure. Several studies including Crandall (2010), Keen (2014), Ladislav and Vladimir (2015) and Musimenta (2020) emphasised low cost as a critical indicator of tax administration efficiency.

The cost of tax administration can be reduced as a result of KM implementation (Sejdija, 2012; Rosdi et al., 2016). Sejdija (2012) stated that the cost and time workers spend searching for information are reduced because the database is connected across various levels of the administration system through KM implementation. KM reduced the cost of manual storage and dissemination, tax filing, and internal and external communication, and enhance the speed and quality of information dissemination in tax administration (Rosdi et al., 2016). KM improves learning, knowledge dissemination, internal working process, and knowledge workers' skills and capabilities (Downes & Marchant, 2016), therefore, reducing the cost of training and retraining in tax administration. Literature review showed the low cost of tax administration is a critical indicator of efficiency. Although studies identified the low cost of operation as an indicator of tax administration efficiency; however, studies that focus on KM and low cost of operation in tax administration are limited. Moreover, there is a paucity of research that explain the various ways KM can reduce the cost of operation in tax administration.

### **Knowledge Management and Tax Administration Operating Cost**

KM is a set of processes that regulate the creation, storage, retrieval, dissemination and leverage of knowledge to improve administrative performance (Pina et al., 2013; Yahyapour et al., 2015). Clayton (2016) said KM facilitates knowledge sharing and increases proficiency and innovation. According to Shujahat et al. (2019), KM is a process that stimulates knowledge sharing, codification, creation, acquisition and application via enabling environment for the purpose of innovation and organisation performance. Yang et al. (2015) described KM as a procedure that manages an information system which gives the knowledge needed to knowledge workers for efficiency and effective decision-making in an organisation. KM creates, store, retrieve, disseminate and apply knowledge/information for organizational performance. KM enhances the availability of timely and qualitative knowledge/information. On the other hand, no implementation of KM results in inadequate and inefficient knowledge creation, storage, retrieval and lack of knowledge. Furthermore, a lack of knowledge engenders incompetence, low speed and less quality service delivery (Sejdija, 2012). Thus, a lack of knowledge results in an inefficient organization (administration).

One of the elements (indicators) of tax administration inefficiency is the high operating cost of administration (Ayuba, 2014). Lack of knowledge is one of the causes of high operating costs in tax administration. Lack of knowledge increases costs in tax administration in terms of time, speed, quality, mistakes, training and compliance (Rosdi et al., 2016; Sejdija, 2012). According to Sejdija (2012), tax administrators spend between 15 to 30% of their working time searching for knowledge with only a 50% success rate as a result of inadequate and inefficient knowledge storage and retrieval. Tax administrators waste a lot of time searching for targeted knowledge and information with unsatisfactory results, which delays task execution and service delivery to taxpayers, as a result of inadequate and inefficient knowledge storage and retrieval (Rosdi et al., 2016; Sejdija, 2012). Thus, inadequate and inefficient knowledge storage and retrieval in tax administration adversely affect the speed and quality of service delivery by tax officers. Furthermore, inefficient knowledge sharing and transfer adversely affect the capability of tax officers, speed and quality of task execution. Also, the compliance level of taxpayers reduces when knowledge about the tax administration process is not transferred or shared with them (Maseko, 2014; Musimenta, 2020). Low compliance by taxpayers increases the cost of tax administration through court litigation and other enforcement machinery by the tax authority.

In continuation, inadequate and lack of knowledge acquisition, storage and retrieval engender high costs of tax administration. However, studies found that KM can reduce the cost of administrative operations in an organisation (Liebowitz, 1999; Alhamoudi, 2010; Sejdija, 2012; Yahyapour et al., 2015; Rosdi et al., 2016). On this note, Yahyapour et al. (2015), Alhamoudi (2010) and Liebowitz (1999) stated that the cost and time workers spend to search for information are reduced because the database is connected across various levels of the administrative system as a result of KM implementation. KM reduces the cost of operations in an administration in general and specifically tax administration. The cost of extra infrastructures and facilities as a result of manual record-keeping is avoided through KM (Rosdi et al., 2016). According to Sejdija (2012), the connectivity of databases across various levels of the administrative system reduces the cost and time workers spend searching for information in tax administration. In tax administration cost of transporting mandatory annual tax reports filed by taxpayers from different places is avoided because annual mandatory tax reports are filed electronically and can be accessed online. Also, tax officers can access quality information needed for work execution online in real-time as a result of KM.

Furthermore, costs associated with a mistake during work execution are reduced as a result of the availability of work procedures in the database and the transfer of knowledge between workers. Previous studies have found that KM reduced mistakes during work execution. For example, Rosdi et al. (2016) found that KM enables tax officers to learn the standard practice from their colleagues and; therefore, perform the job effectively. In the same vein, Becerra-Fernandez and Sabherwal (2010) stated that the transfer of knowledge among workers is done effectively which leads to creativity and innovation among workers. Therefore, workers make fewer mistakes in the cause of performing their tasks.

In continuation, the cost of training staff as a result of staff retirement and resignation is reduced because knowledge of the staff is transferred to others and stored in organisation's repository via KM (Alhamoudi, 2010). KM engenders constant sharing of knowledge and documentation of work processes, therefore, reducing training, retraining and cost associated with it in an organisation. Downes and Marchant (2016) found that KM improves learning, knowledge dissemination, internal working process, and knowledge workers' skills and capabilities. Ferguson (2016) affirmed that KM enhances knowledge sharing and performance. KM can reduce training costs in tax administration as a result of knowledge acquired informally through interaction with colleagues, training and documented knowledge. Accordingly, Rosdi et al. (2016) revealed that information and knowledge availability enable tax officers to learn best practices from their colleagues which empowers them to perform their work effectively.

In addition, KM reduces the cost of compliance in tax administration as a result of voluntary compliance due to improving service delivery. On this note, Downes and Marchant (2016) found that KM improves the quality of service delivery to customers/clients. Buheji (2013) affirmed that KM provides timely information to users. Studies including Bird (2015), and Keen (2014) showed that improved service delivery enhances tax compliance; hence, KM improves compliance and reduces the cost of enforcement. For example, KM can reduce the cost of enforcement through court litigation as a result of voluntary compliance.

### **Underpinning Theory**

This study employed the knowledge-based view theory as an underpinning theory. Knowledge-based view (KBV) theory centered on knowledge creation and its management as administrative resources to achieve administrative/organisational performance (Grant, 1996; Curado & Bontis, 2006). This study emphasised knowledge creation and its management to achieve a low cost of tax administration which is an indicator of efficiency. Efficiency is short-term administrative performance. KBV theory is an extension of Resource-Based View (RBV) theory which argues that an organisation depends on internal resources (tangible and intangible) to achieve or improve performance, and knowledge is the most important strategic resource that can improve administrative performance (Grant, 1996; Curado & Bontis, 2006; Yousif, 2012; Shujahat et al., 2019). This study employed knowledge and its management as internal resources to improve the performance of tax administration through cost reduction as an indicator of efficiency.

Studies have employed the KBV theory and affirmed that KM implementation improves administrative performance (Yousif, 2012; Quintane et al., 2011; Mills & Smith, 2011; Zheng et al., 2010). For example, Yousif (2012) studied the association between KM, innovation and organisational performance in the telecommunication sector based on KBV theory. In the same vein, Quintane et al. (2011) affirm that KM enhances administrative performance through the innovation of KBV theory. This study believes the KBV theory is suitable as an underpinning theory for this research. Therefore, follows the previous study employed KBV theory as the underpinning theory.

### **METHOD**

This study used a qualitative approach to study KM and operating costs as an indicator of tax administration efficiency. The qualitative approach is appropriate when a researcher answered "how" and "why" research questions (Yin, 2009). Hence, a qualitative approach is appropriate as this research answered how KM can reduce the cost of operation in tax administration. FIRS Abuja in Nigeria was employed as a single case study. A single case study is suitable when it represents a "critical case" to test the circumstances under study (Gerring, 2007; Mansor, 2011). Hence, FIRS Abuja can represent a "critical case" in testing how KM reduces the cost of operation as an indicator of efficiency in tax administration because KM implementation in tax administration is limited. Furthermore, tax revenue generation in FIRS is low (OECD, 2019) as an indicator of administration inefficiency; hence, justify its selection as a single case study to represent tax administration. It is arguable that low tax revenue generation does not only indicate administration inefficiency. Studies have shown that noncompliance of taxpayers engenders low tax revenue generation (Umar et al., 2017). However, this study focuses on administration efficiency.

In qualitative research, ethical consideration is critical; hence, this study follows ethical consideration and applied to the chairman FIRS to collect data, and was approved. A copy of the interview protocol was attached to the application. After approval, the head of planning, research and statistics selected tax officers from the five groups and cadres to participate in the face-to-face interview based on knowledge and experience in KM practice in tax administration. Twenty (20) tax officers who are involved in the KM process were interviewed face-to-face in their offices in FIRS. However, 14 tax officers responded to the interview questions on how KM can reduce the cost of operation in tax administration based on their experience. The remaining 6 participants did not comment on the interview questions with respect to the connection between KM and the low operation cost of tax administration as a result of limited knowledge. This study employed a case study to explain, test and generalise theory with respect to KM and tax administration performance but not population. Therefore, the response rate is valid for this study. According to Yin (2009, 2013), Mansor (2011), Kimani (2013), Schuller (2017), the essence of a case study research is to explore, explain and describe contemporary, dynamic, and complex phenomena, generate, test and generalise theory but not population.

The participants were selected from domestic taxes, corporate development, modernization, enforcement and compliance groups. The sample size for this study is 20 tax officers who were interviewed face-to-face in FIRS. The saturation level of the sample size for this study is based on Bernard (2013) who said between 10 and 20 participants is a saturation level for a case study interview. Semi-structured, and open-ended interview questions were employed to source data face-to-face. The data collection process lasted for six months. Interview protocols were made available to the participants prior to the interview session to enable them to understand the objective of the study. Before the interview session, the aims of the study were explained to the participants and were assured of the confidentiality of their information. The interview session took place in the offices of the participants and lasted between 30 to 40 minutes depending on the responses. Sub-themes for low operation cost emerged in the process of the face-to-face interview which includes manual operation, mistakes, compliance and training costs. According to Creswell (2007), the qualitative research process is emergent as new themes and processes can emerge. Qualitative research involved understanding an issue or problem from the participant's perspective to provide answers to research questions, and objectives (Creswell, 2007).

A Smart voice recorder was employed to record the interview. The recorded interview was complemented by notes that were taken by the researcher with a pen. Data validity and reliability were important; therefore, interview data were presented to the participants to confirm whether the transcribed interview data were the same as their statements, and participants agreed to the conformity of transcribed data with their statements. Additionally, a documentary study of national tax policy and a compendium of tax-related laws were used to validate the interview data. Thus, this research employed data triangulation for analysis. Thematically, data were analysed via a process of interview transcription, coding of data, selection of themes and identification of connections between themes. Furthermore, data were administered with NVivo version 10 qualitative software. Based on the objective of the study and responses from the participants, the sub-themes identified were low manual operation, mistakes, compliance and training cost. These sub-themes would engender efficiency in tax administration. The next section is presentation of results of data collection.

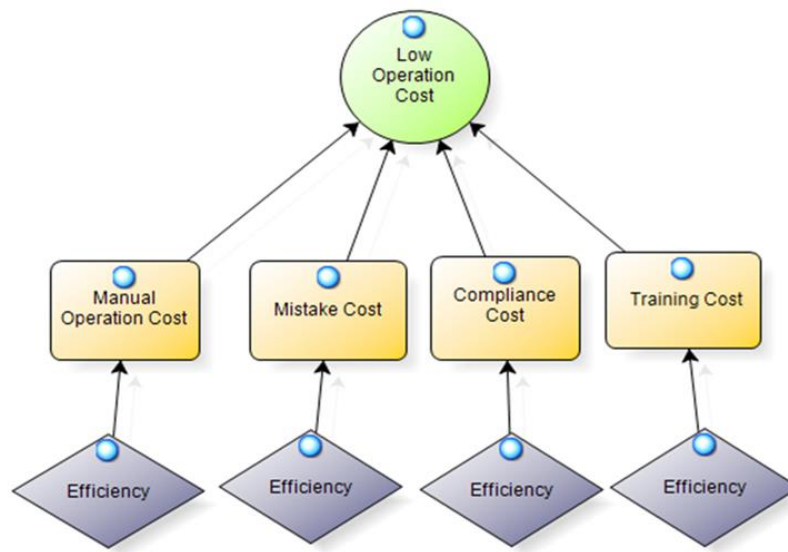
## RESULT

Results of data collected via face-to-face interview are presented in this section. Twenty (20) tax administrators were interviewed face-to-face at FIRS. Participants in the interview were 14 males and 6 females. In addition, 6 participants have age 31 to 40 years, 10 participants were between the ages 41 to 50 and four (4) participants are 51 years and above. In terms of qualification, fifteen (15) participants obtained BSc/HND and 5 MSc/MBA. Also, 4 participants were selected from each of the five groups (domestic taxes, corporate development, modernisation, enforcement and compliance) in FIRS. Participants in the face-to-face interview were the permanent staff. Working experience entails seven (7) participants (6-10 years) and 13 participants (10 years above) in FIRS. Rank of the participants include officer II (2), officer I (3), manager (5), senior manager (4), assistant director (3) and deputy director (3).

### Low Operation Cost

One of the vital components of efficiency in tax administration is the low cost of administrative operation. Data collected through interviews for this study revealed that KM reduces the cost of tax administration in four ways. These costs are manual operation costs, mistake costs, compliance costs and training costs. A summary of operating costs that can be reduced via KM in tax administration is presented in Figure 1. The responses are based on thirteen (13) participants who gave their views on how KM reduced costs of operation in tax administration. The remaining seven (7) participants did not comment on the interview questions with respect to the connection between KM and the low operation cost of tax administration as a result of limited knowledge. The next section

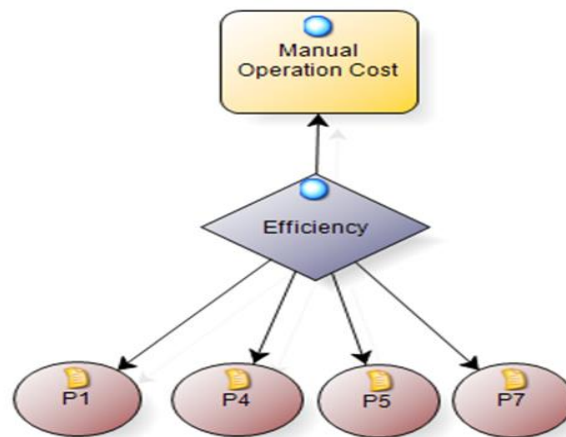
explained how KM reduced manual operation costs. Figure 1 presents the low operation cost main theme and its sub-themes.



**Figure 1:** Low operation cost and its sub-themes as an indicator of tax administration efficiency  
Source: NVivo analysis

**Manual Operation Cost**

One of the administrative costs KM can reduce in tax administration as revealed by the interview is manual operation cost. A summary of participants’ views on how KM can reduce manual operation costs in tax administration is presented in Figure 2. The responses focused on how KM can reduce costs through record-keeping in a computer database, access to taxpayers’ records online and e-services provided to tax officers and taxpayers.



**Figure 2:** Manual operation cost and tax administration efficiency  
Source: NVivo analysis

*“With the use of e-filing system, cost of accessing annual filing report of taxpayers have reduced. It is compulsory for taxpayers to file in their annual reports. When filing of annual reports were done manually, cost of transporting taxpayers’ files from each of the 36 states to FIRS headquarters at Abuja were high. But now with availability of e-filing services, tax officers access taxpayers’ files in the comfort of their office. It is comfortable to both tax officers and taxpayers, reliable,*

speed and less cost. It is very efficient” (Participant 7, Tax Officer I).

“Knowledge management reduces the cost of access to taxpayers’ records. During a manual tax administration regime, taxpayers’ records are bulky and heavy. Hence, cost of courier service to send them from various states in Nigeria to FIRS headquarters at Abuja were high. However, with the availability of database and online accessibility of taxpayers’ information such cost is avoided. KM make tax administration in FIRS efficient in terms of cost” (Participant 5, Manager).

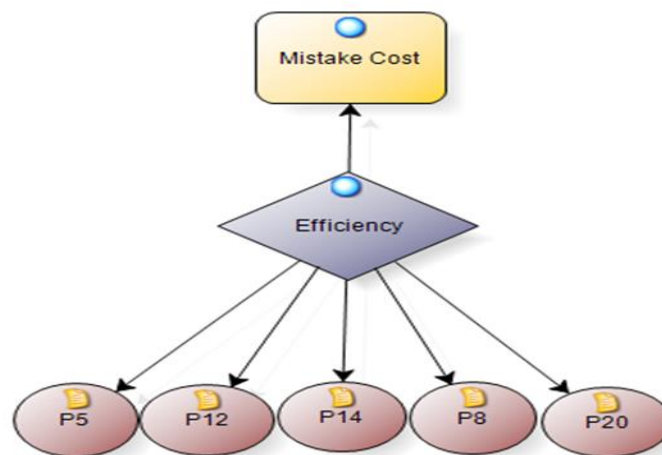
“Knowledge management reduces cost of administration in FIRS. With KM information can be disseminated to taxpayers and tax administrators effectively which cost less than manual operation. Thus, information dissemination using ICT saves cost in FIRS and engender efficiency compared to manual process” (Participant 4, Manager).

“Knowledge management process which involved information management reduces administrative cost in FIRS. Proper and adequate tools that are put in place assist to improve efficiency in carrying-out tax processes. The cost of manual operation is reduced as KM is properly harnessed in FIRS. The modern tools KM employed reduced cost compared to manual operation” (Participant 1, Deputy Director).

These expressions above showed that tax administration reduced manual operation costs by employing KM tools such as computer databases to store documents instead of manual storage in the form of hard copies. Furthermore, access to e-filing annual reports of taxpayers by tax officers in the headquarters reduced the operating cost of tax administration. In the same vein, information dissemination through e-services reduces the cost of tax administration. Reduction of manual operating cost of tax administration as a result of KM is demonstrated by participants (7, 5, 4 and 1) as presented above. Cost reduction as explained by participants is in line with the documentary study of the compendium of tax-related laws for this research.

**Mistake Cost**

Another category of administrative cost KM can reduce in tax administration as disclosed by the participants in the interview is cost associated or caused by mistakes when executing tasks in tax administration. Figure 3 summarised participants’ statements about how KM reduced costs associated with mistakes in tax administration.



**Figure 3:** Mistake cost and tax administration efficiency  
Source: NVivo analysis

“Knowledge management reduces cost of administration associated with mistakes. A simple error can cost a lot of money. If there are people with skills of doing things, it will improve the system and improve efficiency as mistakes would be avoided. A simple click can cost a lot by either agreeing or disagreeing. For example, if a taxpayer applies for tax clearance hoping to obtain a contract and without reviewing the whole document a tax administrator rejects it, the taxpayer can take FIRS to court and claim damage which will cost a lot. However, KM reduced such mistake because procedures for work are available”

(Participant 20, Senior Manager).

*“There is what we called learning curve in economics. All our existing documents stored in database as a result of KM are just like templates for us to know how things were done in the past so as to make our work easier and improve on our previous mistakes. Hence, cost of mistakes is avoided. It makes me focused by knowing what I need and improve work quality and efficiency. By improving quality of work and services to taxpayers, they are satisfied and comply voluntarily. Tax administration is dynamic. What you see here might not be the same as what is there. We have to use different approaches”* (Participant 5, Manager).

*“Knowledge management prevents errors. It saves other FIRS staff from committing mistakes. By having access to necessary documents. I can leverage on what other people have documented to improve my work quality, efficiency and satisfy taxpayers”* (Participant 12, Manager).

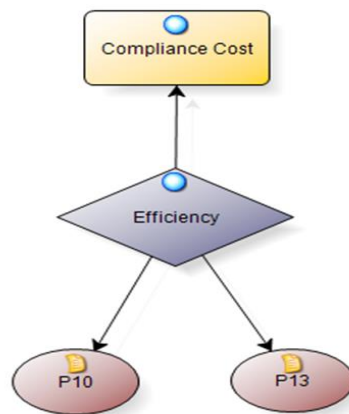
*“Knowledge management can reduce administrative cost because tax officers acquire knowledge through KM implementation. Therefore, would not damage the tools used to execute task by mistake as a result of knowledge acquired. KM implementation enable tax officers perform duty efficiently”* (Participant 14, Senior Manager).

*“Knowledge management can reduce cost incurred for making mistake on job. When knowledge is accessible, it reduces cost associate with mistakes. Jobs become easy for tax officers to perform and improves efficiency”* (Participant 8, Tax Officer I).

These statements showed costs associated with mistakes are avoided as a result of KM. Costs associated with mistakes are avoided as a result of the availability of work procedures in a database. The availability of work processes in the database enhance learning and improve capability; therefore, reducing mistake during task execution. Reduction of the cost associated with mistakes in tax administration by KM is affirmed by participants (5, 12, 14, 8 and 20) as presented above. A documentary study of a compendium of tax-related laws for this research showed FIRS should employ mechanisms that would reduce the cost of administration. Therefore, in line with the participants’ explanations.

**Compliance Cost**

Expressions by two participants (10 and 13) showed KM can reduce the cost of compliance by taxpayers. According to the participants, the information provided to taxpayers as a result of KM engenders compliance which reduced the cost of enforcement through litigation/court cases. Participants’ responses are summarised in Figure 4.



**Figure 4:** Compliance cost and tax administration efficiency  
Source: NVivo analysis

*“Knowledge management reduce cost of operation in tax administration. Well, on the part of FIRS the qualitative and timely information provides to taxpayers helps them comply*



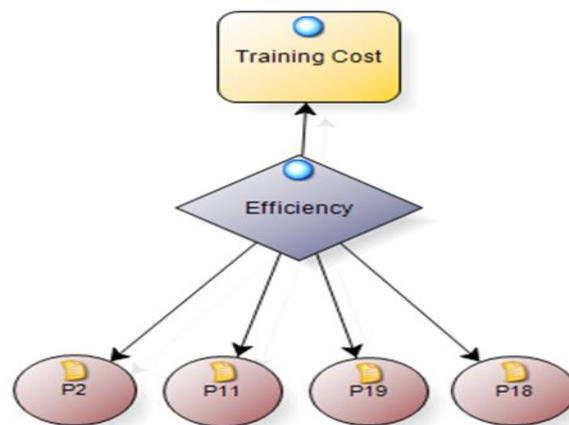
*voluntarily and thereby boost our collection. By complying voluntarily, cost of enforcement is reduced. Example, cost of court litigation is avoided when there is voluntary compliance. Also, availability of knowledge limits cost of consultancy and outsourcing. KM assist greatly in tax administration efficiency” (Participant 10, Deputy Director).*

*“Knowledge management can help us achieve our mission in the sense that it reduces cost. When you provide the necessary information to taxpayers they comply voluntarily and cost of enforcement through litigations are avoided. Cost reduction is part of efficiency in FIRS” (Participant 13, Senior Manager).*

The two statements proved that KM reduces the cost of compliance which also, results in a reduction in the cost of enforcement in tax administration. One of the influencing factors is information provided to taxpayers through KM. Provision of the required tax information to taxpayers engenders voluntary compliance and reduces the cost of enforcing taxpayers to pay taxes. Participants’ expressions are in line with the documentary study of national tax policy for this study. Precisely, national tax policy stated that the financial and economic cost of compliance by taxpayers should be kept to the barest minimum. In the same vein, the compendium of tax-related laws supported the reduction of compliance and enforcement costs in tax administration in FIRS.

### Training Cost

Participants in the interview acknowledged that KM reduces the cost associated with retraining in tax administration. According to participants, KM reduces the cost associated with retraining as a result of knowledge sharing and documentation of work processes. Because knowledge is shared constantly and work processes are documented, retraining is limited. Hence, reducing the cost of training in tax administration. Participants’ responses with respect to the reduction of training costs are summarised in Figure 5.



**Figure 5:** Training cost and tax administration efficiency  
Source: NVivo analysis

*“Knowledge management enable staff have better knowledge of what they should do. What tax officers learnt in school is not enough for practice in tax administration. Sharing of knowledge which is part of KM is what enable tax officers execute their job effectively. For instance, if I am transferred from FIRS to another organisation, there will be problem if there is no body to perform my job. But through knowledge sharing other staff are equipped with knowledge to handle my job schedule which would reduce cost of administration because there would be no need to send other staff to training before they can handle the job I do before transferred. This is very important for efficiency in tax administration” (Participant 19, Manager).*

*“Knowledge management reduces cost of operation in tax administration. Because of well-documented processes, we can always go back to them and make adjustments where necessary. When you have processes documented, you do not need to keep retraining people on a particular process over and over again. Those documented processes save administrative cost. Thus, improve efficiency and more revenue would be available for social amenities to improve lives of citizens”*

(Participant 2, Assistant Director).

*“Knowledge management can reduce administrative cost because in tax administration, cost of training and retraining is reduced as staff acquire knowledge from technical sessions. Knowledge acquisition from technical session assist staff to know how to go about a particular function in an efficient manner”* (Participant 11, Assistant Director).

*“Knowledge management reduces cost of training and retraining in tax administration. For example, when I attend training, on coming back I must share the knowledge acquired. In that process, KM reduces cost of training and improve efficiency”* (Participant 18, Tax Officer II).

These expressions showed KM reduce the cost of training as a result of knowledge sharing and documentation of work procedures. Staff shared knowledge with others which enable them to acquire knowledge without formal training. Furthermore, documentation of knowledge and work processes improves staff knowledge and work execution without formal training. These reduced costs in terms of finance and time.

In summary, participants’ responses showed KM can reduce the cost of operation in tax administration in several ways. The category of operating cost KM reduce in tax administration include manual operation cost, compliance and training cost. Furthermore, this study employed a documentary study to validate the data collected from face-to-face interviews. The documents employed include national tax policy and a compendium of tax-related laws. Evidence from the documentary study supported data collected from face-to-face interviews.

National tax policy (NTP) is a document that set comprehensive parameters for taxation and additional issues linked to taxation in Nigeria. Principles, rules and guidelines that govern tax administration and revenue collection in Nigeria are enshrined in NTP. The aim of NIP is to entrench an efficient and robust tax system to enhance revenue generation in Nigeria. A compendium of tax-related laws is a document that contained all tax laws in Nigeria. The aim of the compendium of tax-related laws is to compile all tax laws which are contained in different volumes of the laws of the Federal Republic of Nigeria for easy accessibility. The next section presents a discussion of this study.

## DISCUSSION

Low cost of operation is one of the critical indicators of tax administration efficiency (Adam Smith, 1979; Klun, 2004; Serra, 2005; OECD, 2011; Ayuba, 2014; Semenova et al., 2017) and KM can reduce the cost of operation in an organisation (Liebowitz, 1999; Alhamoudi, 2010; Sejdija, 2012; Yahyapour et al., 2015; Rosdi et al., 2016). However, studies that focus on KM and low operation cost as an indicator of efficiency in tax administration are limited. Moreover, there is a paucity of the study that explain the various ways KM can reduce the cost of operation in tax administration. This study explains the various ways KM can reduce operating costs in tax administration. Data collected via face-to-face interviews and supported by national tax policy and a compendium of tax-related laws documents revealed that KM can reduce operating costs such as manual operation, mistakes, compliance and training costs. KM reduce manual operation cost via record-keeping in a computer database, access to taxpayers’ records online and e-services provided to tax officers and taxpayers. Furthermore, the availability of work procedures (processes) in the database enhances learning and improve capability; therefore, reducing mistake and cost associated with it during job execution in tax administration.

Additionally, KM engenders constant knowledge sharing and documentation of work processes which equipped tax offers with the required knowledge for work execution and limited training, retraining and cost associated with it. Findings from the data collected are in line with Alhamoudi (2010), Sejdija (2012), Yahyapour et al. (2015), Rosdi et al. (2016). According to Rosdi (2016), KM reduces the cost of manual storage, tax filing, and internal communication and enhances the speed and quality of information dissemination. Yahyapour et al. (2015), Sejdija (2012), Alhamoudi (2010) and Liebowitz (1999) explained that the cost and time workers spend searching for information are reduced because the database is connected across various levels of the administration system.

KM processes can reduce costs associated with mistakes during work execution in tax administration. KM reduces mistakes during job execution as a result of knowledge sharing, transfer and documented process/procedure for work execution. Therefore, the cost incurred because of mistakes during work is reduced. Previous studies have found that KM reduced mistakes during work execution. For example, Rosdi et al. (2016) found that KM enables tax officers to learn the standard practice from their colleagues and; hence, perform their job effectively. Therefore, workers make fewer mistakes in the cause of performing their tasks. Also, Becerra-Fernandez and

Sabherwal (2010) stated that KM enable the transfer of knowledge among workers which leads to creativity and innovation as workers make fewer mistakes in the cause of performing their tasks.

KM improves services provided to taxpayers in terms of quality and time which enhance compliance and reduce the cost of enforcement through court litigation. In this regard, Downes and Marchant (2016) said KM improves the quality of service delivery to customer/clients, while Bird (2015) stated that improved service delivery enhances tax compliance; hence, enforcement through court litigation is avoided. Quality and timely information provided to taxpayers as a result of KM implementation enables them to comply voluntarily. Furthermore, services such as e-services provided to taxpayers make tax processes easy for them which engenders voluntary compliance. Hence, the cost of enforcement through court litigation is reduced. Buheji (2013) affirmed that KM enhances customers' satisfaction and provides timely information. Studies including Bird (2015) and Keen (2014) showed that improved service delivery enhances tax compliance, hence, KM improves compliance and reduces the cost of enforcement.

KM can reduce the cost associated with training and retraining in tax administration. Tax officers acquire knowledge informally from knowledge sharing and documented knowledge without formal training. Ferguson (2016), Rosdi et al. (2016), Downes and Marchant (2016) revealed KM engender knowledge sharing, learning and acquisition of knowledge from colleagues which empowers them to perform their work effectively. Therefore, the cost of training and retraining is reduced. Low cost of operation is a critical indicator of tax administration efficiency and KM can reduce the cost of operation in tax administration; hence, there is a need for the formal implementation of KM in tax administration. Also, the establishment of a KM department in tax administration is important.

## **CONCLUSION AND RECOMMENDATION**

This study explains the various ways KM can reduce the cost of operation in tax administration. Based on literature and empirical study, this research explained the connection between KM and manual operation, mistakes, compliance and training costs as indicators of tax administration efficiency. KM can reduce operating costs (manual operation, mistakes, compliance, training) in tax administration and low operating cost is an indicator of tax administration efficiency. Therefore, KM can improve tax administration efficiency through the reduction of administrative costs. This study contributes theoretically and practically.

Theoretically, this study extends the literature on tax administration efficiency in terms of cost and KM. Furthermore, it extends the knowledge-based view theory in the tax administration context. The literature is important to researchers, teachers and students. Thus, researchers can employ the literature for further research, teachers for teaching and students for learning. Practically, KM implementation can be employed as a managerial strategy to reduce manual operation, mistakes, compliance and training costs as an indicator of efficiency. Thus, KM can be employed as a strategy for tax administration efficiency. Low cost as an indicator of tax administration efficiency would make more tax revenue available for national development as the cost of tax administration will be reduced.

The limitation of this study is that it focusses on low operating cost as an indicator of efficiency without considering other indicators of tax administration efficiency. Other indicators such as output, outcome, and productivity are important to tax administration efficiency. Therefore, a future study can focus on KM and other indicators of tax administration efficiency.

## **DECLARATION STATEMENT**

The lead author\* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

## **ACKNOWLEDGEMENT**

The authors thank the respective universities for their support of this study.

## **CONFLICT OF INTEREST**

The authors declare no self-interest in the study conducted.

**REFERENCES**

- Alhamoudi, S. A. (2010). *Strategic Knowledge Management System in Public Sector in Saudi Arabia : An adaptation of the Balanced Scorecard*. Unpublished Ph.D. Thesis, Business School, University of Portsmouth.
- Ayuba, A. J. (2014). Impact of Non-Oil Tax Revenue on Economic Growth : The Nigerian Perspective. *International Journal of Finance and Accounting*, 3(5), 303–309. <https://doi.org/10.5923/j.ijfa.20140305.04>
- Becerra-Fernandez, I., & Sabherwal, R. (2010). *Knowledge Management: Systems and Processes*. M.E. Sharpe.
- Bernard, H. R. (2013). *Social Research Methods: Qualitative and Quantitative Approaches* (2nd ed.). Sage.
- Bird, R. M. (2003). Improving Tax Administration in Developing Countries. *The Qualitative Report*, 8(4), 597–607. <http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf>
- Clayton, D. (2016). Volunteers' knowledge activities at UK music festivals: a hermeneutic-phenomenological exploration of individuals' experiences. *Journal of Knowledge Management*, 20(1), 162–180. <https://doi.org/10.1108/JKM-05-2015-0182>
- Crandall, W. (2010). *Revenue Administration: Performance Measurement in Tax Administration*. International Monetary Fund.
- Creswell, W. J. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (2<sup>nd</sup> edition). Sage Publications.
- Curado, C., & Bontis, N. (2006). The Knowledge-Based View of the Firm and its Theoretical Precursor. *International Journal of Learning and Intellectual Capital*, 3(4), 367–381.
- Deloitte. (2021). *The Way Forward for the Malaysian Tax System*. The Malaysian Institute of Certified Public Accountants.
- Eichfelder, S., Schorn, M. (2012). Tax compliance costs: A business administration perspective. *FinanzArchiv*, 68(2), 191–230.
- Ferguson, J. (2016). Inclusive Perspectives or In-Depth Learning? A Longitudinal Case Study of Past Debates and Future Directions in Knowledge Management for Development. *Journal of Knowledge Management*, 20(1), 4–22. <https://doi.org/10.1108/JKM-12-2014-0513>
- Gerring, J. (2007). *Case Study Research Principles and Practices*. Cambridge University Press.
- Grant, R. M. (1996). Toward a Knowledge-Based Theory of the Firm. *Strategic Management Journal*, 17(Winter Special), 109–122.
- Keen, M. (2014). *Tax Policy, Tax Administration - Making the Links*.
- Klun, M. (2004). Performance Measurement for Tax Administrations: The Case of Slovenia. *International Review of Administrative Sciences*, 70(3), 567–574. <https://doi.org/10.1177/0020852304046210>
- Ladislav, J., P., Vladimir, S. (2015). Administrative Costs of Taxation in Slovakia. *European Financial and Accounting Journal Provided*, 10(2), 51–61.
- Liebowitz, J. (1999). "Key Ingredients to the Success of an Organization's Knowledge Management Strategy." *Knowledge and Process Management*, 6(1), 37–40.
- Mansor, M. (2011). *Application of a Framework for Tax Administration Performance Management in Developing Countries: A Case Study in Malaysia*. Unpublished Ph.D. Thesis, Australian School of Business, University of New South Wales.
- Maseko, N. (2014). The impact of personal tax knowledge and compliance costs on tax compliance behaviour of SMEs in Zimbabwe. *Elite Research Journal of Accounting and Business Management*, 2(3), 26–37. <http://www.eliteresearchjournals.org/erjabm/index.%0Ahtm>
- Mills, A. M., & Smith, T. A. (2011). Knowledge Management and Organizational Performance: A Decomposed View. *Journal of Knowledge Management*, 15(1), 156–171. <https://doi.org/10.1108/13673271111108756>
- Musimenta, D. (2020). Knowledge requirements, tax complexity, compliance costs and tax compliance in Uganda. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1812220>
- OECD. (2011). *Efficiency of tax administrations*. In *Government At a Glance*. OECD Publishing.
- OECD. (2019). *Revenue Statistics in Africa — Nigeria*. Revenue Statistics in Africa. [oe.cd/revenue-statistics-in-Africa](http://oe.cd/revenue-statistics-in-Africa)
- Okoh, U., Mansor, M., I. M. (2022). Training as a Catalyst for Knowledge Management and Tax Administration Efficiency. *Asian Journal of Management, Entrepreneurship and Social Science*, 2(3), 1–15.
- Okoh, U., Mansor, M., & Ibrahim, M. (2020). Motivation as a Critical Success Factor to Knowledge Management Efficiency and Tax Administration Performance. *Malaysian Journal of Qualitative Research*, 6(2), 32–41.
- Okoh, U., Mansor, M., & Ibrahim, M. (2021). Improving knowledge management efficiency and tax administration performance through leadership styles and skills. *Malaysian Journal of Qualitative Research*, 7(2), 70–84.

- Pina, P., Romão, M., & Oliveira, M. (2013). Using Benefits Management to Link Knowledge Management to Business Objectives. *Vine*, 43(1), 22–38.  
<https://doi.org/10.1108/03055721311302124>
- Quintane, E., Casselman, R. M., Reiche, B. S., & Nylund, P. A. (2011). Innovation as a Knowledge-Based Outcome. *Journal of Knowledge Management*, 15(6), 928–947.  
<https://doi.org/10.1108/13673271111179299>
- Rosdi, I. S., Chew, K. W., Samsudin, N., & Hassan, S. (2016). Transforming Knowledge Management at Inland Revenue Board of Malaysia. *Knowledge Management and E-Learning*, 8(2), 259–270.
- Schuller, M. (2017). *Knowledge Transfer from Globally Dispersed Subsidiaries to the Parent Company: A Study of Stickiness in a Multinational Organisation*. Published Ph.D. Thesis, School of Management, Operation and Marketing, University of Wollongong.
- Sejdija, F. (2012). *Knowledge Management in Public Administration: Critical Success Factors and Recommendations*. The University of East London.
- Semenova, N. N., Filippova, A. N., & Efremova, T. A. (2017). Estimation of Tax Administration Efficiency in Russian Federation in Context of Budget Tax Revenues. *Advances in Economics, Business and Management Research*, 38, 612–618. <https://doi.org/10.2991/ttiess-17.2017.100>
- Serra, P. (2005). Performance measurement in tax administration: Chile as a case study. *Public Administration and Development*, 25(2), 115–124.
- Shujahat, M., Sousa, M. J., Hussain, S., Nawaz, F., Wang, M., & Umer, M. (2019). Translating the impact of knowledge management processes into knowledge-based innovation: The neglected and mediating role of knowledge-worker productivity. *Journal of Business Research*, 94(November), 442–450.  
<https://doi.org/10.1016/j.jbusres.2017.11.001>
- Smith, A. (1979). *An Inquiry into the Nature and Causes of the Wealth of Nations* (W. B. Campbell, R. H., Sraner, A. S., Todd (ed.); Glasgow). Oxford University Press.
- Umar, M. A., Derashid, C., & Ibrahim, I. (2017). Challenges of Tax Revenue Generation in Developing Countries: Adopting the Carrot and Stick Approach. *IOSR Journal of Humanities and Social Science*, 22(1), 30–34.  
<https://doi.org/10.9790/0837-2201013034>
- Yahyapour, S., Shamizanjani, M., & Mosakhani, M. (2015). A Conceptual Breakdown Structure for Knowledge Management Benefits Using Meta-Synthesis Method. *Journal of Knowledge Management*, 19(6), 1295–1309. <https://doi.org/10.1108/JKM-05-2015-0166>
- Yan, K., Zuo, M., Zhang, H., Gong, Y., & Fang, J. (2022). Optimization of Tax Collection and Administration Efficiency in Less Developed Regions of Western China. In *Discrete Dynamics in Nature and Society* (Vol. 2022). <https://doi.org/10.1155/2022/7771216>
- Yang, J., Yuan, M., Yigitcanlar, T., Newman, P., & Schultmann, F. (2015). Managing Knowledge to Promote Sustainability in Australian Transport Infrastructure Projects. *Sustainability*, 7, 8132–8150.  
<https://doi.org/10.3390/su7078132>
- Yin, R. K. (2009). *Case Study Research: Design and Methods* (4th ed.). Thousand Oaks, CA: SAGE.
- Yin, R. K. (2013). Validity and Generalization in Future Case Study Evaluations. *Sage Publication*, 19(3), 321–332. <https://doi.org/10.1177/1356389013497081>
- Yousif, L. A. (2012). *Knowledge Management Implementation, Innovation, and Organisational Performance: An Empirical Study in the Iraqi Mobile Telecommunication Sector*. Unpublished Ph.D. Thesis, Universiti Utara Malaysia.
- Zheng, W., Yang, B., McLean, N. G. (2010). Linking Organizational Culture, Structure, Strategy, and Organizational Effectiveness: Mediating Role of Knowledge Management. *Journal of Business Research*, 63(7), 763–771.