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FOCUS ON RESEARCH IN CONTEMPORARY ECONOMICS (FORCE)

EDITORIAL
Ferhat Topbas

ARTICLE(S)

VOLUME 2   ISSUE 2

EDITORIAL

The Editor-in-Chief and the Editorial Board are proud to present the second issue of the second volume of Focus on Research in Contemporary Economics (FORCE). We are driven to establish FORCE which is dedicated to create a well- established venue for high quality research in contemporary Economics. Its content mirrors widespread scholarly approaches and interests within the dimensions of Economics, Finance, Accounting, Banking, Business Administration, Marketing, Management, and other related areas in Social Sciences. Therefore, FORCE's contributions are not limited to a specific disciplinary philosophy or a particular approach.

This issue features five research articles that report essential findings and implications in Contemporary Economics. In the first article, Justino, Tengeh, and Twum-Darko (2021) proposed a conceptual framework for adopting m-commerce by brick-and-mortar retailers.

In the second article, Dubihlela and Tjivau (2021) evaluated the internal audit, and found that Namibia Regional Council's Internal Audit practitioners had a negative impact on compliance with Corporate Governance principles because the internal audit department of RC was regarded to be small compared to the amount of work involved.

In the third article, Igwe, Magaji, and Darma (2021) examined the impact of financial development indicators of the banking, insurance and pension sectors on economic growth in Nigeria, and noted that the impact on of domestic credit on the real sector was reported to be minimal.

In the fourth article, Ramlan (2021) aimed to model the forecast of Malaysia's export of goods using Autoregressive Integrated Model (ARIMA) modelling with Box-Jenkins model, and found that ARIMA (2,1,2) would be the best model to represent the forecasting of Malaysian export of goods first quarter of 2021 to fourth quarter of 2022.

In the fifth article, Trinarso (2021) aimed to report the features to build customer loyalty, and found that the higher the level of price fairness, the higher the customer's satisfaction.

I would like to thank our authors, reviewers, and readers for their continuous support.

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A CONCEPTUAL FRAMEWORK FOR THE ADOPTION OF M-COMMERCE BY BRICK-AND-MORTAR RETAILERS

Mateus Justino, Robertson Tengeh, & Michael Twum-Danko |

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A CONCEPTUAL FRAMEWORK FOR THE ADOPTION OF M-COMMERCE BY BRICK-AND-MORTAR RETAILERS

Mateus Justino, Robertson Tengeh*, & Michael Twum-Darko

ABSTRACT

Regardless of the internal pressures, brick-and-mortar retailers are being compelled by external forces to adopt a mobile commerce (m-commerce) strategy in order to meet emerging consumer experiences in recent years. Although previous research has identified some of the factors that influence the adoption of m-commerce, there is scope for further investigation in light of the changing dynamics of the external forces. Aim: to propose a conceptual framework for adopting m-commerce by brick-and-mortar retailers. Methods: A scoping literature review was done to identify the most critical models/frameworks and factors that influence the adoption of m-commerce by brick-and-mortar retailers. Results: The paper presents a theoretical paradigm that enables a tentative understanding of the vital antecedents of m-commerce adoption by retail brick-and-mortar businesses. Apart from finding holes for future studies, the article suggests a feasible approach.

KEY WORDS: M-commerce, Brick-and-mortar retailer, Mobile shopping, Retail, Technology Organisation-Environment (TOE) framework, Task-technology Fit (TTF) model.

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1. INTRODUCTION

Mobile commerce is a channel that enables businesses to sell and customer to buy product or service wirelessly, through mobile devices (Liang & Wei, 2004:7; Frolick & Chen, 2004:53; Yang, 2005:257; Liang *et al*, 2007:1155; Berglund & Sandström, 2013:276). Several traditional business products and services are seen fit to be transacted via mobile technology. By incorporating mobile commerce into conventional sales channels, previous research indicates that m-

commerce can allow brick-and-mortar retailers to increase sales, resulting in positive channel synergy (EY, 2015:6; Huang, Lu & Ba, 2016:265). Mobile commerce positively influences and strengthens customer loyalty, and customer loyalty significantly affects customers satisfactions (EY, 2015:6; Kalaivani, 2020:5947). Former research also supports that new channels may enable retailers to yield other benefits, such as expanded consumers' base and increased competitive differentiation (EY, 2015:6). Mobile commerce rationalises and speeds up trade and transforms it into digitalised mobile systems.

In general, electronic commerce (e-commerce) outlets have wrought innovative shifts in the retail market (Pantano & Timmermans, 2014:101; EY, 2015:4; Helm, Kim & Van Riper, 2018; Hübner, Holzapfel & Kuhn, 2016:287; Prasanna et al., 2019:1). Thus, consumers have learned and experienced new value-added features such as timeless shopping, the surroundings (i.e., the comfort of consumer buying at the place of their convenience), and affordable personalised and electronic transaction delivery services (Lamb et al., 2008:95; Picoto, Bélanger & Palma-dos-Reis, 2014:573; Njenga, Litondo & Omwansa, 2016:13; Goddard, 2020:4). In fact, consumers now frequently demand incremental changes in brick-and-mortar retailers traditional sales channel to accommodate their new experience (Verhoef, Kannan & Inman, 2015:174; Caro, Kök & Martínez-de-Albéniz, 2020:51). Other trends influencing consumer buying behaviour in today's economies include technological advances in the field of telecommunications (e.g. Fifth Generation (5G) mobile communication system) that help promote the dissemination of information (Čater *et al.*, 2018:192; Psyrris, Kargas & Varoutas, 2020; Taheribakhsh, Jafari, Peiro & Kazemifard, 2020), the rapid expansion of e-commerce outlets (Caro *et al.*, 2020:52), the Coronavirus Disease (Covid-19) pandemic that has triggered a dramatic surge in customers' demand for contactless store pick-up and home delivery (Finotto *et al.*, 2020:1; Gamser & Chenevix, 2020; Goddard *et al.*, 2020:4). One of the most compelling drivers is that m-commerce can provide brick-and-mortar retailers with a more strategic approach to accede to customer's demands, provide consumers with a seamless shopping experience (EY, 2015:8), to exchange goods and gain market share (Swilley, Hofacker & Lamont, 2012:1; Verkijika, 2018:1665). It may enable a brick-and-mortar retailer to cultivate business image and relationship with customers, seize new business opportunity and generate economic value.

Due to the popularity of m-commerce, it is essential to pay particular attention to brick-and-mortar retailers' usage of mobile commerce (m-commerce). In recent years, it has become clear that brick-and-mortar retailers are either being pulled or pushed to adopt mobile commerce. Although the question of what drives the adoption of m-commerce has been addressed to some extent by previous research, there is scope for further investigation in light of the changing dynamics of the external forces and the context of brick-and-mortar retailers. This paper aims to define the critical factors that influence the adoption of m-commerce by brick-and-mortar retailers and propose a conceptual framework for its adoption.

1.1. Brick-and-mortar retailer

A brick-and-mortar retailer refers to a physical building, a visible structured unit within an economy, established to sell goods or services to the final consumer. It is also known as a shop, retail outlet, retail store (Guy, 1998:255; Lamb *et al.*, 2008:282) or traditional retailer (Yamagata-Lynch, Cowan & Luetkehans, 2015). In general, brick-and-mortar retailers provide food products, general merchandise and/or services to the community and are located within residential areas or shopping malls and decentralised areas (Guy, 1998:255; Lamb *et al.*, 2008:279-280). Furthermore, they often strive to provide quality product or service under well-structured and designed business operations. Retailing practices improve people's lives by making available the products or services they use daily and need to replace; they enable consumers to quickly purchase the things that embody their lifestyles and decide their quality of living; and they create job opportunities for individuals and the economy.

In essence, brick-and-mortar retailers' activities and interrelationship with their business partners within an economy or internationally are well-documented, but very little is known about the determinants of m-commerce adoption/use in their business context, which constitute a global phenomenon.

1.2. Mobile commerce

Mobile commerce is about making the transaction information to reach the customers and from the customer to the organisation wirelessly until the transaction process is completed. According to several previous studies, m-commerce refers to the transaction that are performed by using wireless telecommunications network (Yang, 2005:257); electronic business transactions

through mobile phone or tablet (Liang & Wei, 2004:7); and the sales of products and services to customers using wireless internet (Frolick & Chen, 2004:55).

2. METHODS

As the title and the aim indicate, this study sought to identify the essential models/frameworks and factors influencing brick-and-mortar businesses' adoption of m-commerce. The research objective was met by the use of a scoping literature review technique (Munn et al., 2018). The search was conducted using the databases such as Google Scholar, EbscoHost, IEEE Xplore and ScienceDirect from 1995 to 2020 using the syntax rules of the databases. Keywords and their combinations were used to identify peer-reviewed academic publications that met the eligibility criteria where all titles and abstracts were searched. The eligibility criteria were publications in English regarding "mobile commerce adoption/use" "m-commerce adoption/use" and related keywords were "organisation", "business", "firm", "company", "SMEs", "merchant", "retailer" "brick-and-mortar store", brick-and-mortar retailer". The study identified four hundred and seventy-one (471) full text articles related to m-commerce adoption or use and one or more related keywords. However, a distinct procedure was employed to select the articles that meet the inclusion criteria.

2.1. Selection criteria

The following criteria for inclusion and exclusion were defined:

For the inclusion criteria, selected article: (i) should contain the eligibility criteria and one or more of related keywords in its title or abstract or discussion or conclusion; (ii) the study's objective or aim or purpose should focus on m-commerce use/adoption at an organisational level; (iii) the outcome of the study should be a result of the empirical test; and (iv) the article that meets the above criteria should be in English. For the exclusion criteria, items were rejected if they did not match all of the preceding inclusion criteria (i.e., criteria i, ii, iii and iv). Figure 1 shows the selection flow diagram adopted.
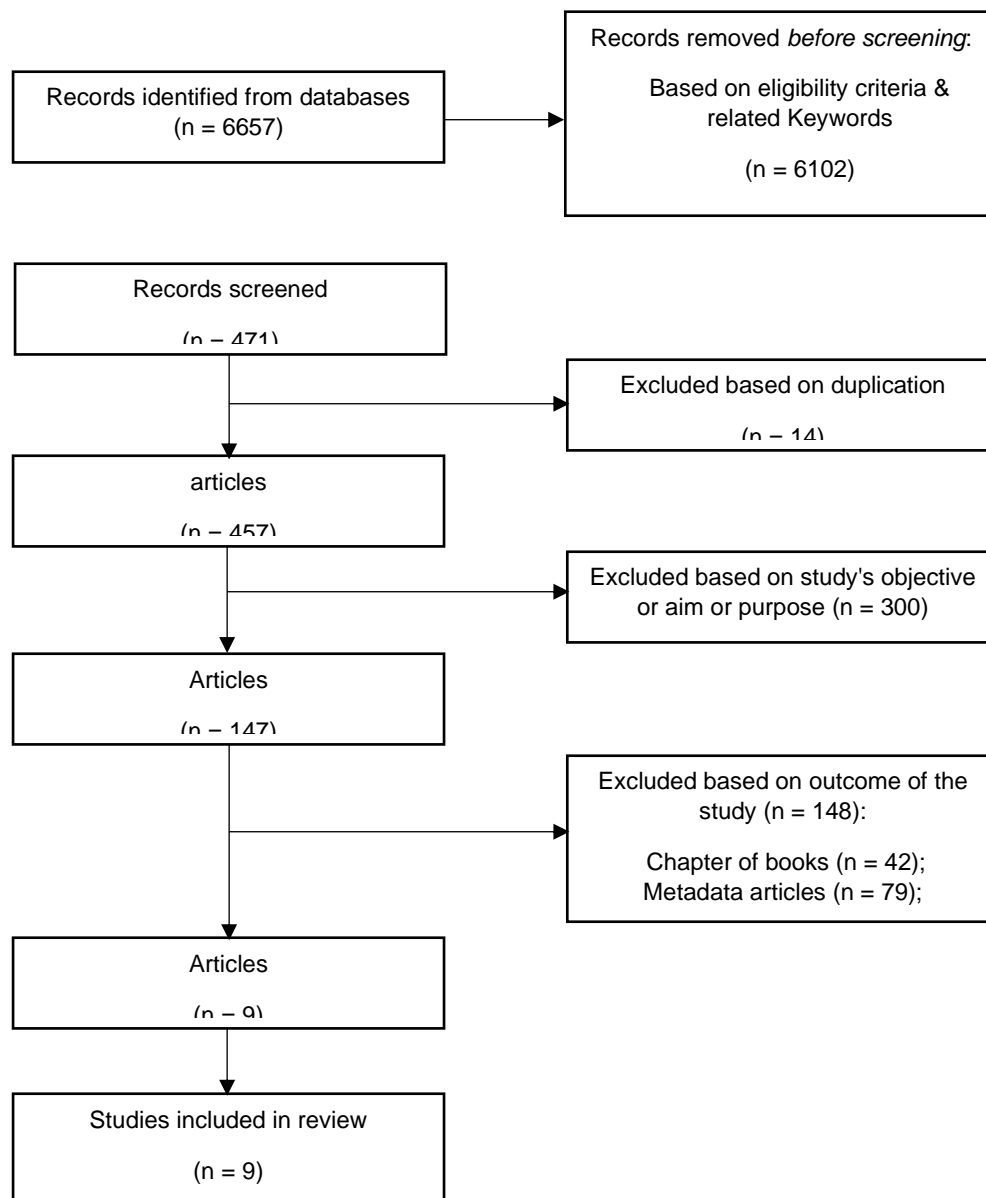
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┌─────────────────────────┐          ┌──────────────────────────────────┐
│ Records identified from │          │ Records removed before screening:│
│       databases         │ ───────▶ │                                  │
│      (n = 6657)         │          │ Based on eligibility criteria &  │
│                         │          │        related Keywords          │
│                         │          │                                  │
│                         │          │          (n = 6102)              │
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┌─────────────────────────┐          ┌──────────────────────────────────┐
│    Records screened     │          │   Excluded based on duplication  │
│                         │ ───────▶ │                                  │
│       (n – 471)         │          │            (n – 14)              │
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┌─────────────────────────┐          ┌──────────────────────────────────┐
│        articles         │          │ Excluded based on study's objective│
│                         │ ───────▶ │   or aim or purpose (n = 300)    │
│       (n – 457)         │          │                                  │
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┌─────────────────────────┐          ┌──────────────────────────────────┐
│        Articles         │          │ Excluded based on outcome of the │
│                         │          │          study (n = 148):        │
│       (n – 147)         │ ───────▶ │                                  │
│                         │          │  Chapter of books (n = 42);      │
│                         │          │  Metadata articles (n = 79);     │
└─────────────────────────┘          └──────────────────────────────────┘

┌─────────────────────────┐
│        Articles         │
│                         │
│        (n – 9)          │
└─────────────────────────┘

┌─────────────────────────┐
│ Studies included in review│
│                         │
│        (n = 9)          │
└─────────────────────────┘
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Figure 1: Selection of study flow diagram (Page *et al*. 2021)

2.2. Selection process

It was noted that an overwhelming majority of the 300 potential articles met the first, third and fourth predefined inclusion criteria but did not meet the second categorical criterion. Their study's objective or aim, or purpose were related to individual standpoint (57.7%), mobile business (m-business) (4.5%), and omnichannel strategy (1.5%). Other articles did not meet the second and third criteria (24.6%), or simply the third criterion (empirical test) (6.7%) and others were excluded as repeated articles (3%). Finally, the remaining articles were included as eligible for the scoping review (1.9%). Table 1 presents the summary of the articles selected as suitable for this study's review. According to Meline (2006:26), these eligible articles should be set as the sample of the scoping

literature review' studies and consequently analysed.

2.3. Information extraction

This study focused on gathering qualitative data related to the title and objective of the investigation. The papers that were determined to be suitable for this investigation were organized chronologically. Consequently, they were scrutinised and carefully extracted data separately. As a result, the data retrieved from the eligible publications were correlated to the research's aims, the theoretical frameworks/models discussed in the studies, the determinant factors of m-commerce adoption/usage that were proposed and tested, and the outcomes of the studies.

2.4. Analysis

The analysis started with a review of the key concepts for the coding of the data to be undertaken. This step included content analysis, which included reviewing and evaluating the retrieved data. Thus, it enabled the reviewers to perform a reliable coding and analysis, allowing them to detect the similarities and differences across the eligible studies and to ascertain their common underlying themes. Thus, the researchers concluded on the theory/theories and determining factors for the adoption of m-commerce by brick-and-mortar retailers based on the predominating themes.

3. RESULTS

The organisational adoption of m-commerce has been observed from different business perspectives. Some of earlier studies used the Technology-Organisation-Environment (TOE) theoretical framework to investigate the factors that have a bearing on Small and Medium Enterprises (SMEs) (Jain, Le, Lin & Cheng, 2011; 2014; Lu, Hu, Huang & Tzeng, 2015) and hotels adoption of m-commerce (Wang, Li, Li & Zhang, 2016). However, they used a single framework for the study. Although some of the influential factors of adoption identified in these studies overlap, many of these determinant factors vary considerably. Even so, other authors like Chau and Deng (2018) have to integrate the TOE framework with Innovation Diffusion Theory (IDT) to investigate the critical determinants and/or influential factors of m-commerce adoption, particularly in Vietnamese SMEs.

Furthermore, other researchers have integrated different theoretical models

such as the Task-Technology Fit (TTF) model and the Unified Theory of Acceptance and Use of Technology (UTAUT) to assess m-commerce adoption by firms (Prasarry, Astuti, & Suyadi, 2015). Factors that have a bearing or put pressure on organisations with respect to m-commerce adoption have also been investigated with the Institutional Theory (Swilley, Hofacker & Lamont, 2012; Li & Wang, 2018). The scrutiny of these study assisted in identifying the different models/frameworks and determinant factors that have been used from varied business categorical/industrial perspectives to investigate m-commerce adoption. Table 1 below shows a summary of eligible studies' objectives, adoption determinant factors and underpinned theory/theories discussed above.

Table 1: Determinant factors of m-commerce adoption at an organisational level

Study's objective	Determinant	Theoretical foundation	Author (s)
investigate the mobile commerce technology adoption and use in New Zealand SMEs.	technologies advantages, compatibility, vendors support, cost factor	IDT	Al-Qirim (2006)
Explore the factors affecting the adoption of m-commerce in Indian MSMEs.	Technological infrastructure, relative advantage, complexity, trialability; partner readiness, external support, firm size, financial resource, IS expertise.	TOE framework	Jain *et al*. (2011)
investigate the influences and pressures acting upon the firm with respect to mobile commerce adoption	electronic business capability, coercive pressures, normative pressure	Institutional Theory	Swilley, Hofacker and Lamont (2012)
Explore the environmental factors affecting m-commerce adoption by telecommunication firms.	competitive pressure, regulatory environment, social influence, support industries, customers pressure, government pressure.	IDT	Alrawabdeh (2014)
Evaluate the implementation of business-to-business m-commerce by SMEs.	data security, network reliability, technology complexity, top management emphasis, employees' IS knowledge, firm size, competitive pressure, partner support, regulatory support.	TOE framework	Lu *et al*. (2015)
Examine factors affecting the adoption of m-commerce by SMEs.	performance and effort expectancy, task characteristics, fit.	UTAUT and TTF model	Prasarry, Astuti, and Suyadi (2015)
Investigate the factors affecting hotel's adoption	Compatibility, complexity, critical mass, firm size, technology competence.	TOE framework	Wang et al. (2016)

of mobile reservation system.			
Investigate the critical determinants for m-commerce adoption by SMEs	Perceived: benefits, compatibility, security, costs; top management support, organisational readiness, managers and employees' IT knowledge, strategic orientation, competitive pressure, customer pressure, government support.	TOE framework and IDT	Chau and Deng (2018)
Explore institutional pressures on the adoption of m-commerce by firms and the mediation effect of top management.	Mimetic pressure, coercive pressure, normative pressure	Institutional Theory	Li & Wang (2018)

4. INTERPRETATION

Previously conducted studies revealed some variation in the parameters influencing the adoption of m-commerce at the company level. Even so, studies that used the same theoretical foundations, such as of Jain *et al*. (2011); Lu *et al*. (2015); and Wang et al. (2016), have shown some divergence between determinant factors. However, the divergence of determinant factors could result from the interventions made in different organisational contexts. In a separate vein, there are also parallels between the factors of m-commerce adoption identified by those research. Two or more studies found various intervention components, including top management support, company size, competitive pressure, coercive pressure, normative pressure, and compatibility. However, some variation in the meaning and interpretations of these factors could be detected. Moreover, it was also observed that these factors predict power may vary in deferent industries and contexts (Wang *et al*., 2016:170). Therefore, brick-and-mortar retailers should consider the variance in the factors that influence the integration of m-commerce into a business.

The accumulated findings of the eligible studies show that the TOE framework remains one of the theories that is widely used for investigating m-commerce adoption in an organisational context. Furthermore, the study identified that some of the eligible studies used a single framework or model for the investigation (Al-Qirim, 2006; Jain *et al*. 2011; Swilley *et al*., 2012; Alrawabdeh, 2014; Lu *et al*., 2015; Wang et al., 2016; Li & Wang, 2018), while others had to integrate frameworks or theories (Prasarry et al. 2015; Chau & Deng, 2018). One would be provided with a couple of reasons to incorporate different frameworks or variables to investigate the adoption or use of new technological

innovation. Researchers argue that potential models/frameworks are too fragmented for contextualising a business sector/industry (Wang et al., 2016:165) or that their proposed constructs and dimensions/measurements for explaining and evaluating the external variables (Gangwar, Date & Ramaswamy, 2015:111) and the technological innovation variables are not clearly defined (Shih and Chen, 2013:1009). As some of existing mobile commerce adoption models and frameworks propounded by prior research tend to cover limited determinant factors of adoption at a business level, Chau and Deng (2018:438) assert that integrations across existing theories or adding constructs from one theory into another would provide a more comprehensive explanation of how to adopt technological innovation in organisations. Similarly, it has been observed that the improvement of explanatory and predicting power are the inspiring motivation behind models and frameworks integration decision (Chau & Deng, 2018:438).

4.1. Underpinning theory

This study used the TTF model and the TOE framework to deal with the complexities surrounding the use of m-commerce by brick-and-mortar retailers.

The Task-Technology Fit (TTF) model is based on the guiding premise that the success impact of a specific technology results from the TTF, i.e., the correspondence between the technology properties and task requirements, and the use of the technology (Goodhue & Thompson, 1995:216; Dishaw & Strong, 1999; Gebauer *et al*., 2010; Abbas, Hassan, Iftikhar & Waris, 2018; Vongjaturapat, 2018). Five constructs constitute the TTF model, which are 1) task characteristics, 2) technology characteristic, 3) both shall predict task-technology fit, which in turn 4) predicts utilisation and 5) the two last constructs predict performance. Comparatively, the Technology-Organisation-Environment (TOE) framework explains the technology adoption in the context of a business. It casts light on how the components of the business environment hold substantial sway on the business technology adoption decision-making (Tornatzky & Fleischer, 1990; Lippert & Govindarajulu, 2006:149; Baker, 2011). The TOE segments the business environment into three fundamental components of technology adoption decision-making, which are the organisational context (i.e., considers the characteristic of the firm and its resources), the technological context (i.e., takes into consideration the potential technologies that are available in the market for the business and the existing technology at the business) and the environmental context (i.e. give attention to

the business's external environment, and stresses the elements in this setting that affect a business's technology adoption decision-making (Eze *et al.*, 2019; Lippert & Govindarajulu, 2006:149; Matikiti, Mpinganjira & Roberts-Lombard, 2018; Eze et al., 2019; Wang *et al.*, 2016:163).

Analysing the theoretical perspective of the proposed conceptual framework, the study assumes that integrating the TTF model with the TOE framework will serve as a lens through which to understand the adoption of m-commerce by brick-and-mortar retailers. Furthermore, they may serve as the theoretical support to explore the underlying factors that influence the adoption of the mobile channel because of the combined relationship of their constructs, i.e., the task characteristics, technology characteristics and TTF (from TTF model), the organisational context, the technological context and environmental context (from TOE theoretical model).

Therefore, this study assumes that these constructs may act as the lens to better explore the magnitude of this research problem for the following reasons. First, the task construct may be used to effectively examine the nature of tasks-related m-commerce performed by brick-and-mortar retailer. Second, the technology characteristics (i.e., for the TTF model) and the technology context (i.e., for the TOE framework) constructs can be adapted to explore the technological features of m-commerce that influence the adoption of the mobile channel by brick-and-mortar retailers. Third, the TTF construct is suggested to understand and assess whether m-commerce systems fits brick-and-mortar retailers' tasks and the underlying value-added features or synergetic power between them. Fourth, the organisation context may be adapted to determine the factors in the brick-and-mortar retailer internal environment that influence the adoption of m-commerce. And lastly, the environmental context construct is proposed to determine the elements within the business external environment that affect the brick-and-mortar retailer m-commerce adoption decision.

4.2. The technology context

The technology context is concerned with the characteristics and structure of the technology available for the business in its internal and external settings (Lippert & Govindarajulu, 2006:149; Baker, 2011; Martín *et al.*, 2012:949; Wang *et al.*, 2016:165; Eze *et al.* 2019:4). It reflects the necessary feature and characteristics of m-commerce systems a business will need. The following determinants within the technology context were identified as critical for adopting

m-commerce by brick-and-mortar retailers: data security, relative advantage, technology characteristics and task-technology fit.

4.2.1. Data security

Security is described as "the perception, or judgment, and fear of safeguarding mechanisms for the movement and storage of information through electronic databases and transmission media" (Lippert & Govindarajulu, 2006:147). Therefore, data security reflects the extent to which the data/information stored up and the transactions across the internet are protected against crimes and threats. However, it ascertained that without tighter data security, the organisation and customer data/information tend to become vulnerable to disclosure, destruction and unlawful access. Therefore, this study proposes data security as a critical determinant of the adoption of m-commerce in that brick-and-mortar retailers can experience increased cybercrime if they start trading over the internet without tighter data security (Wamuyu & Maharaj, 2011:55; Gangwar *et al*., 2015:122). Therefore, it is expected that m-commerce data security should deal with the critical issues of the organisation and customer information privacy and security.

4.2.2. Relative advantage

Relative advantage reflects the extent to which a technology is perceived to offer an intrinsic business value over the alternative or existing technology (Jain *et al*., 2011:162). It has been reported that businesses evaluate the costs and benefits as critical determinants of technological innovation adoption (Picoto *et al*., 2014:580; Wang *et al*., 2016:165). Thus, retailers are more likely to use m-commerce if it provides them with relative advantage such as reduced cost of operations, speed up in the sales (Jain *et al*. 2011:162; Wang *et al*., 2016:165), or increased sales (EY, 2015:6; Huang, Lu & Ba, 2016:265), strengthened customer loyalty and satisfaction (EY, 2015:6; Kalaivani, 2020:5947), expanded consumers' base, and increased competitive differentiation (EY, 2015:6).

4.2.3. Technology characteristics

The technology on TTF research has been clearly defined as a tool (i.e., mobile-commerce devices, software in the context of the present study) that one uses to carry out a task (Goodhue & Thompson, 1995:216; Vongjaturapat, 2018:40). However, technology characteristics construct on m-commerce research have

been analysed as technology characteristics (Lee *et al*., 2004:145), personal digital assistant m-commerce systems (Lee *et al*., 2007:98) and tool functionality (Shih & Chen, 2013:1017). According to Lee *et al*. (2004:144), the measures for the technology characteristic "represent the quality of the mobile technology" used to execute the business m-commerce activities. Therefore, the technology characteristics is deemed to be critical because brick-and-mortar retailers will require functionalities of mobile commerce systems that enable them to carry out tasks specific requirements (Zheng, 2007; Gebauer *et al*., 2010; Yuan *et al*., 2010; Lembach & Lane, 2011).

4.2.4. Fit conceptualisation

The basic fit operationalization of the TTF construct is determined through theoretically analysing the correspondence between task requirements and technology functionality (Goodhue & Thompson, 1995:218; Gatara & Cohen, 2014:324; Vongjaturapat, 2018:39). In other words, the dimensions of the TTF construct reflect the net result of the interactions between the two constructs (task characteristics and technology characteristics) (Goodhue & Thompson, 1995:218). However, TTF is proposed as a critical determinant factor of the adoption of m-commerce because in the TTF construct, the technology is seen as an enabler, in which the consequence of the correspondence between task and technology has implications on the use of technology in the business. In this regard, the fit between the characteristics of the retailer's m-commerce tasks and the functionalities of m-commerce systems constitutes the primary determinant of business use.

4.3. The environment context from TOE theoritical perspective

The environment context construct of the TOE framework (Tornatzky & Fleischer, 1990) reflects the extent to which the external characteristics of the business environment account for the use of the new innovation. For the environment context, three determinants were identified to be relevant to the adoption of m-commerce for brick-and-mortar retailers, i.e., policy and regulation, critical mass and competitive pressure.

4.3.1. Policy and regulation

Policy and regulation reflect the demand for state and international laws, which govern digital business operations (e.g., mobile commerce) and the use and storage of data/information in each business sector or industry. Prior research

has observed that government policies and regulatory support are critical for the adoption of m-commerce (Lu *et al*., 2015:294; Chau & Deng, 2018:8), suggesting that government interventions may speed up the process of IT diffusion across the country (Lu *et al*., 2015:294; Kamble *et al*., 2019:165).

4.3.2. Critical mass

Critical mass is considered when adopting technology is at a tipping point, at that level, the adoption becomes self-sustaining (Wang *et al*., 2016:166). Critical mass represents the popularity of online shopping, the groups of potential online customers that are smartphones/tablets and internet users (Kapurubandara & Lawson, 2006).

4.3.3. Competitive pressure

Competitive pressure reflects the extent to which an organisation is affected by industry members' pressure to use the technology. For example, brick-and-mortar retailers operate in a very competitive sector with varied retail business models and formats. Due to competition, a business may identify the need or be forced to leap at the opportunity to adopt m-commerce to stay ahead or to remain in the market (Chandra & Kumar 2018:244).

4.4. Retailers organisation context

The organisation context reflects the strategic organisational value, design characteristics and resource characteristics that promote the use of a new technology. Among other factors, the organisation context is concerned with the formal and informal links between the staffs, the managerial structure, the nature of centralisation (Zhu & Kraemer, 2005:61; Lippert & Govindarajulu, 2006:147; baker, 2011; Lu *et al*., 2015:306; Wang *et al*., 2016:163) The critical determinants of the use of m-commerce identified for retailers' business context are top management support, technology competence, and task technology characteristics.

4.4.1. Top management support

Previous research on TOE has analysed senior management favourable response or attitude towards the integration of m-commerce as a critical determinant of adoption (Lu *et al*., 2015:293; Wang *et al*., 2016:165). Previous research has noted that businesses are more likely to adopt m-commerce when top managers are interested in creating a vision that incorporates m-commerce

adoption in it (Wang *et al*., 2016:165). Top management support would show commitment to the integration. Thus, if they support, they will also take responsibility for the risks involved in gathering the resources needed for the integration (Lu *et al*., 2015:294).

4.4.2. Task characteristics

In general, task characteristics in TTF research have been characterised through the length of time a task would require to be performed, for example, time criticality (Gebauer *et al.*, 2010:261; Yuan *et al*., 2010:125; Gatara & Cohen, 2014:333), or time-dependency (Junglas, 2003). Moreover, task characteristics have been characterised by the number of times the task regularly occurs in a particular job, namely frequency of practice (Gebauer & Shaw, 2004) and task routineness (Gebauer *et al*., 2010). The characteristics of tasks are also analysed as task interdependence, meaning the degree to which workers depend upon each other to accomplish their tasks (Goodhue & Thompson, 1995:222, Zheng, 2007; Gebauer *et al.*, 2010:261; Gatara, 2016). However, task characteristics were proposed among the critical determinants of the adoption of m-commerce because m-commerce technology is utterly reliant on tasks. Therefore, the lack of business-related tasks to be performed on the mobile channel means no fit between the technology and business. And if there is no fit, there is no use of m-commerce. Therefore, brick-and-mortar retailers must see the need for performing a series of activities on the digital ecosystem by identifying the relevant tasks to be supported by the functionality of m-commerce.

4.4.3. Technology competence

Technology competence has been analysed as an integrative dimension of the organisational context construct. It constitutes a result of the internal organisational resources, such as the technology infrastructure and personnel, and their associated characteristics that will facilitate the adoption of the innovation. To some researchers, the organisational resources associated with m-commerce adoption would be based on existing IT infrastructure, employees with m-commerce-related skill, facilities for providing m-commerce-related training to employees (Zhu & Kraemer, 2005:65; Picoto *et al*., 2014:573; Wang *et al*., 2016:171; Prabowo *et al*., 2018:310). Firms that reach a high level of technological competence, i.e., are endowed with IT professionals and IS, is believed to have the foundation for the use of mobile channel (Martín *et al*., 2012:959; Wang *et al*., 2016:166). In that case, they might also have an

increased interest in the use of m-commerce (Martín *et al*., 2012:959; Wang *et al*., 2016:166).

4.5. Support for the proposed links

Analysing the theoretical perspective of the proposed framework suggested that all the determinants (i.e., policy & regulation, critical mass and competitive pressure) that constitute the environment context construct are critical for the use of m-commerce by brick-and-mortar retailers (Picoto *et al*. 2014:582; Gangwar *et al*., 2015:130; Lu *et al*., 2015:294; Wang *et al.,* 2016:171; Chau & Deng, 2018:8; Prabowo *et al*., 2018:310; Kamble *et al*., 2019:165). Furthermore, regarding the technology context construct, the present paper posits that the proposed determinants i.e., data security, task technology fit and relative advantage, are critical for brick-and-mortar retailers to adopt mobile commerce (Goodhue & Thompson, 1995; Gebauer & Shaw, 2004; Yen *et al*., 2010:912; Lu *et al*., 2015:294; Wang *et al*. 2016:165; Chandra & Kumar, 2018:247). However, the study also posits that the technological characteristics positively influence the TTF (Dishaw & Strong, 1999:13; Yen *et al*., 2010:913; Prabowo *et al*., 2018:307). Furthermore, this study proposes that the determinants, i.e., top management support and technology competence, within retailer context construct are critical for the adoption of m-commerce by brick-and-mortar retailers (EY, 2015:4; Lu *et al*., 2015:294; Wang *et al*., 2016:171; Caro *et al*., 2020:52) and that task characteristics positively influence the TTF (Goodhue & Thompson, 1995; Gebauer & Shaw, 2004; Lee *et al*., 2007; Yen *et al*., 2010:913).

5. THE PROPOSED FRAMEWORK FOR THE ADOPTION OF M-COMMERCE

Based on the reviewed literature of the factors that influence organisations' adoption of m-commerce, this section proposes a conceptual framework to deal with the complexities surrounding the adoption of m-commerce by brick-and-mortar retailers. The framework is based on two theoretical foundations: The Technology-Organisation-Environment (TOE) and Task-Technology Fit (TTF) models. Despite the TTF model and TOE framework's prominence, their flaws have been identified. The TTF model is not tailored as a business technological evaluation model. In contrast, it is a diagnostic tool to evaluate technological fitness for individual use and performance (Goodhue & Thompson, 1995; Zheng, 2007; Gebauer *et al*., 2010; Gatara, 2016). However, the TOE framework explains the technology adoption in the context of a business but is criticised for

having the characteristic of a generic or non-context-specific framework (Gangwar *et al*., 2015:111; Wang et al., 2016:165), which should be strengthened by integrating it with more purpose-built models to overcome its limitations (Gangwar *et al*., 2015:111). In essence, this study presumes that the TTF model constructs can harmonise with the TOE framework. The study defends that tasks characteristics omitted from the TOE constructs or dimensions are highly relevant to the use of m-commerce by brick-and-mortar retailers. Therefore, as a remedy for removing the barriers to use m-commerce, the proposed framework also includes elements of the Innovation Diffusion Theory (IDT).

Therefore, the framework proposed below presents three constructs relevant to explain the critical factors of m-commerce adoption for the brick-and-mortar retailers, which are the environment context, retailer context and technology context. Thus, determinants within these constructs shall exist in a retailer's business environment to effectively use the mobile shopping channel. The proposed constructs and related determinants are discussed below.
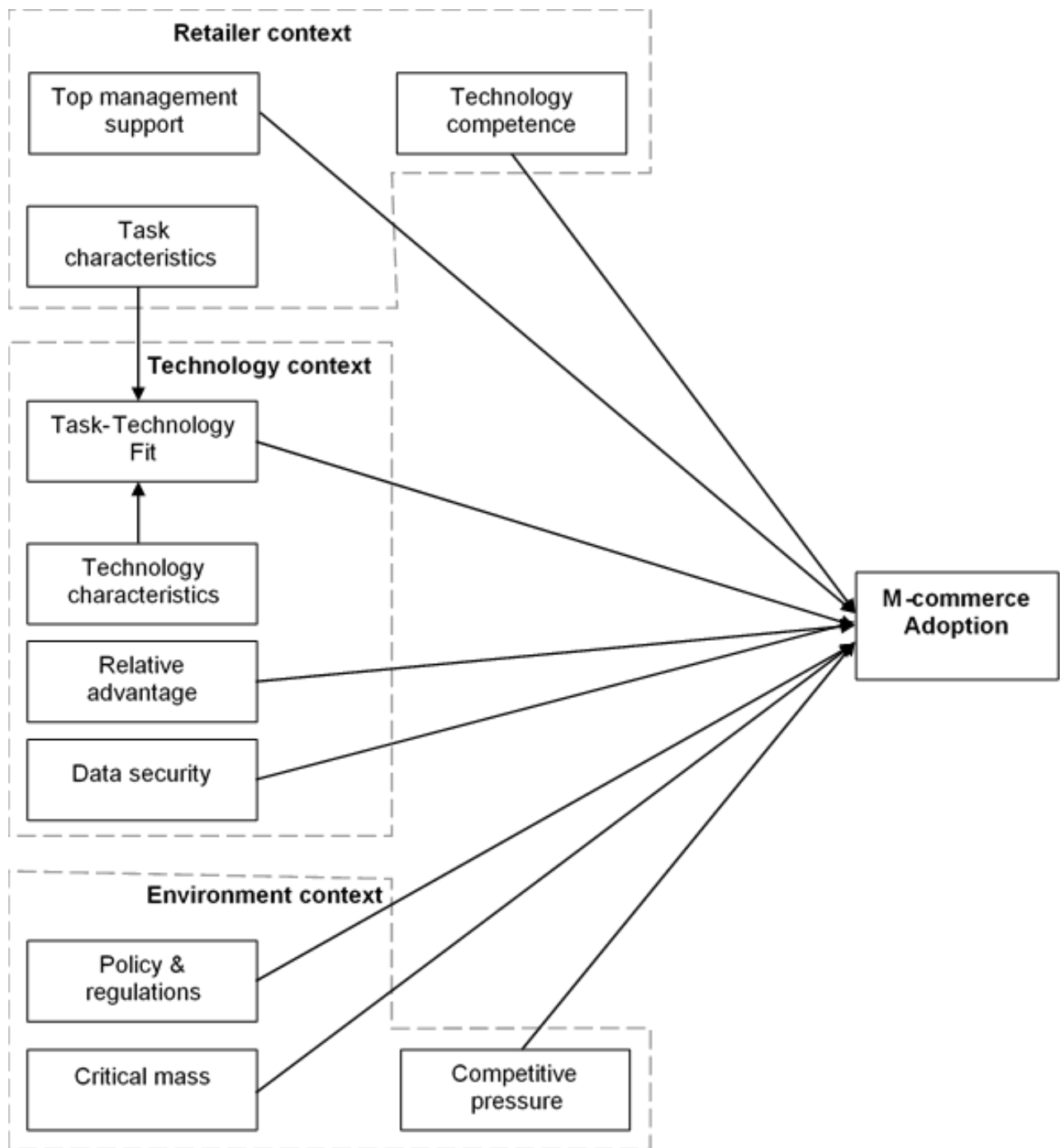
Figure 1: Proposed determinants of m-commerce use for retailers

6. CONCLUSION

By employing the scoping literature review strategy, this study critically collected empirical literature-based organisational adoption/use of m-commerce, successfully formulated and applied the inclusion/exclusion criteria for selecting relevant studies and analysed the eligible articles. Thus, the study proposed a framework based on two theoretical foundations, the TOE framework and the

TTF model. The proposed framework serves as a solution to prior studies limitations and as theoretical support for the explanation and further investigation of the critical determinants of the adoption of m-commerce for brick-and-mortar retailers. This article adds to our understanding of the historical and contemporary developmental determinants of technological innovation use/adoption. It may provide insight into retail practitioners' m-commerce usage/adoption trends that fit their business models. It may also assist brick-and-mortar retailers in understanding the complexities surrounding m-commerce and encouraging them to fully participate in the digital ecosystem.

However, this paper is not without limitations. The paper reviewed and reported on a specific array of peer-reviewed academic studies. Thus, it only provides a preliminary understanding of the critical issues concerning the adoption of m-commerce in the retail business context. Therefore, the proposed framework should undergo an array of empirical tests in different contexts, retail industries. Moreover, as the use of m-commerce by brick-and-mortar retailers is a new phenomenon, the critical determinants of the adoption of m-commerce are also subjected to investigations within qualitative approaches to understand the phenomenon from a different standpoint. Due to the inclusion and exclusion criteria particularly applied in this study, there might be a slight bias in selecting eligible studies. Therefore, further studies should consider the critical determinants of adoption proposed in this study by integrating them with other determinants relevant to the retailer's setting but were not discussed in this paper and put them to empirical tests.

DISCLOSURE OF CONFLICT
The authors declare that they have no conflicts of interest.

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INTERNAL AUDIT PRACTITIONERS' PERSPECTIVES ON CORPORATE GOVERNANCE COMPLIANCE: CASE OF NAMIBIAN REGIONAL COUNCILS

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INTERNAL AUDIT PRACTITIONERS' PERSPECTIVES ON CORPORATE GOVERNANCE COMPLIANCE: CASE OF NAMIBIAN REGIONAL COUNCILS

Job Dubihlela*, & Kavii Priesca Tjivau

ABSTRACT

Internal audit practices improve the quality and importance of the management system, thereby increasing the efficiency and efficiency of the organization. The evaluation of internal audit is self-motivating, especially in terms of increasing attention to the contribution of corporate governance. The compliance by Internal Audit practitioners in Namibia Regional Councils to Corporate Governance principles was evaluated. Qualitative data was collected using an interview guide. Purposive sampling was used to select internal auditors from Namibia Regional Councils and the officers of Ministry Urban and Rural Development (MURD). Content analysis was used to analyze qualitative data. Results showed that Namibia Regional Councils' Internal Audit practitioners have a negative impact on compliance with Corporate Governance principles because the internal audit department of RC is small compared to the amount of work involved. This issue may not result in corporate assurance, timely disclosure and accurate disclosure of performances of financial positions. The study fairly concluded that most Regional Councils in Namibia do not clearly comply with Corporate Governance principles by Internal Audit practitioners to enable them to efficiently and effectively.

KEY WORDS: *Corporate governances, internal audit, MURD, Namibia, Regional Councils.*

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1. INTRODUCTION
The governance process lays the foundation for maintaining and communicating values and goals that are not limited to accountability and monitoring such goals

(Institute of Internal Audit, 2011). For some internal audit functions, the implementation of 2110 governance standards is challenging and affects corporate governance. However, the most important thing is to realize that internal audit can ensure the quality governance of the organization through good corporate governance, to make a positive contribution to the organization.

Internal auditing practices can increase the quality and importance of the management systems, thereby increasing the effectiveness and efficiency of the organization (Weldu 2017). Internal audit evaluations are self-motivating, especially in terms of increasing attention to the contribution of corporate governance. The importance of internal audit can be attributed to the improvement of corporate asset control, the verification of business processes to reflect documented policies and procedures (Morris, 2017) and the key pillars of good governance (Kreston, 2020).

Namibia's internal audit is a typical representative of corporate governance under the audit committee (Kanduku, 2016). The committees make legislative directives based on King III report (Diloitte, 2016) which may lead to an increase in regulatory and guidance in improving Corporate Governance and reinforcing assurance of the investors in financial reporting (Kanduku, 2016). Internal auditors must perform organizational activities smoothly to achieve economic and efficient performance in internal audit activities (Clarke, 2019; Munro & Stewart, 2011). The internal audit can achieve this by foreseeing potential risks, find out and determine hazards impeding the entire institution by addressing their internal audit activities in terms of corporate governance. Organizations need to keep ongoing technology and its processes (Clarke, 2019; Munro & Stewart, 2011), having operational audits and performance audits (Clarke, 2019).

Namibia recognized Corporate Governance Code (NamCode) grounded on the King II report. The report directs enterprises in Namibia characterized by good cooperate governance practices. They guide the management in the right decision making for the enterprises, and NamCode guides corporate entities in Namibia (Deloitte, 2013).

The main aim of this paper is the evaluation of the corporate governance compliance by internal audit practitioners' perspectives at Namibia Regional Council. The Namibian organizations have become very keen to implement

sound corporate governance principles because of its positive impact on performance. However, due to the lack of an effective internal audit function, they still struggle to implement most of the important foundations of corporate governance successfully. Internal audit's value is in its ability to assist management in implementing these well-talked about good governance principles.

Although Corporate Governance seems to enjoy attention from the national government, there are reported incidence of large amounts of money at the Regional Council that is still unaccounted for. Management deficiencies such as weak leadership, poor accounting, reporting systems, lack of risk management, and control exist, allow cash to flow out in the organizations through corruption means. This renders a service delivery handicap because resources allocated for specific needs end up being used for personal gain. Due to the lack of proven, evidence-based Corporate Governance practices, ethics are eroded, resulting in fostering of corrupt behaviors.

On the one hand, the Namibian government invested much money in the Regional Councils in order to obtain a return on investment. At the same time, most of the Regional Councils claimed that they had suffered huge uninterrupted losses because they failed to properly account for the large amounts of funds allocated to them. This paper is motivated by the deafening silence of the Internal Audit practitioners' perspectives on corporate governance, while the Regional Councils are making serious deficiencies.

since exchange rate volatility is seen as a signal of future inflation volatility, wages and prices can rise even before the costs of imports does. Such phenomenon is on one hand a major concern to emerging economies in general (Taylor, 2000), and a special concern for the Tunisian economy in particular as it is a key factor in understanding inflation dynamics and therefor in conducting monetary policy.

2. AIM AND OBJECTIVES OF THE STUDY
The main aim of this paper is to evaluate internal audit practitioners' perspectives on corporate governance compliance at Namibian Regional Councils.

- To determine the effectiveness of internal audit practitioners to Corporate Governance principles.

- To establish if Regional Council internal audit practitioners' practices comply with principles of Corporate Governance.
- Evaluate the regulations and regulations formulated to guide internal audit compliance and identify obstacles to the implementation of internal audit for the Namibia Regional Council. This can be determined by looking at key elements of corporate governance.

3. LITERATURE REVIEW

3.1. Corporate governance

Corporate governance is the collection of mechanism relations and the process by which corporations are monitored and controlled (Goergen, 2012). According to Mungunda (2012), Corporate Governance is about leadership, and it should not be seen as a "nice-to-have" but vital for the survival and future growth of any organization. Good governance is about effective leadership to achieving corporate success, sustainable economic growth, social and environmental performance" (Mungunda, 2012).

Qurashi and Manhood (2018) try to shed on corporate governance discourse, which emerged as a critical interest in the early 1990s, attracting a great deal of attention from practitioners, communities of managers, shareholders, investors, regulatory agencies, as well as in the academic research fraternity. The understanding of Corporate governances is interpreted as principles by which an organization is directed and managed (Mubwandarikwa, 2013). A conclusion has been drawn by the researchers that, corporates merely promote hygiene in management by influencing the manner in which objectives of the organization is set and achieved as well as providing guidance in terms of risks assessment and monitoring, and enhancement of the organizational performance.

3.2. The concept of internal auditing

An Internal Audit (IA) practices have a lasting history, but the discipline made tremendous changes over the years (Ali *et al*., 2007). Geir, as cited in Ali *et al.* (2007) noted that internal auditing emerged from the Egypt state of the Greek ruler Ptolemy Philadelphus II with about 25000 years' record of Zenon-papyri. Fresher and Zarzeski (2012) indicate that earlier audits involved a review of the accuracy of the accounting records and the review of repeated evaluation activities in the accounts. The objective was the improvement of control of the management of an organization's activities. Even so, the situation changed

during the 19th and efforts were put on the detection of fraud during the first half of the 20th century. This idea explains the turning point of modern auditing where there is business management enhancement from the traditional auditing that was characterized by fraud detection.

Presently, most notably in public institutions, internal auditing promotes accountability while improving on the government's performance. Many governments have policies in place that fortify the functions of internal auditing while enhancing their capacities. This enhances internal auditing strategic objectives. King Report (2002 in Mubwandarikwa, 2013) show that Corporate Governance brings equilibrium on economic and social areas between separate and common objective. This decreases the gap between individuals' interests, organizations, and societies. The King Report's definition of Corporate Governance shows that it is a framework that encourages clever use of resources and equally reports accountability of these resources to the stewards.

Institute of Internal Audit -IIA (2011) indicates that internal auditing bears an important purpose and drives the setup of auditing practices. IIA reports independence in internal auditing, which uplifts the operation of the organization as it includes designed assurance objectives and activities for consultations (IAA, 2011). The mechanism of IA is designed to secure business accountability which has become a focus for government reforms (Omolaye & Jacob, 2018).

Mubwandarikwa (2013) points that if a country, especially a State-Owned Enterprise, has a weak accounting and reporting structure, capital will flow to other areas of the country, causing disastrous consequences. Worthington and Zeno (2017) viewed that it is the reason why most developing countries are struggling with money laundering due to lax accounting and reporting systems. Mubwandarikwa (2013) reported that poor documentation of internal control systems, limited, timely disclosure of financial performances, poor audit and risk committee weakened corporate governance in Namibia.

3.3. Role of internal auditing
The role of Internal Audit (IA) is to provide an assurance to the Accounting Officer on the adequacy of controls -in all financial and operating systems (Ministry of Finance, MoF, 2019). Assessment is found on the risks to which the Ministry may be exposed. The Internal Audit division provides four functions: (1)

Fulfils the Internal Audit functions within the Ministry, reports administratively to Accounting Officer (PS) and functionally to the Audit Committee. (2) Providing internal audit function as a service to the management by giving independent, management-orientated advice on the Ministry's internal control systems, operations and performance, with a view to improving accountability and performance. (3) Internal audit sets standards for the internal auditors of various ministries and commissions and monitors their compliance. These departments are also responsible for setting professional practices. (4) Undertake special investigations on behalf of Treasury and reports to the Permanent Secretary, Ministry of Finance (MoF, 2019).

From the regulatory point of view, internal auditing in Namibia is under the provisions of the Code of Commerce and the Code of Commercial Companies. For the auditing profession, external auditing is strictly controlled and regulated. However, the IA is indirectly regulated by laws and decrees that aim to strengthen internal control system such as the State Finance Act of 1991, Section 14 and 15 provide for the appointment of Internal Auditors and authorizes their access to accounts, documents and records to perform their audit duties.

3.4. Namibia regional councils

Namibia Regional Councils (NRC) were recently comparatively established in 1992 and given limited functions (Regional Councils Act, 1992 (ACT NO. 22 OF 1992). They have been allowed restricted responsibility for carrying out their own work and controlling their own resources, much of which has in the past been done by MRLGH under agency arrangements. Regional Councils (RCs) have, therefore been able to build only limited capacity. Their capacity must be maximized to cope both with their existing functions and the functions, which will be decentralized to them. According to the Namibia Constitution and Citizenship Law Book (2013), the tier of Regional Councils is made up of Regional Councils (RCs). Each RC only runs one region, and there are 14 regions including Harpdap, Omaheke, Otjozondjupa, Erongo, Kavango Zambezi, Oshikoto, Khomas, Karas, Kunene, Ohangwena, Omushati, Oshana.

In terms of management, every RC is led and chaired by an indirectly elected chairperson (Namibia Country Profile 2017-2018). The Regional Council Act of 1992 gives RCs powers for its own administration. It is also among others provide advice to the Office of the President, and the central government in

matters relating to the region. For the purpose of elections, Regional councils are divided into electoral constituencies. In terms of self-administration, RCs have powers and duties in administering their affairs by hold meetings (Section 11) remuneration and paying allowances to councilors (Section 15), selection of management committee by-elections (Section 18) and any other related committees [Section 28 (1)(h)], Regional officers and other officers and workers' appointment (Section 23), property acquisition [Section 28 (1)], income and expenditure preparation estimates (section 39). The RCs in Namibia based on section 28(1) have the power to do anything deemed valuable in exercising its powers.

Over the past two decades, the Namibia Regional Councils (NRC) have made many changes that have changed the way internal audit is operated and managed. Legislation has played an important role in these changes, but other factors such as the explosion of information technology and environmental awareness have also affected the development of internal auditing. With these changes, the expectations of stakeholders (citizens) in public funds are now more obvious. In addition, politicians are always looking for new ways to obtain public funds for their own interests. This paper studies these changes and their impact on internal audit methods and methods, from the perspective of their impact and response to the internal auditors of the Namibia Regional Council.

In Namibian Region Councils, the Internal Audit function and administrative, report to the Chief Regional Officer. In addition, internal audit function reporting to the executive is some few cases noticed, and this idea is common to top government sectors such as government entities. The IA functions are expected to report to the Ministry of Urban and Rural Development (MURD) where the Regional Councils fall. Nonetheless, the reporting exercise is not timely, showing the effectiveness of the IA functions.

Generally, the role of the internal audit function is to provide recommendations on risk management activities and assurance clauses. Hailemariam (2014) reports that in the key areas of internal audit, RC's assurance activities are completely or mostly consistent with RC's strategic goals. The Insurance Regulatory Commission ranks operational risk as to the highest risk, while the coverage of strategic risk guarantee is the smallest. In addition, the Internal auditing of the Regional Council in Namibia was challenged due to lack of support for internal auditors. Internal auditors are to have a close relationship

with organization's management and staff in their day-to-day activities. At the same time, they have to be independent of management. Good support and perception from their management enhances their effectiveness and contributes highly to the achievement of their audit objectives. According to Hailemariam (2014), management support supports the auditing process by providing the necessary resources, finance, transport if required, providing training, introducing auditors with new technology and procedures, budgeting funds for certification and other facilities that help the internal auditing works. The lack of such vital support normally leads to the ineffectiveness of the internal audit function. Mafale (2014) believes that if the internal audit function is not supported by the management, the internal audit function will not take effect. In order for the management to show support, the guidance of the internal auditor must be used. Mafale further stated that the allocation of sufficient resources to the internal audit function is also a sign of management support (Mafale, 2014).

Independence from the internal audit function is a challenge for NRC. Cohen and Sayag (2010) argue that Internal audit function is independent when it renders impartial and unbiased judgment in the conduct of its engagement. Independence requires integrity and objectivity approach to the audit engagement. The concept requires the auditor to carry out his or her work freely and in an objective manner. Internal audit staffs should feel free to conduct an investigation, express opinions and make recommendations without pressure from the top management (Mafale, 2014). Therefore, it is important not to intervene when performing and communicating the results of internal audit work.

The lack of a legal framework is a problem within RCs. Despite the existence of the internal audit function in the Namibian public sector since 1991, the function has been operating without a legal framework (Vilho, 2013). This legal framework is important in terms of internal audit function achieving its objectives and compliance with internal auditing standards (IIA, 2012). Internal audit legal framework is a broad system of rules that govern and regulate the internal audit function. It is a combination of auditing standards, guidelines and audit manual that are adhered to in the process of carrying out the internal audit work. The lack of a legal framework can result in the internal audit function not to carry out its duties in an effective and efficient manner (Mafale, 2014).

Since the inception, the internal audit function in the Namibia Regional Councils appears not to have adequate legal backing that governs the functions and the

reporting lines -in the public sector (Vilho, 2013). At the same time, the function is expected to add value to the internal controls of the entity. In support of Vilho (2013), Mafale (2014) argues that ministries have set up their own internal audit units with a separate establishment and a grading structure with the approval of the Office of the Prime Minister. The lack of uniformity in the setup of the internal audit functions in the office of the Ministry of Urban and Rural Development (MURD) as a custodian for internal auditing of the Regional Councils can lead to inconsistency in carrying out the internal audit engagements.

3.5. Corporate governance in internal auditing practices

Good corporate governance principles create value. Mubwandarikwa (2013) reports that good corporate governance principles in parastatals help to create value, be accountable and transparent and have control systems in place that mitigates risk effectively. Mubwandarikwa's (2013) study in Namibia found that internal control systems were ineffective (53%), which showed weak corporate governance. An internal control system in any organization is the ground for its performance and has a strong effect on Corporate Governance. In a similar study, findings showed a poorer measure of a company's performance (73.3%) which compromised the progress of the organization. However, the study shows that timely disclosure of financial status is above average (66.7%) and is insufficient to show the company's transparency (which may lead to corruption). Transparency is one of the foundations of corporate governance in an organization.

Corporate governance regulations are formulated while considering the private sector. Kukunda (2016) states that it is also important to consider the public sector. This idea has put emphasis on Namibia on audit committees. According to Ihuhua (2012), the Public Audit Committee of Namibia recommended all enterprises, both private and public, to set up audit committees that can encourage corporate governance within the organizations. Haunga and Thiruvadi (2014) found that organizations that work in poor Corporate Governance with limited corporate directors, and who are over-committed tend to fall in fraudulent activities. The percentage of internal audit practitioners and an average number of audit committees vehad a negative impact related to embezzlement of assets in public organizations (Haunga & Thiruvadi, 2014).

In order to appreciate the role and responsibilities of internal auditing, it is worth noting the changes in definitions to reflect the changing role, responsibilities,

and activities. Institute of Internal Audit (IIA) argues that internal auditing is a catalyst that is important in improving governance in organizations, risk management and management control thereby providing insights and recommendations based on analysis and data assessed and business processes (IIA, 2017). Internal audit means that the role of the internal auditor must be changed from an evaluation, monitoring and evaluating function to a provider of assurance, consulting, assistance and advice (Galloway, 2015).

Tysiac (2014) reports that the IA principles are fundamental to IA in achieving the anticipated objectives, as stated in the definition of Internal auditing. Institute of Chartered Accountants of India (ICAI) (2018) and IIA (2014) reported that the basic principles of IA are independence, integrity and objectivity, due professional care, confidentiality, skills and competence, risk-based audit, system and process focus, participation in decision making, sensitive to multiple stakeholder interests, finally quality and continuous improvement.

The internal control system is mainly implemented to prevent fraud and errors, Kaplan Knowledge Finance Bank-KKFB (2012) pointed out that the lack of internal control means that directors have failed to fulfil their obligations under corporate governance. This fact means that the risk management strategy of the business will be defective. Based on the Audit Practicing Board and COSO, internal control systems aim at ensuring the following: Orderly and efficient conduct of its business, including adherence to inter practices, safeguarding the assets of the business, provision and detection of fraud and errors, accuracy and completeness of the accounting records and the timely preparation of financial information (KKFB, 2012). KKFB further indicated that an internal control system is beneficial in the effectiveness and efficiency of operations, reliability of financial reporting and compliance with applicable laws and regulations (KKFB, 2012).

The COSO framework identifies the five main elements of the internal control system. These elements are information and communication, risk assessment, control environment, monitoring and control activities these elements are based on the general ideology of the board of directors setting agency in the application of internal control to the details of internal control (COSO, 2013). These elements may result in effective implementation of corporate governance in internal control activities if effectively implemented.

The Internal Audit Standards Board (IASB) (2014) requires that internal audit activities must ensure the adequacy and effectiveness of risk management and control in the organization. It also requires an internal audit to help the organization understand systemic risks and provide guidance on determining appropriate internal controls to mitigate these risks.

Various organizations are striving to establish an internal audit function that reflects the IASB characteristics and functions. Ahlawat and Lowe (2014) pointed out that the two main factors causing this situation are lack of understanding of expected knowledge and lack of qualified skills. On the other hand, Nyamwaya (2016) reported that a number of organizations have however managed successfully to implement the guidelines of COSO and transformed their traditional internal audit departments to a department with a modern approach, adding value to a well-governed organization.

3.6. The effectiveness of internal audit

Well-defined effectiveness as the ability to obtain results consistent with strategic objectives. Dittenhofer (2001) as cited in Hailemariam (2014) points out that effectiveness is the attainment of IA goals by means of factor measures available for the determination of such factors. Mihret and Yismay (2007:46) said, "internal audit effectiveness is the extent to which an internal audit office meets its raison d'être, is arguably a result of the interplay among four factors: internal audit quality; management support; organizational setting; and attributes of the auditee". They further high that internal audits functions' ability to provide useful audit findings and recommendations would help raise management's interest in its recommendations. According to Mihret and Yismay (2007), the management support with resources and commitment to implement the Internal Audit recommendations is essential in obtaining audit effectiveness. The organizational environment in which the internal audit works is located, that is, the organizational state of the office, internal organization, and policies and procedures applicable to each auditee should enable the audit to proceed smoothly and obtain useful audit results. In addition, the ability, attitude and degree of cooperation of the auditee will also affect the effectiveness of the audit.

3.7. Undertaking theories

Risk-based audit theory. This argues that clients' specific experience maximizes an auditor's ability to assess client risks accurately. However, prior research in psychology suggests that people tend to overweight experience

when faced with current risk cues that conflict with experience. This design examines the consequences of prior, positive client-specific experience and efficiency pressure, represented by costly risk cues, on the ability to generate an effective risk assessment. The results indicate that person's bias toward prior experience. The efficiency results show that higher prompting costs will lead to sub-optimal risk prompt selection, but will not negatively affect the effectiveness of risk assessment. Risk audit theory believes that in the audit process, the use of client-specific experience will make the auditor's assessment more effective (Bell & Solomon 2012). In this papers, the risk-based internal audit of the theory is employed to the internal control system and risk management, requiring all Regional Councils to set up risk management awareness, identify the risk control points, risk take appropriate measures to control, and recorded a variety of risk control, creating a risk-based internal audit of the important sources of data (Doolin & Lawrence, 2017).

Stewardship Theory. The theory concerned with the identification of situations in which the interests of the principal and the steward are aligned. In fact, Ebimobowei and Binaebi (2013) noted that auditing exists as a result of the stewardship concept and stewardship accounting. Adoption of stewardship approaches within the government sectors will bring a number of changes within the sector because stewardship theory serves as accountability mechanisms for ensuring good monitoring, good audit and reporting in order to assists in objective achievement (Cribb, 2006).

Communication theory. The IIA as the professional body takes care of internal auditing, several studies such as by Golen (2008), confirm the importance of communication within the organization and the need for effective communication skills. For example, a study done by Smith (2015) suggests some ways to improve these communication skills. Studies by Hahn (2018) and Golen (2008) discussed communication barriers and how they can be overcoming. At the same time, several previous studies have dedicated their work to communication in organizations. These studies evidenced that, effective communication and interpersonal relationships between managers and staff have a strong contribution to improve profitability and productivity; and it leads to higher quality of services and products, and reduction in costs (Clampitt & Downs, 2013). The IIA standards report that effective communication must be carried out in internal audit. Therefore, this paper considers the realization of communication theory.

4. RESEARCH METHODOLOGIES

4.1. Sample and sampling

Participants in this paper include the staff of MURD as the line ministry, Internal Auditor, Chief Regional Officers of the eight Regional Councils of Omaheke, Hardap, Khomas, Otjozondjupa, Erongo, Kavango East, Oshikoto and Zambezi. Regional Councils were selected based on the 2014-2019 audit report of the Office of the Auditor General (OAG) due to poor internal audit report as large sums of money were not accounted for. In each regional council, there is an internal auditor (IA), a chief internal auditor (CIA) and a chief regional officer (CRO) that participated in the study.

4.2. Data collection instruments and methods

Data from the eight RCs was collected via Interviews. The interviews were structured because all participants were asked the same questions in the same order. This reduced biased opinion of the potential participants. The researcher personally distributed the interview guide to selected participants at their offices upon making appointments. The interview guide had structured interview questions that were open-ended. Interview guides were given to the selected participants, and the researcher gave them enough time (3days) to read, understand and complete it. They were then collected for data analysis.

The collected data was analyzed using content analysis.

5. DATA ANALYSIS

This paper's results are based on qualitative analysis. The findings of the study are presented and discussed later.

5.1. Analysis of qualitative data

The data was collected from staff members of the Namibia Regional councils and the Ministry of Urban, Rural and Development in Namibia, which is the line Ministry of this study. Amongst the eight participants, three (3) of the targeted four (4) were Internal Auditors, one (1) was the Chief Internal Auditor, one (1) was Deputy Director IA and another one (1) was Executive Director.

Decision-making processes in Corporate Governance (CG)

All participants have knowledge of CG in RCs in Namibia. Participants indicated that CG is a mechanism, a relation and a process by which RCs are governed,

directed and involves many interests of their stakeholder. Two (2) of the participants further indicated that some managers tend to interfere in the decision-making process, thus making it challenging for some executives to interfere in the decision-making process. Three (3) participants mentioned that there are occurrences of councilor or politicians at regional level attempting to get involved in auditing decision matter that makes internal auditing practitioners not to be independent. One participant was quoted saying

"*there are 14 Regional Councils in Namibia of which five of them have functioning audit committees implying that Corporate Governance (CG) is not well-practiced*".

Structure of the Internal Audit sections in the Regional Councils.

The interviewees were requested to give their views on the structure, size and composition of the internal audit sections in the Namibia Regional Councils and whether they possess the right mix of capabilities, experiences, and skills to serve Regional Councils and its shareholders effectively. Three (3) interviewees mentioned that internal audit section at RC is very small compared to the amount of work involved as they have to audit Regional Councils, Constituencies, Settlements and Delegated Functions (other government agencies). Another three (3) interviewees stated that the internal audit of the RCs consisted of two staff members who were very small and had limited ability to serve the board effectively. These participants reached a consensus on the workload of too few staff; this may not lead to the company's guarantee of non-time disclosure, nor will it lead to incorrect disclosure of RC's financial status.

Independence of internal audit sections and audit committees

All participants (6) stated that the internal auditor is independent of the members of the audit committee and is not part of the RC management. Two (2) participants further noted that internal auditors are independent of the appointing authorities, depending on the nature of the auditing committee members. A further reason for independence of the internal auditors is that most audit committees are made up of non-executive members, they aim at advising management on governance, risk management and internal controls of the RCs, and of which most of them are from auditing firms. They do not participate in the day-to-day operations of RC, thus keeping internal auditors from the influence of management. The other two participants had the same idea, involving the current RC in Namibia. This idea is evidenced in the following narrative,

"the current setup of only three RCs internal audit sections makes them independent out of the 14 RCs in Namibia. Then I can say, there are mechanisms put in place to ensure that Namibia Regional Councils can independently act objectively".

The activeness of internal audit practitioners in Regional Councils

Three (3) interviewees indicated no when asked, "Do you think that internal audit practitioners in Regional Councils are active and make much contributing to the running of the government Councils and are actively appraising the adequacy in both administration and accounting that are applied in all the activities of the Councils?" On this issue, two of the three interviewees stated that internal audit practitioners report to the CRO, thereby compromising their independence, and therefore they do not receive the support they need to perform their duties effectively.

Unexpectedly, the other two (2) participants mentioned that most of the RCs in Namibia did not have an audit committee, thus making them inactive." This is evidenced by the following narrative;

"Oh, there are some of the RCs in Namibia that do not have audited committees in places, the failure to have such committees is a great challenge, this has a challenge in overseeing RC's financial reporting and disclosure.

Existing procedures for the selection of internal audit committee members

All participants (6) agreed that there are existing procedures in the selections and dismissal of the Internal Audit/or member of the audit committee, is appropriate and ensures the independence of such practice in the Regional Councils. One participant was quoted saying,

"The internal auditors are staff members of the organization and are employees like any other public servants in terms of Act 13 of 1995…. the public service has a right to deal with any irregularity in the service provision and replace with another employee".

While supporting the mentioned statement, another participant said

> *"In the dismissal of an internal auditor or the audit committee members, go through council for scrutiny and endorsement to ensure transparency"*.

Access to information needed by an internal auditor

All six (6) interviewees stated that the internal audit was unable to obtain the information they needed to perform their functions effectively and efficiently. Anyhow, the appointing authority (CRO and Council) by their legal position, power and duties are legally empowered to have and commend information on all the affairs of the RC.

Implementation of strategies and action plans of Regional Councils

All interviewed participants indicated that, legally, the ministry is not supposed to be involved in the day to day operations of the RCs; however, they get involved in the development of strategic plans where consultations are held between the ministry and the RCs. Three (3) interviewees further indicated that the ministry provides funds, oversights for RCs activities, monitoring of implementation strategies, improving on service delivery at all levels of RCs, synchronize and manage decentralization in RCs. One participant was quoted saying,

> *"RCs fall under and report to the Line Ministry and their budget is motivated and is part of the budget of the Ministry under Vote 17 that makes RCs be in a position of submitting their development plans and budget to the Ministry for considerations.*"

Transparency was seen to be important in IA, Namibia Regional Councils,

> *"The periodic accountability reports, monitoring and enforcement of compliance and good Corporate Governance by the ministry is also via periodic visits as well as routine and special audit investigations in RCs. This improves on Corporate Governance in RCs as they expect to be investigated and are supposed to report to the line ministry hence encouraging transparency".*

Ensuring RCs effective execution of assigned mandates

The researcher asked the interviewees to explain how the Ministry (MURD) ensures that the RCs effectively perform their assigned tasks. Two (2)

participants indicated that other than powers, duties, functions rights and obligations of RCs, the RCs Act, 1992 provides the powers of the ministry in for example appointing the CROs, the preparation and submission of development plans, RCs' budget approvals and preparation and submission of accounting records as well as financial statements for auditing and accountability purposes.

The interview narrated,

> "*the ministry invests in building the capacity of the RCs through training and technical support. The ministry carries out monitoring and evaluation, budget hearing in which the RCs present how they execute their budgets and through the management of reports*".

Effectiveness of monitoring and oversight role on Regional Councils
On the aspect of effectiveness of Line Ministry is monitoring and oversight role on Regional Councils, all interviewees were in agreement that the line Ministry monitors Regional Councils' performance with its comparative data. However, an interview indicated that more surveillance activities should be conducted and inspections should be conducted in terms of infrastructure development. The ministry should emphasize that RC submits quarterly management reports to determine quarterly performance. Another participant said;

> "*The Ministry is not fully effective as the functions of the RCs are monitored by different divisions in the Ministry, some people in the Ministry are competent, and others are incompetent as they do not know what is expected from them in their monitoring and oversight role on Regional Councils*".

One other participant viewed that due to limited resources in terms of finance and human capital, the oversight role by the Ministry is not effective. Whereas the Ministry appears to do well in monitoring as well as investigating and uncovering instances of violation or noncompliance, the Ministry faces challenges in enforcing compliances or holding RCs accountability effectively.

Regional Councils' performance with its comparative data
Six (6) participants agreed that the line Ministry monitors Regional Councils' performance with its comparative data. One participant further mentioned that

the RCs submit management reports to the Ministry, which are then analyzed against the approved budget. One participant in the interview reported how information from budget execution and accountability reports was investigated.

> *"information from the budget execution and accountability reports, budget submissions, financial statements, annual and strategic plans submitted by the RCs are investigated in a manner that the line Ministry monitors the Regional Councils' performance with its comparative data*."

4.3. Discussion of results

This previous section presented the results of the study. This section gives a discussion of major study findings in literacy and empirical manner.

The study shows that in some regional representative committees, there is no audit committee, and at the regional level, some managers, councilors or politicians interfere with the decision-making process of the internal audit function. Also, the structure of the auditor is very small compared to the amount of work involved. Contrary to Deloitte (2013), internal audit requires the existence of sufficient audit committees to help supervise and guide to improve corporate governance. Cohen and Sayag (2010) believe that auditors need to be independent of the auditee and its management in order to perform their duties effectively. In this case, where there are interferences, there may be deliberate ambiguity in the NRC, which may lead to unfettered power and leads to ineffective decision-making by the NRC.

The IIA (2011) pointed out that internal audit must be independent in promoting the establishment of audit practices that can improve the operation of the organization. The independence of internal auditors enables them to make fair and impartial judgments when engaging in audit work. Moraa (2012) added that Internal auditors need to maintain a fair and impartial attitude to avoid conflicts of interest, which will help them impair their ability to perform their duties objectively. The results of this paper also showed that internal auditors are independent and are objective in performing their work.

It was confirmed that internal audit practitioners of the Regional Councils are not active. As opposed to Eke (2018), they have not contributed much to the operation of the government council and are not actively evaluating the

appropriateness of administrative management and accounting. In internal audit, the positive linear relationship between internal audit and corporate governance is a means of internal audit, which has a significant impact on the effectiveness of the board of directors and audit committees. In support of this claim, the South African Institute of Directors (2016) pointed out one of the four important elements to support the implementation of a compliance system, with a focus on legal and regulatory obligations as management and control measures.

O'Riordan (2013) identified procedures in recruitment committees. The auditee committees are recruited while following procedures to ensure organizational transparency. Goodson *et al.* (2012) added that when a member of the audit committee violates organizational policy, he will be fired and replaced by a competent member. The results of this paper also showed that there are existing procedures for the selection and removal of internal auditors and audit committee members, which are appropriate and ensure the independence of this practice by the regional committees.

Landers (2018) regarded a need for the management of RCs to evaluate the accuracy of the information they receive. Similarly, Hahn (2018) believes that internal auditors must be provided with the relevant information they need. Kaplan Knowledge Finance Bank (2012) pointed out that improper disclosure of internal audit information can breed corruption and undermine accountability. Obtaining information from the above-mentioned literature, the provision of information is very important for establishing corporate governance in the practice of internal auditing to perform its functions effectively. Unfortunately, the results of this paper show that internal auditors cannot obtain the information they need to perform their functions effectively and efficiently.

Taking into account the leadership skills of the internal audit practitioners of the Namibia Regional Council, the results showed good leadership skills. The good leadership of internal audit practitioners results in a commitment of corporate discipline thus improved performance. Consistent with the King III report on corporate governance, corporate discipline and several characteristics and elements of good corporate governance is in the core determinants of corporate governance and have a profound impact on the performance of any company. De Waal (2007) suggests that trust relationship with people at all levels is maintained and strengthened because loyalty is valued and smart people are

regarded as smart people. Respecting others, cultivating a learning attitude, establishing and maintaining personal relationships between managers and employees, encourage trust and trust in others, and treat others fairly. Magrane and Malthius (2010) argue that good leadership lives with honesty and integrity, take integrity as an example, and show commitment, enthusiasm and respect.

6. CONCLUSION

This paper placed much emphasis on the evaluation of internal audit practitioners' perspectives on corporate governance compliance at Namibian Regional Councils. Conferring the literature reviewed, it is clear that corporate governance is an issue for internal audit practitioners. This was supported by the present result obtained in the survey as presented and discussed in the previous section. It is apparent that most RCs in Namibia do not clearly abide by the corporate governance principles of internal audit practitioners and cannot be effectively implemented. Contemporaneous literature suggested that the compliance by internal audit practitioners to corporate governance principles of any organization can be dependent on its architectural arrangement or capability such as good corporate governance, good leadership, good performance assessment of internal auditors, sufficient staff and of audit and risk competence and committal, and sound business strategies. Whereas, a bit of evidence of possession of such principles of compliance by internal audit practitioners in Namibia Regional Councils to Corporate Governance principles is seen, there are serious mismatches in terms of the architectural arrangement of these important institutional capabilities in support of performance efforts.

7. IMPLICATIONS

The lack of professional standards in Namibia has resulted in these organizations setting up their guidelines on how to engage with IAF. As a result of the paucity of research on IA in Namibia, this study will contribute to enhancing practitioner's understanding of the function and possibly, the establishment of a local chapter of the IIA to promote their activities and also sensitize the public and private sector organizations about their profession. In addition, while the country is trying to change this sector, this paper reminds policymakers that the goal of RC reform is the ultimate success of the public sector accountability system. The paper, therefore, suggests policies directed towards the development of the RC infrastructure, including the promotion of IAF to salvage public sector accountability and governance that has been badly mishandled. Accountability and transparency in the management of NRCs is a

great performance challenge. Thus, a need to conduct a study on it. This will help identify governance elements that affect accountability and transparency in the performance of the Namibia Regional Council.

DISCLOSURE OF CONFLICT

The authors declare that they have no conflicts of interest.

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ANALYSIS OF THE IMPACT OF FINANCIAL DEVELOPMENT INDICATORS OF THE BANKING, INSURANCE AND PENSION SECTORS ON ECONOMIC GROWTH IN NIGERIA

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ANALYSIS OF THE IMPACT OF FINANCIAL DEVELOPMENT INDICATORS OF THE BANKING, INSURANCE AND PENSION SECTORS ON ECONOMIC GROWTH IN NIGERIA

Gloria U. Igwe*, Sule Magaji, & Nazifi Abdullahi Darma

ABSTRACT

The study examined the impact of financial development indicators of the banking, insurance and pension sectors on economic growth in Nigeria. The financial development indicators of the sectors utilised were ratios of net domestic credit, gross premium and total pension assets. Quarterly data spanning from 2007 to 2019 were obtained for the study. The research design adopted for the study is expost facto. The Autoregressive Distributed Lag model is employed to assess the impact of financial development indicators of the aforementioned sectors on economic growth. The results revealed that in the short and long run, net domestic credit has negative and significant impact on economic growth and gross premium has a positive and significant impact. Pension assets have negative and insignificant impact on economic growth in the short run but positive and insignificant impact in the long run. On the basis of the findings, the study noted that the impact of domestic credit on the real sector is minimal. Also, the insignificance of the pension sector may be due to the fact that the funds are mainly invested in fixed income securities, which later ends up with the retirees. The study recommended among others that government should provide the necessary infrastructure as the high cost of doing business translates to the high cost of borrowing in banks.

KEY WORDS: *Banking, Economic growth, Financial development indicators, Insurance, Pension*

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1. INTRODUCTION

The financial system plays an important role in an economy through efficient financial intermediation by mobilising savings, enhancing investment opportunities; facilitating exchange of goods and services; enabling hedging and diversification; and reducing information, transaction and monitoring costs (Adekunle et al., 2013). These functions are effectively performed when the financial system is well-developed. The level of financial development varies across countries in terms of financial structure, market and institutions and also largely depends on whether a country's financial system is dominated by the banking, capital market, insurance or pension sectors. To determine the financial development in these sectors various indicators have been developed to measure their size or depth, access, efficiency and stability (World Bank, 2006).

Available statistics shows that developed countries have well-developed financial system compared to the developing countries as the financial development indicators of the developed countries have remained on the increase. The World Bank Global Financial Development Report of 2017/2018 shows that in terms of financial depth measured by private credit by deposit money banks, 56 developed countries averaged 89.6%, while 129 developing countries averaged 34.9%. Also, the financial depth measured by stock market capitalization reveals that 49 developed countries averaged 110.8% and 66 developing countries averaged 44.8%. In terms of access measured by account at a formal financial institution, 48 developed countries averaged 87.1% and 109 developing countries averaged 33.4%. The efficiency ratio measured by stock market turnover ratio indicates that 52 developed countries averaged 42.2% while 64 developing countries averaged 21.3%. However, the efficiency indicator measured by percentage of bank lending-deposit spread was in favour of developing countries as 117 countries averaged 7.9%, while 53 developed countries averaged 4.1%.

In Nigeria, the financial system has witnessed developments and reforms that have changed the financial structure and markets as well as the regulatory landscape. Specifically, in the Nigerian banking, capital market, insurance and pension sectors, some of the developments and reforms include the consolidation of banks, introduction of a new banking model, establishment of the Asset Management Corporation of Nigeria, recapitalisation of insurance and re-insurance companies, adoption of risk-based supervision in the banking and

insurance sectors, establishment of the National Pension Commission, enactment of the Pension Act in 2004 (re-enacted in 2014) and enactment of the Investment and Securities Act, 2007 to repeal the 1999 Act, among others. The sectors play important role in the economy as the banking sector performs financial intermediation function by mobilising funds from surplus to deficit unit, the capital market serves as a platform for trading in long-term financial securities, the insurance sector provides protection against insurable risks and the pension sector offers income security for retirees.

The financial system is key to driving and supporting real sector growth but this depends largely on the extent of its development and responsiveness to a country's contemporary developmental challenges. Efforts have been made to ensure that the financial system impacts on the economy in Nigeria. However, the real sector continues to grapple with so many challenges, especially access to credit for the financing of businesses with the attendant high cost of borrowing from banks. Also, there has been low penetration of insurance in the economy occasioned by lack of patronage and low level of consumer awareness.

Several studies have been carried out to ascertain the impact of financial development on economic growth in Nigeria. However, most of the studies have utilised multiple indicators of the banking sector (Audu and Okumoko, 2013; Osuji, 2015; and Ndako, 2017) while some incorporated the indicators of the capital market (Ogwumike and Salisu, 2012; Omoruyi and Uwubamwen, 2014; Modebe and Ezeaku, 2016; and Karimo and Ogbonna, 2017). Studies using financial development indicators of the insurance sector are limited as only Monogbe et al. (2016) and Oliomu and Oligbi (2020) have utilised this indicator of financial development. However, there are no studies that have included financial development indicators of the pension sector. This study attempts to simultaneously capture the financial development indicators of the banking, insurance and pension sectors. Therefore, the objective of the study is to assess the impact of financial development indicators of the banking, insurance and pension sectors on economic growth in Nigeria. Specifically, the study determines whether financial development affect economic growth in the short and long run.

This study is structured into six sections. Following the introduction, Section 2 provides literature review on financial development and economic growth. Section 3 focuses on the data and methodology of the study and Section 4

discusses the analysis and result. Section 5 presents the conclusion and recommendation.

2. LITERATURE REVIEW

2.1. Theoretical review

Literatures on financial development provide some theoretical underpinnings on the relationship between financial development and economic growth. Although the widespread view is that financial development engenders growth but there are other divergent studies. The nexus between financial development and economic growth was first theoretically posited by Schumpeter in 1911 that financial intermediaries provide services which are fundamental drivers for economic growth.

One of proponents of financial development and economic growth theory, Goldsmith (1969) recognised the financial liberalization allows market to determine interest rate, which consequently stimulates savings thereby providing loanable funds for banks and in turn raising the level of investments, leading to economic growth. Pagano (1993) emphasises the significance of financial intermediation and other factors as essential to economic growth. He used the endogenous growth to show how financial intermediation with respect to the capital market could affect economic growth in an economy through three basic channels viz: the proportion of savings channelled to investment; the marginal productivity of capital; and the rate of savings.

Patrick (1966) provides a two-way causal relationship between financial development and economic growth, which he affirms varies depending on the stages of development in an economy. This could either be supply-leading, which occurs at the early stages of economic development or demand-following, which takes place subsequently. The supply-leading hypothesis is premised on the existence of financial services in advance of the demand for them while demand-following is occasioned by the growth and development in the economy, which creates demand for financial services.

McKinnon (1973) posits that financial liberalisation devoid of government regulation is key to increasing saving rates and enhancing investment. Shaw (1973) notes that financial institutions promote investment by providing savings and borrowing to investors by facilitating savings and borrowing. They view that

financial liberalization allows market to determine interest rate, which consequently stimulates savings thereby providing loanable funds for banks and in turn raising the level of investments, leading to economic growth.

2.1. Empirical review

Several empirical literatures abound on financial development and economic growth, which include cross and individual country analyses. However, the literature reviewed in this study have been streamlined along some individual country analysis with more focus on Nigeria.

Ogwumike and Salisu (2012) analysed the relationship between financial development and economic growth in Nigeria for the period 1975 to 2008 using the Autoregressive Distributed Lag Bounds test approach as well as VAR-Granger causality test. The variables included stock market capitalization, credit to the private sector, real discount rate, bank deposit liability, investment and real GDP as well as a dummy variable to reflect financial sector reform. The results showed that there was a positive long run relationship between financial development and economic growth in Nigeria and supported the supply-leading hypothesis. Also, financial reform which was positively significant impacted on economic growth.

Okwo et al. (2012) examined the relationship between financial development and economic growth in Nigeria using the ratio of broad money (M2) to GDP and the ratio of credit extended to the private sector GDP. The control variables included government consumption and trade openness. The study covered the period 1986 to 2010 with simple regression of an endogenous growth model employed for the analysis. The results showed that financial development had negative effects on economic growth in Nigeria and there was a positive long-run relationship between government consumption and trade openness. The financial sector development indicators were statistically significant in deepening the financial sector but no causality was found between financial sector development measures and economic growth.

Osuji and Chigbu (2012) investigated the impact of financial development on economic growth in Nigeria using data from 1960 to 2008. Money supply, credit to private sector and GDP were the variables used. The study employed granger causality test, co-integration and error correction model. The results revealed

that money supply and credit to private sector were positively related to economic growth. The Johansen tests showed that money supply and credit to private sector were cointegrated with GDP while the Granger test indicated a bi-directional causality.

Sackey and Nkrumah (2012) used quarterly data from 2000 to 2009 and employed the Johansen co- integration approach in a bivariate VAR model to analyse financial development and economic growth in Ghana. The study used the ratio of M2 to GDP economic growth represented by GDP. It revealed that there was a positive relationship between financial development and economic growth for Ghana.

Adekunle et al. (2013) examined the impact of financial sector development and economic growth in Nigeria covering the period 1992 to 2008. The financial development indicators utilised include the ratio of liquidity liabilities to GDP (M2/GDP), real interest rate, ratio of credit to private sector to GDP while the economic growth was measured by the real GDP. The study employed the OLS method of the regression analysis and the results showed that the ratio of liquid liabilities to GDP and the ratio of credit to private sector to GDP significantly impacted on economic growth while real interest rate was negatively related.

Oriavwote and Eshenake (2014) used time series data from 1990 to 2011 and employed the cointegration technique and error correction model (ECM) to ascertain the relationship between financial development and economic growth in Nigeria. The variables were real gross domestic product, ratio of money supply to gross domestic product, liquidity ratio, minimum capital base, interest rate and credit to the private sector. The results revealed that credit to private sector had not improved the level of economic growth in Nigeria. However, the minimum capital base and liquidity ratio improved the level of economic growth. The Johansen cointegration test and ECM indicated a long run relationship among the variables.

Modebe and Ezeaku (2016) conducted a similar study in Nigeria using data from 1987 to 2014. The variables included growth rate of real GDP at current basic prices; banking credit to private sector as a percentage of real GDP; broad money stock as a percentage of real GDP; financial depth, measured as total deposit as a percentage of real GDP; trade openness, measured as sum of imports and exports relative to real GDP; stock market capitalization as a

percentage of GDP; foreign direct investment and inflation rate. The study employed Johansen cointegration and Granger causality tests. The results showed that credit to the private sector, stock market capitalization and inflation had negative impact on the economy, while broad money supply, trade openness and foreign direct investment exerted positive influence on the economy. The granger causality test showed that stock market granger causes GDP, GDP causes foreign direct investment and no causality for other variables.

Ndubuisi (2017) employed the multivariate VAR framework approach to co-integration to evaluate the long-run relationships between financial development and economic growth in Nigeria. The study period covered 1981 to 2014. The financial development variables utilised include deposit money bank assets as percentage GDP, ratio of liquid liabilities to GDP and ratio of private sector credit of deposit money banks to GDP with real GDP as proxy for economic growth. The result showed that there was long run unidirectional causality running from economic growth to liquid liability and deposit money bank assets while deposit money bank assets have little significant influence on real GDP in the long run.

Mohieldin, Hussein and Rostom (2019) carried out a study on Egypt using ARDL. The data used were financial development and financial market indicators for measuring depth, access and efficiency as well as real GDP per capita for the period 1980 to 2016. The study established that there is a relationship between financial market indicators and economic growth. Financial development indicator for depth also showed similar result. However, the financial development indicators for access and efficiency showed no relationship with economic growth.

Ohiomu and Oligbi (2020) examined the effect of financial sector development and financial deepening on economic growth in Nigeria using the ARDL technique. The data covered 1981-2018 and the variables included ratio of market capitalization, credit to private sector and savings to GDP; insurance income; volume of money market instruments; and GDP growth rate. The results of the study revealed that the financial development indicators influence economic growth.

Most of the studies reviewed have mainly used the financial development indicators of the banking sector and capital market with few on the insurance sector. However, this study considers the financial indicators of the pension

sector and employs quarterly data covering the period when pension data was available.

3. DATA AND METHODOLOGY

3.1. Data description

The research design adopted in this study is expost facto. The study assesses the impact of financial development indicators of the banking, insurance and pension sectors on economic growth in Nigeria using quarterly data from 2007 to 2019. The period considered is premised on the availability of data for the pension sector and various reforms in the financial system within the study period. The data are sourced from the Central Bank of Nigeria, the National Insurance Commission and the National Pension Commission. The data utilised in the study are ratios of net domestic credit, gross insurance premium, total pension assets to GDP and economic growth rate. The net domestic credit is the total credit made available to borrowers in the country by financial institutions market capitalisation is the total value of all securities listed on a Stock Exchange, gross insurance premium denotes the income from life and non-life businesses, interest, dividends, rents and other receipts and the total pension assets refers to the assets in the Retirement Savings Account, Closed Pension Fund Administration Scheme and Approved Existing Scheme. The economic growth rate is a measure of the GDP growth rate in the economy.

3.2. Model specification

In line with the theoretical and empirical literatures, the study adapted the model of Ogwumike and Salisu (2012). This was based on the fact that the model explored the key financial development indicators of the banking system, which has been reformulated in this study to analyse the impact of financial development indicators of the banking, insurance and pension sectors on economic growth. The relationship between the variables is stated in the functional model below:

$$GRT = f (NDC, GPM, TPA) \qquad (1)$$

Where GRT = economic growth rate; NDC = ratio net domestic credit to GDP; GPM = ratio of gross premium to GDP and TPA = ratio of total pension assets to GDP

3.3. Estimation technique

The study employed the Autoregressive Distributed Lag (ARDL) model, which includes the lagged values of the dependent and independent variables in the regression equation. The model is desirable because it provides short and long run (using ARDL bounds test) relationship among the variables and consistent results for small sample. The ARDL model can be estimated if the order of integration of the unit root test is either I(0) or I(1). Also, the ARDL Error Correction Model (ECM) can be obtained from the ARDL bounds testing, where cointegration among the variables has been established. The variables are tested for stationarity using the Augmented Dickey Fuller test.

The functional equation in (1) is transformed to an ARDL model as specified below:

$$\Delta GRT_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta GRT_{t-i} + \sum_{i=1}^{n} \beta_{2i} \Delta NDC_{t-i} + \sum_{i=1}^{n} \beta_{3i} \Delta GPM_{t-i} + \sum_{i=1}^{n} \beta_{4i} \Delta TPA_{t-i} + \varepsilon_{it} \qquad (2)$$

Where β_0 = constant term; β_{1i}, β_{2i}, β_{3i}, β_{3i} = coefficients of autoregressive terms; Δ = difference operator; i = lag length and ε_{it} is the error term

The lag length for the ARDL model in equation (2) is selected using the lag selection criteria of Akaike Information Criteria (AIC) and Schwarz Information criteria.

The ECM equation of the ARDL is presented below:

$$\Delta GRT_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta GRT_{t-i} + \sum_{i=1}^{n} \beta_{2i} \Delta NDC_{t-i} + \sum_{i=1}^{n} \beta_{3i} \Delta GPM_{t-i} + \sum_{i=1}^{n} \beta_{4i} \Delta TPA_{t-i} + \alpha ECM_{t-1} \qquad (3)$$

Where ECM is the error correction term and the coefficient α measures the speed of adjustment of the model convergence to long run equilibrium after a short run disequilibrium. It is expected to be negative and significant.

Diagnostic tests for normality, serial correlation and heteroscedasticity are carried out to test the goodness of fit of the model. In addition, the cumulative sum of recursive residuals (CUSUM) and the CUSUM of square (CUSUMSQ) tests are used to determine the stability of the coefficients of the model. Eviews

10.0 econometric software is used for the estimation of the model.

4. RESULTS AND DISCUSSION

The results of the empirical analysis of the study covering the descriptive statistics, unit root test, autoregressive distributed lag model, diagnostic test and stability test are discussed in this section.

4.1. Descriptive statistics

The descriptive statistics of the variables are presented hereunder:

Table 1: Descriptive Statistics

	GRT	NDC	GPM	TPA
Mean	4.217225	0.645267	0.011702	0.159958
Median	4.928550	0.747890	0.013330	0.178875
Maximum	8.082100	1.063280	0.016140	0.283770
Minimum	-2.340800	0.016380	0.003190	0.005580
Std. Dev.	2.781063	0.329884	0.004325	0.089555
Skewness	-0.607729	-0.791124	-1.053009	-0.589721
Kurtosis	2.435868	2.237774	2.433327	2.037311
Jarque-Bera	3.890425	6.683080	10.30559	5.022011
Probability	0.142957	0.035382	0.005783	0.081187
Sum	219.2957	33.55390	0.608510	8.317840
Sum Sq. Dev.	394.4499	5.550003	0.000954	0.409029
Observations	52	52	52	52

The skewness, which measures asymmetry shows that the variables are negatively skewed. In respect of Kurtosis, the variables are all positive and less than 3, indicating that the distribution is flat (platykurtic) and not peaked. The Jarque Bera estimates for NDC and GPM are not normally distributed due to their low probability values which are lower than the probability value of 0.05. On the other hand, GRT and TPA are normally distributed.

4.2. Unit root test

The result of the unit root test shows that the variables are all non-stationary at level but stationary at first difference at 1%, 5% and 10% as shown below:

Table 2: Unit Root Result

Variables	ADF at Levels	ADF at First Difference	Critical Values			I(d)
			1%	5%	10%	I(1)
GRT	-1.297365	-6.493723	-3.568308	-2.921175	-2.598551	I(1)
NDC	-1.814794	-7.702736	-3.568308	-2.921175	-2.598551	I(1)
GPM	-2.218434	-7.114571	-3.568308	-2.921175	-2.598551	I(1)
TPA	-1.136314	-8.352535	-3.568308	-2.921175	-2.598551	I(1)

4.3. Autoregressive Distributed Lag Model results

The results of the short and long run ARDL models are discussed below.

4.3.1. Short run ARDL result

The result of the short run ARDL in Table 3 shows that net domestic credit has a negative significant impact on economic growth at 5% level and a unit change in the fourth difference of domestic credit will lead to 11.03 decrease in the current value of economic growth. Gross premium has a positive significant impact on economic growth and a unit change in the fourth difference of the variable will lead to 378.91 increase in the current value of economic growth. Total pension assets have negative and insignificant impact on economic growth and a unit change in the third difference of total pension assets will lead to 25.70 decrease in the current value of economic growth. The coefficient of determination shows that 97% variation in economic growth is accounted by the independent variables and the F-statistics of 35.12 is significant.

Table 3: Short Run ARDL Result

Variables	Coefficients	Std. Error	T. Stats.	Probability
C	2.845866	0.617070	4.611902	0.0001*
GRT(-1)	0.626594	0.139187	4.501823	0.0001*
NDC(-4)	-11.03387	2.644002	-4.173170	0.0002*
GPM(-4)	378.9120	130.5509	2.902407	0.0070*
TPA(-3)	-25.69534	13.47505	-1.906882	0.0665**
Statistical Tests				
R-squared	0.956137			
Adj. R-square	0.928911			
F-statistic	35.11901			
Log likelihood	-42.26158			
Akaike AIC	2.552566			
Schwarz SC	3.293250			

* significant at 5%, **insignificant at 5%

4.3.2. ARDL bounds test result

The estimates of the ARDL bounds test in Table 4 showed that net domestic credit and gross premium are significant at 5% but the former has a negative impact while the latter has a positive impact. The total pension assets have positive insignificant impact on economic growth. The F-statistics of 6.555 is greater than the lower and upper bounds critical values, indicating that a long run cointegrating relationship exist among the variables as 6.555. The result of the ARDL error correction model in Table 5 showed that the model converges to equilibrium from the previous year to the current year as indicated by the negative ECM of 0.47, which is significant at 5% level.

Table 4: ARDL Long Run Form and Bounds Test

Variable	Coefficient	Std. error	t-statistics	Probability
NDC	-14.07278	4.854643	-2.898829	0.0071*
GPM	465.8283	128.2893	3.631077	0.0011*
TPA	6.860167	15.67426	0.437671	0.6649**
C	5.996699	0.959645	6.248875	0.0000*
Critical value	Lower bound		Upper bound	
1%	3.65		4.66	
5%	2.79		3.67	
10%	2.37		3.20	
F- statistics	6.555924			

* significant at 5%, **insignificant at 5%

Table 5: ARDL Error Correction Model

Variable	Coefficient	Std. error	T-statistics	Probability
D(GRT(-2))	0.429081	0.117404	3.654752	0.0010
D(NDC(-3))	11.03387	2.225160	4.958687	0.0000
D(GPM(-3))	-378.9120	113.2752	-3.345057	0.0023
D(TPA(-2))	25.69534	10.37246	2.477265	0.0193
ECM(-1)	-0.474572	0.077704	-6.107450	0.0000
	Statistics Test			

R squared	0.640070
Adjusted R squared	0.487372
Durbin Watson	1.839444

4.4. Diagnostic test results

Table 6 presents the results of the diagnostic test. The Breusch-Godfrey Serial Correlation LM Test indicates that the residuals are serially uncorrelated given the F-statistics probability value of 0.8645, therefore the null hypothesis of no serial correlation is not rejected. The Breusch-Pagan-Godfrey Heteroskedasticity Test null hypothesis is that the residuals are homoscedastic, which is not rejected as the F-statistics probability value of 0.5219 is significant at 10%. The Jarque-Bera normality test shows that the residuals are normally distributed.

Table 6: Diagnostic Test

Test	F-statistics	Probability
Breusch-Godfrey Serial Correlation LM Test	0.146391	0.8645
Breusch-Pagan-Godfrey Heteroskedasticity Test	0.962828	0.5219
Jarque-Bera	0.511474	0.774346

4.5. Stability test results

The CUSUM and CUSUM of squares test result presented in figure 1 shows that the ARDL model is stable as the cumulative sum of recursive residuals and cumulative sum of squares of recursive residuals all lie within the critical lines of 5% significance level.

Figure 1: Plot of CUSUM and CUSUM of Squares

CUSUM of Squares ——— 5% Significance
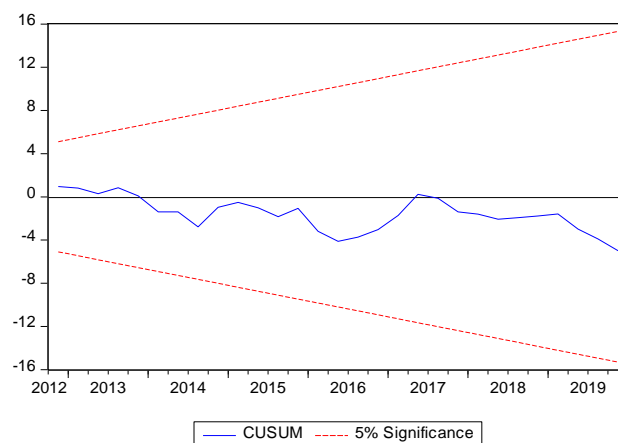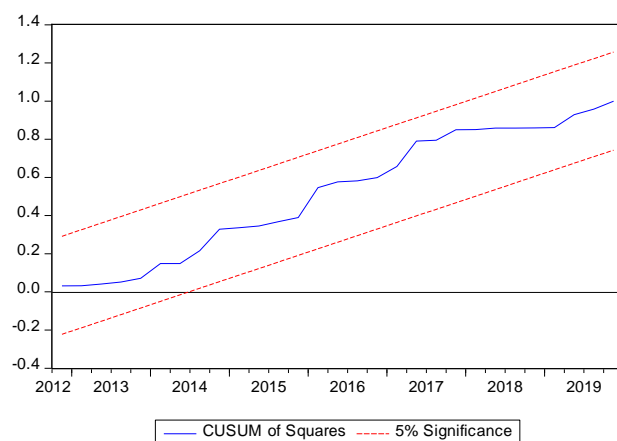
5. CONCLUSION AND RECOMMENDATION

The study examined the impact of financial development indicators of the banking, insurance and pension sectors on economic growth using the ARDL model. The results show that in the short and long run, net domestic credit has negative impact on economic growth and gross premium has a positive impact. Pension assets have negative impact on economic growth in the short run and positive impact in the long run. The study shows that financial development in Nigeria is a mixed. The negative impact of domestic credit may not be unconnected with the high cost of borrowing from banks. This is also attributable to the practice by banks of investing more in government securities instead of lending to the real sector. The positive impact of insurance is likely due to the large proportion of non-life insurance gross income generated. The short and long run insignificant negative and positive impact of pension assets in the economy is not in the least unexpected as the funds are mostly invested in fixed income instruments that do not directly impact on the economy and in the long run, the funds are channelled to retirees. Based on the findings, it is recommended that government should provide the necessary infrastructure to improve business operations as the high cost of doing business translates to the high cost of borrowing in banks. There is a need to deepen the insurance sector with respect to life insurance policies given the low level of consumer awareness in this regard.

The study is limited in scope due to the unavailability of pension data as the collection of the data commenced following the enactment of the Pension Reform act in 2004. Future research in this area should explore other financial development indicators such as mortgage, foreign exchange and financial stability. Also, the relationship between financial development and poverty/inequality in Nigeria should be examined.

DISCLOSURE OF CONFLICT

The authors declare that they have no conflicts of interest.

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EVALUATING FORECAST PERFORMANCE OF MALAYSIAN GOODS EXPORT FOR 2021-2022 WITH BOX-JENKINS METHODOLOGY AND ARIMA MODEL

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EVALUATING FORECAST PERFORMANCE OF MALAYSIAN GOODS EXPORT FOR 2021-2022 WITH BOX-JENKINS METHODOLOGY AND ARIMA MODEL

Muhammad Nadzif Ramlan*

ABSTRACT

The purpose of this study is to model the forecast of Malaysia's export of goods using Autoregressive Integrated Moving Average Model (ARIMA) modelling with Box-Jenkins method. The time-series concerned is from first quarter of 2015 to first quarter of 2021 based on the data by Department of Statistics Malaysia (DOSM). The empirical analysis focuses on the five criteria for consideration towards the best model: high significant coefficient, high adjusted R-squared value, low sigma squared value, low Akaike Information Criterion (AIC) and low Schwarz Information Criterion (SIC). The study showed that ARIMA (2,1,2) would be the best model to represent the forecasting of Malaysian export of goods first quarter of 2021 to fourth quarter of 2022. The quarterly forecast opined the performance rate of Malaysian goods export to be at a stable positive rate of 4.9% throughout 2022, indicating the economic recovery progress that Malaysia would acquire from its vaccination programme and Movement Control Order (MCO) done in the previous year. The annual forecast showed a more precise value after comparing the actual and forecast growth value of exports in 2021. This finding is further supported with qualitative analysis about the validity of the forecast values via reports released by sources such as World Bank and Focus Economics.

KEY WORDS: *Export, Forecasting, ARIMA model, Box-Jenkins methodology, Malaysia*

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1. INTRODUCTION

According to Corporate Finance Institute (2021), the current account is "the country's trade balance, or the balance of imports and exports of goods and services, plus earnings on foreign investments minus payments to foreign

investors." Current account is one of the components – besides financial account and capital account – forming the balance of payment for a particular country. This component itself consists of four sub-constituents: net income, asset income, payment transfer and trade of goods and services. Among those sources, it is obvious that trade is the most influential factor since some economists tend abbreviate the interpretation of current account of a particular nation with its export performance, such as a study done by Bogdan et. al (2017) upon European Union members to evaluate the effect of exchange rate policies adopted towards export rate and consequently the current account.

Organization for Economic Co-operation and Development (2001) defines exports of goods and services as "merchandise trade comprise *goods* leaving the statistical territory of a country." Although this is quite confusing at first considering the definition only mentions *goods* and does not include services, it is implicitly understood that the exports of services would be included during the production or transportation of the goods. Nevertheless, it is clear that the export of goods is the general understanding because of its tangible nature. This is reinforced by the definition of *goods* by United Nations Statistics Division (1998) as "physical objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets." The scope for the export of goods is clearly defined by Central Bank of Malaysia (BNM) for their foreign exchange policy (2021):

- Any movement or transfer of goods by land, sea or air from Malaysia to any territory outside of Malaysia; or
- Any transfer of ownership in goods originated from Malaysia by a resident to a non-resident abroad or a Labuan entity which was declared by the Bank as a non-resident.

Since the emergence of COVID-19 and thus the first lockdown in Malaysia around March 2020, the global economy has been affected and the uncertainty persists at the moment. We can see the impact of COVID-19 pandemic upon

the export of goods as Malaysia External Trade Development Corporation (MATRADE) extracted the values as shown in Fig 1.0 and Fig 1.1 below.
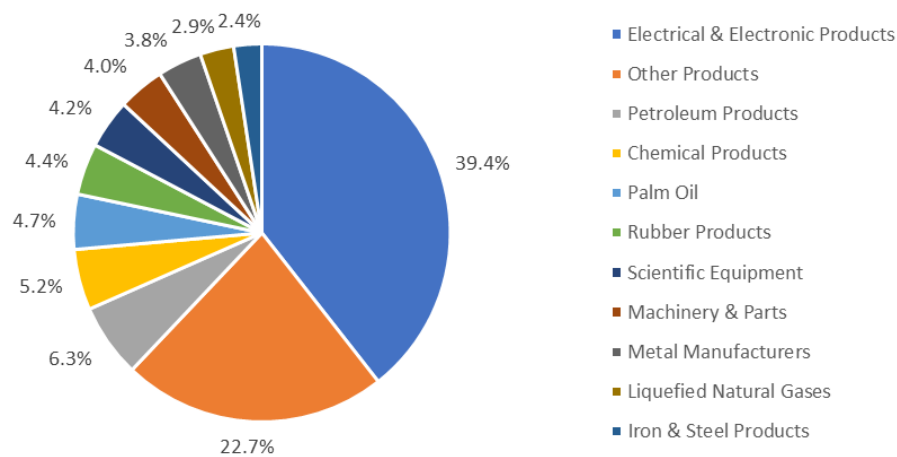

Figure 1.0 Top 10 Export Products in 2020
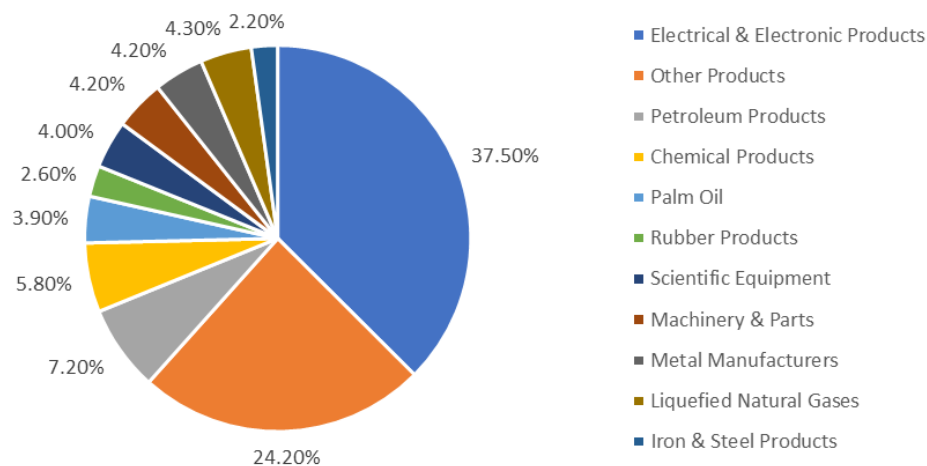(Source: MATRADE)

Figure 1.1 Top 10 Export Products in 2019
(Data Source: MATRADE)

The total exports in 2019 is RM995.07 billion whereas the value is RM980.98 billion in 2020. This means there is a reduction of RM14.09 billion of exports due to the sudden policies about closing of international borders and intra-national

movement restrictions. Based on both figures above, top 3 particular export products in both years remain the same – electrical and electronic products, petroleum and chemical products. However, it is also noted that some export products experience downside trend in 2020 compared to the previous year, such as petroleum (-0.9%), chemical products (-0.6%), machinery and parts (-0.2%), metal manufacturers (-0.4%), liquefied natural gases (LNG) (-1.4%) and also miscellaneous products (-1.5%). This is because these products are primarily involved with manufacturing sector, and thus the lockdown would significantly reduce or even halt the production of these goods. However, several other products thrived during the turbulent time compared to 2019 as they are able to improve the export rate, particularly electrical and electronic products (1.9%), palm oil (0.8%), rubber products (1.8%), scientific equipments (0.2%) as well as iron and steel products (0.2%). Electrical and electronic products increased the most among those products due to a soar in demand for gadgets initiated by the changing norm of Working From Home (WFH) and online learning for students. Rubber products and scientific equipments also prevailed due to the COVID-19 pandemic itself with the rising demand for personal protective equipment (PPE) and scientific apparatus to conduct intensive research on the virus with the hope of securing a cure. However, economists also realize the rise in palm oil exports rate amidst the pandemic. New Straits Times (2020) cited the Malaysian Palm Oil Board (MPOB) director-general, Dr. Ahmad Parveez Ghulam Kadir regarding the reasons for such situation as the swift adaptability of the palm oil market with the new norm. Meanwhile, iron and steel products also experienced an increasing trend due to their quick adaptability with the trade measures such as tariffs and antidumping tariffs, as nations seek to safeguard their battered economy. Even more so, weaker currencies have sometimes allowed nations such as Turkey and Russia to compete in areas outside than their usual export markets (S&P Global, 2020).

With this sudden shift in international trade, the overall balance of trade is bound to major disruptions. We can see the data below in Table 1.0 from Department of Statistics Malaysia (DOSM) to comprehend the overall impact of COVID-19 upon the export performance from January 2020 till May 2021.

Table 1.0 Monthly Trade from January 2020 – May 2021
(Data Source: DOSM) *Figures are in RM billion

Month, Year	Total Exports	Total Imports	Total Trade	Balance of Trade
January, 2020	84.11	72.08	156.20	12.03
February, 2020	74.45	61.83	136.28	12.62
March, 2020	80.12	67.80	147.92	12.31
April, 2020	64.79	68.42	133.21	-3.63
May, 2020	62.65	52.26	114.91	10.39
June, 2020	82.82	61.97	144.79	20.85
July, 2020	92.56	67.38	159.94	25.18
August, 2020	79.13	65.91	145.04	13.22
September, 2020	88.91	66.96	155.86	21.95
October, 2020	91.05	68.93	159.98	22.12
November, 2020	84.66	67.61	152.27	17.05
December, 2020	95.73	75.04	170.77	20.69
January, 2021	89.63	73.02	162.65	16.60
February, 2021	87.57	69.69	157.26	17.88
March, 2021	105.00	80.79	185.79	24.20
April, 2021	105.59	85.23	190.82	20.36
May, 2021	92.31	78.57	170.88	13.74

Based on the table above, the Malaysian economy had a stable progress of having approximately RM 12 billion for the balance of trade (BOT) at the start of 2020 before stumbling upon the sudden lockdown in March 2020, resulting in a plummeting BOT value of RM3.63 billion during the subsequent month as Malaysia imported more than what it exported at that time. Another notable month is in May 2021 since it had a declining BOT value of RM6.62 billion compared to the previous month. This is the expected result from the surge in COVID-19 pandemic leading to the highest daily cases recorded at the end of the month with 6,999 cases, ultimately causing the government to initiate the second full lockdown in June 2021.

With the development of COVID-19, a new virus in humans that causes respiratory disease that may be transmitted from person to person and its rapidly evolving mechanism to counter vaccines, many nations worldwide have implemented economic, social, industrial, communication, and tourism limitations, among others. This situation inevitably affects export of goods, showing its pivotal role in the economy of any country via current account. Exports are critical to emerging markets and developing economies (EMDEs) because they provide individuals and businesses with access to a broader market for their products. One of the primary objectives of diplomacy and foreign policy between governments is to promote economic commerce by promoting both exports and imports to the mutual advantage of all trading partners. Therefore, all parties need to be adaptive to this uncertain situation and one of them is to make accurate forecasting.

1. LITERATURE REVIEW

There are several attempts by econometricians to illustrate the forecasting performance for national exports. One of the research includes a study by Alam (2019) utilized Artificial Neural Network (ANN) and Autoregressive Integrated Moving Average (ARIMA) models to make forecasts for the total annual exports and imports of the Kingdom of Saudi Arabia from 1968 till 2017 with the help of statistical software XLSTAT. The applied models are used to predict some future values of total annual exports and imports of the Kingdom of Saudi Arabia. It is found that the ANN and ARIMA (1, 1, 2) and ARIMA (0, 1, 1) models are suitable for predicting the total annual exports and imports of the Kingdom of Saudi Arabia during the aforementioned period. Although the researcher used ARIMA model as one of the models, Box-Jenkins methodology is not applied in this paper since ANN is expected to be more comprehensive and systematic rather than the selective style of the methodology. This ANN-ARIMA comparative forecasting capability is also studied by Munira et. al (2018) to forecast USD/MYR exchange for the next five months, and Box-Jenkins methodology is applied in ARIMA model. MATLAB 2015a is used for the ANN modelling. The Box-Jenkins method determines that ARIMA (0, 1, 1) is the optimal model for the time series. After comparing forecasting methods utilising ANN and ARIMA (0, 1, 1) time series, they discover that feed forward neural networks produce much lower Mean Squared Error (MSE) and Root Mean Squared Errors (RMSE) than ARIMA (0, 1, 1). This finding implies that, in this study, an ANN approach using a feed forward neural network is a better appropriate forecasting technique for predicting the US Dollar exchange rate represented in Malaysian Ringgit than

the ARIMA (0,1,1) time series model.

Despite the criticism by some econometricians and statisticians regarding the capability of Box-Jenkins methodology upon ARIMA models, some researchers found their study to be the opposite. A study by Farooqi (2014) was based on a time series model using ARIMA with a focus on the Box-Jenkins methodology for Pakistan's yearly total imports and exports from 1947 to 2013 using programming language R. The fitted model's validity is determined using conventional statistical methods. The fitted model is then used to predict future values for Pakistan's imports and exports. The ARIMA (2, 2, 2) and ARIMA (1, 2, 2) models are shown to be *appropriate* for forecasting Pakistan's yearly imports and exports, respectively. Additionally, he discovered a rising tendency in both imports and exports throughout his research. Another study by Khan and Kundu (2012) also attempted to forecast the future contribution of exports-imports towards Bangladeshi Gross Domestic Product (GDP) with the same technique. The data covered were from 1981 till 2010 and they forecasted the figures up to 2015. The projected result shows that exports will contribute about 17% of GDP during the next five years. Imported products and services will account for about 23% of GDP in each of the years predicted in this study. As a consequence, the projected trade deficit from 2011 through 2015 will be approximately 6%, somewhat less than the 2010 figure. The projected proportion of export and import in forecasted GDP is slightly declining, as GDP volume grew faster than export and import volume.

Some researchers prefer to zoom in the scope towards specific exports and imports of a particular product to enable a more accurate forecasting, even more so that some of them involve agricultural products. A study by Ersen et. al (2019) also made comprehensive forecasting on both the exports and imports of Turkish paper-related products using the Box-Jenkins methodology. The monthly data are covered from January 2003 to December 2014 and the researchers forecasted up to December 2020. Sum of Squared Errors (SSE) and MSE criteria were considered when choosing appropriate Box-Jenkins models. Performance evaluation criteria such as Mean Absolute Percentage Error (MAPE), Mean Absolute Error (MAE) and RMSE were considered to ascertain a successful forecast. It was found that the ARIMA (2,1,0) (0,0,1) was found to be the best model for predicting paper products exports, whereas ARIMA (3,1,2) (1,0,1) was shown to be the best model for predicting imports. Another study upon forecasting of monthly soybean production and exports from

January 2013 to December 2020 was done by Tanong et. al (2021) using Seasonal ARIMA model instead. Econometric analysis was used to determine if the time series was stationary using the ADF unit root technique and whether the import demand for soybean meal in Thailand could be predicted using the Box-Jenkins method or the Seasonal ARIMA(p,d,q) (P,D,Q)s model. The empirical findings indicated that the time series of Thailand's import demand for soybean meal was non-seasonal and seasonal in nature at the level stage and first differencing order respectively. Seasonal ARIMA (0,0,1) (0,1,1) was the best appropriate model for forecasting the import demand for soybean meal in Thailand, based on the lowest Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) data. According to the projected demand for soybean meal in Thailand, the amount imported in 2021 should rise by 1.71 percent above 2020 levels. The government and other relevant stakeholders should continue to encourage and support local soybean production in order to reduce reliance on imported soybeans.

Based on the previous research, we conclude that Box-Jenkins methodology is still relevant for forecasting and academic research. Some studies often cover both exports and imports of the whole country or a particular product. Therefore, this paper attempts to fill in the literature gap by studying the exports of Malaysian goods and give another perspective on the export performance.

3. DATA
This research analysed time series data from the DOSM's quarterly economic evaluation https://www.dosm.gov.my/v1/index.php. During the period 2015Q1 – 2020Q1, there are 25 observations with no missing values. DOSM provides significant macroeconomic data in Malaysia, particularly the external trade indices. The 25 quarterly observations of Malaysia's goods exports performance meet the Box-Jenkins method's criterion of at least 24 observations opined by Hanke and Wichern (2009). The data was gathered in Malaysia's currency unit, the Ringgit Malaysia (MYR), which is denominated in millions.

4. METHODOLOGY
The forecast is conducted by following the Box-Jenkins forecasting method's four stages: identification, estimation and selection, checking and model use. Step 1 (identification) entails establishing the model's necessary order (p, d, and q) in order to capture the data's most prominent dynamic characteristics. This

mostly results in the employment of graphical techniques such as plotting the ACF and PACF. Step 2 (parameter estimation and choosing) begins with the parameter estimate of the various models derived from Step 1 using maximum likelihood techniques, back casting etc. before progressing to the first model selection. Step 3 (verification) entails evaluating if the stated and estimated model(s) are sufficient as one makes advantage of residual diagnostics. The goodness-of-fit tests would be performed to verify that the model properly represents the data. Residuals should be unequally distributed, homoscedastic, and distributed normally with constant mean and variance. This is to uphold the concept of BLUE – Best Linear Unbiased Estimator to ensure the econometric assumptions still hold in this case. The final step involves after selecting a model and validating its fit and forecasting capability - the model may be used to predict across a future time horizon. The flow of the Box-Jenkins methodology is illustrated in Fig 4.0 below.
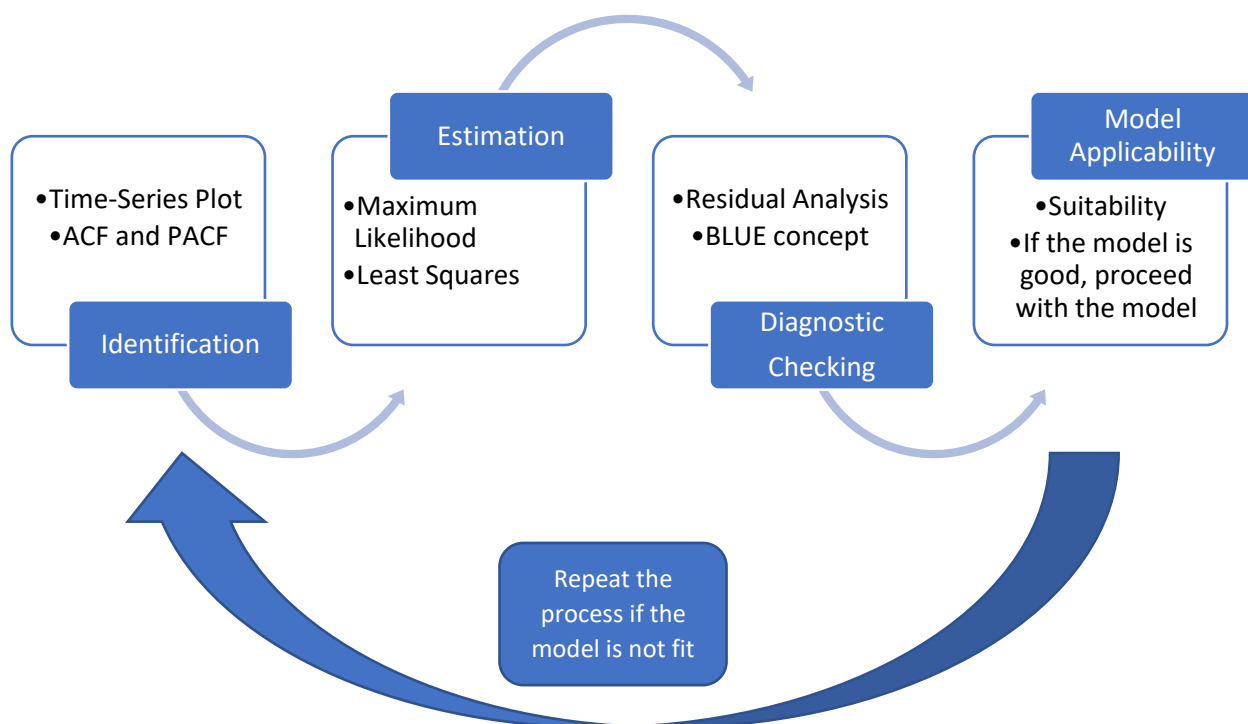
Figure 4.0 Flow Chart for The Box-Jenkins Methodology

The analysis will also be fortified with qualitative forecasting based on economic reports and opinions by academicians regarding the prospects of the export

performance. The complete analysis would be shown in the following section.

5. ANALYSIS

There are many methods to choose to do forecast from time series data, such as exponential smoothing methods, single-equation regression models, simultaneous-equation regression models, vector autoregression (VAR) models, and also the autoregressive integrated moving average (ARIMA) models or also known as the BJ methodology. We will be using Box-Jenkins (BJ) methodology to develop our forecasting model. In ARIMA models or the BJ methodology, there are four steps to be followed which is identification, estimation, diagnostic checking and forecasting.

5.1. Identification

In the first step, we need to checked if the time series is stationary by looking at the correlogram of the autocorrelation function (ACF) and the partial autocorrelation function (PACF) for the series. Figure 5.1 below is the correlogram of the LEXG.

Date: 13/06/21   Time: 12:17
Sample: 2015Q1 2021Q1
Included observations: 25

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.502	0.502	7.0827	0.008
		2	0.086	-0.221	7.3019	0.026
		3	0.045	0.144	7.3631	0.061
		4	0.303	0.329	10.322	0.035
		5	0.199	-0.212	11.662	0.040
		6	-0.070	-0.108	11.838	0.066
		7	-0.016	0.252	11.848	0.106
		8	0.087	-0.189	12.152	0.145
		9	0.005	-0.133	12.153	0.205
		10	-0.185	0.057	13.686	0.188
		11	-0.137	-0.049	14.590	0.202
		12	0.029	0.002	14.635	0.262

Figure 5.1 Correlogram of LEXG, 2015Q1-2021Q1

From the figure above, we can conclude that the coefficients of autocorrelation (ACF) pattern changes with a sine waves like pattern and the ACF shows that 8 from 12 lags are individually statistically significantly different from zero, for they all are outside the 95 percent confidence bounds or we can said that it has a probability value higher than 0.05.Also the Q-statistic of Ljung-Box (1978) at the 5th lag has a probability value which is smaller than 0.05. Thus, it seems that the series is nonstationary and must be configured in first difference.
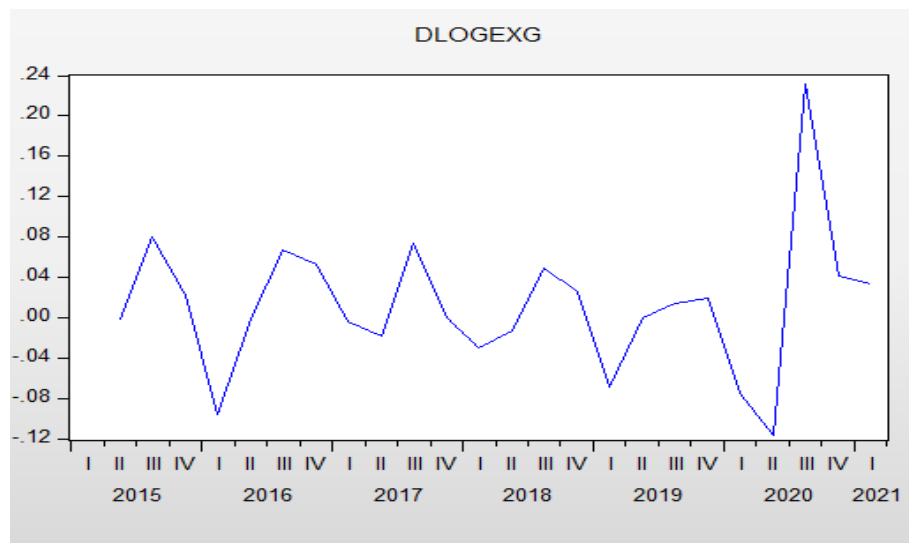
Figure 5.2: Graph of first-differentiated LEXG

To proceed with the ARIMA model, we must make sure that the series are stationary first. Therefore, we need to differentiate the log series to a certain number of times to make it stationary. We differentiate LEXG series one time (first difference) and it is plotted as Figure 5.2.

Figure 5.3: Correlogram of the first differenced DLOGEXG

In the Figure 5.3 above is the correlogram of the first difference of the LEXG (DLOGEXG). As we can see the ACFs and PACFs for first-differenced series shows a few spikes in lag 2 and the rest are not statistically different from zero. The Q-statistic of Ljung-Box at the 12th lag has a probability value larger than 0.05. This shows that the DLOGEXG series is perhaps stationary. We further checked it using the Augmented Dickey-Fuller (ADF) unit root test, and it proves

it so (Figure 5.4).

Augmented Dickey-Fuller Unit Root Test on D(LEXG)

Null Hypothesis: D(LEXG) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 5 (Automatic - based on AIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.448816	0.3456
Test critical values:	1% level	-4.571559	
	5% level	-3.690814	
	10% level	-3.286909	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 18

Figure 5.4: ADF unit root test on DLEXG

Once the series is confirmed as stationary, we can proceed with the BJ methodology to develop our model. From the Figure 5.3, it seems that both the ACF and PACF spikes significantly at lags 2. We only consider until lag 5 using the rule of thumb because the EXG data is collected quarterly. As the model is stationary on first differences, i.e. (d=1) our ARIMA model will be ARIMA (2,1,2), ARIMA (0,1,2) and ARIMA (2,1,0). From this we have obtained appropriate values for p and q for the next step, that is estimation.

5.2. Estimation

With the values of p and q obtained, we combined them to estimate the parameters of the autoregressive and moving average terms in the model. There are a few indicators to help in choosing the best model: [1] number of significant coefficients, [2] volatility (Sigma square), [3] adjusted R-squared value, [4] Akaike Info. criterion (AIC) and [5] Schwarz criterion (SBIC). Table 5.1 below shows the ARIMA model estimated by using the appropriate p, d and q values.

Table 5.1: Comparison of the indicators between the ARIMA models.

Indicator	ARIMA (2,1,2)	ARIMA (0,1,2)	ARIMA (2,1,0)
Significant coefficients (number)	2	1	1
Sigma square (vitality)	0.002504	0.003713	0.003859

Adjusted R squared	0.377191	0.120214	0.085651
AIC	-2.61789	-2.471363	-2.45586
SBIC	-2.421554	-2.324106	-2.308609

The best model to be choose is ARIMA (2,1,2) because it has the highest number of coefficients and Adjusted R-squared, lowest volatility (Sigma square), AIC and SBIC among the other models. Thus, the ARIMA (2,1,2) model will be chosen to continue in the next step for the BJ methodology.

5.3. Diagnostic checking

The third step of the BJ methodology is to do the diagnostic checking. After we have chosen the particular ARIMA model and estimated its parameter, we will see whether the chosen model fits the data reasonably well. If the residuals estimated from this model are white noise, then we can accept the particular fit, and if not, we must start over again. So, the BJ methodology is an iterative process. The most appropriate model that we have chosen is ARIMA (2,1,2). To know that whether this model is a reasonable fit to the data, we have done a diagnostic to obtain residuals from ARIMA (2,1,2) and obtain the ACF and PACF of these residuals up to lag 5.

Correlogram of Residuals

Date: 13/06/21   Time: 13:37
Sample: 2015Q1 2021Q1
Included observations: 24
Q-statistic probabilities adjusted for 2 ARMA terms

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.201	-0.201	1.0971	
		2	0.137	0.101	1.6295	
		3	-0.116	-0.075	2.0284	0.154
		4	-0.201	-0.262	3.2871	0.193
		5	0.117	0.062	3.7330	0.292
		6	-0.152	-0.086	4.5287	0.339
		7	0.059	-0.066	4.6576	0.459
		8	-0.079	-0.092	4.9038	0.556
		9	-0.044	-0.075	4.9827	0.662
		10	0.045	-0.022	5.0742	0.750
		11	-0.135	-0.148	5.9522	0.745
		12	0.070	-0.057	6.2042	0.798

Figure 5.5: Correlogram of residuals for ARIMA (2,1,2)

The correlogram of the residuals is flat which indicates that all information has been captured. So, there is no need for re-estimation and the forecast will be based on this model.

Correlogram of Residuals Squared						
A	B	C	D	E	F	G
Date: 13/06/21 Time: 13:37						
Sample: 2015Q1 2021Q1						
Included observations: 24						

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.261	0.261	1.8416	0.175
		2	0.129	0.066	2.3135	0.315
		3	0.046	-0.003	2.3758	0.498
		4	0.037	0.019	2.4183	0.659
		5	-0.041	-0.061	2.4732	0.781
		6	-0.011	0.009	2.4778	0.871
		7	-0.060	-0.054	2.6114	0.918
		8	-0.056	-0.030	2.7324	0.950
		9	-0.067	-0.036	2.9173	0.967
		10	-0.066	-0.038	3.1109	0.979
		11	-0.059	-0.023	3.2775	0.987
		12	-0.080	-0.059	3.6137	0.989

Figure 5.6: Correlogram of residuals squared for ARIMA (2,1,2)

Next, we also performed the Q-statistic of Ljung-Box (LB) statistics to test the autocorrelation. As we can see, from the lag 1 until lag 12, the probability values here are higher than 5%, which indicates that there is no autocorrelation in this model. Thus, we will use this model to do forecasting. As we know, there cannot be an exact or perfect ARIMA model because it is more "of an art than of a science".

5.4. Forecast
The final and most important stage of the Box-Jenkins process is forecasting. The forecast is done by using a statistical package (EViews).

5.4.1. In sample forecast
The National Account (Export of goods) from 2015Q1 to 2021Q1 were used to predict the export of goods by using MA (2) and AR (2) model as indicated in Figure 5.8.
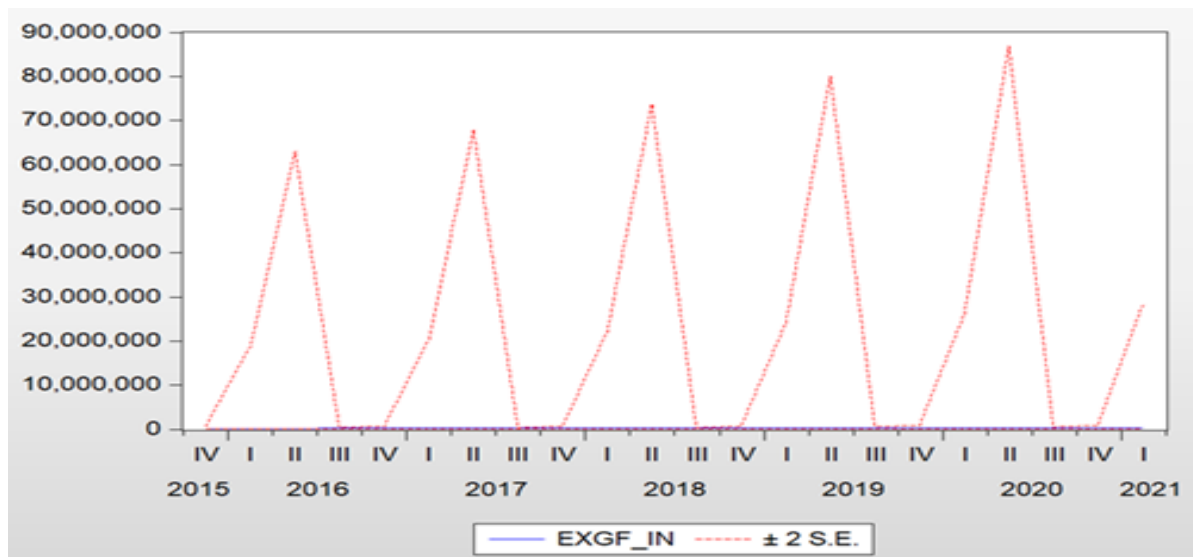
Figure 5.7: The quarterly exports of goods in sample forecast.

Besides that, a comparison has been done between the actual and the in sample forecast of the growth of export of goods as shown in Figure 5.8.
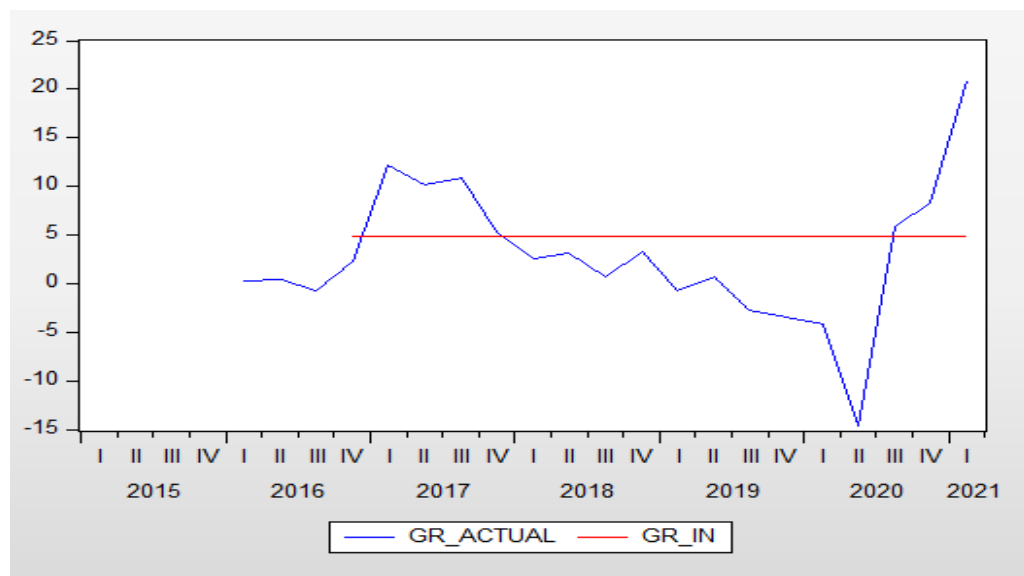
Figure 5.8: The comparison of the actual and in sample forecast growth.

The Figure 5.8 has showed a large discrepancy between the actual and the in sample forecast of exports of goods in 2017Q1, 2020Q1 and 2021Q1. In contrast, there are also some small discrepancy between the actual and the in sample forecast of exports of goods in in 2017Q4, 2018Q2, 2018Q4 and 2020Q3.

5.4.2. Forecast error

Several measures were computed to gauge the accuracy of fitting – Root Mean Square Error (RMSE), Mean Absolute Error (MAE) and Mean Absolute Percentage Error (MAPE) and Theil Inequality Coefficient. Table 5.2 presents the results of fitting accuracy measurements in which the actual values and logarized values are compared. The similarity of these forecast errors is the smaller the errors give, the better the accuracy of the forecasting model.

Table 5.2: Fitting Accuracy Measures

Forecast Error Criterion	Actual Value	Log. Value
Root Mean Squared Error (RMSE)	18187.18	0.09464721
Mean Absolute Error (MAE)	13332.5	0.06883
Mean Absolute Percentage Error (MAPE)	7.361399	0.56863
Theil Inequality Coefficient (Theil-U)	0.046924	0.00389

5.4.3. Out sample forecast
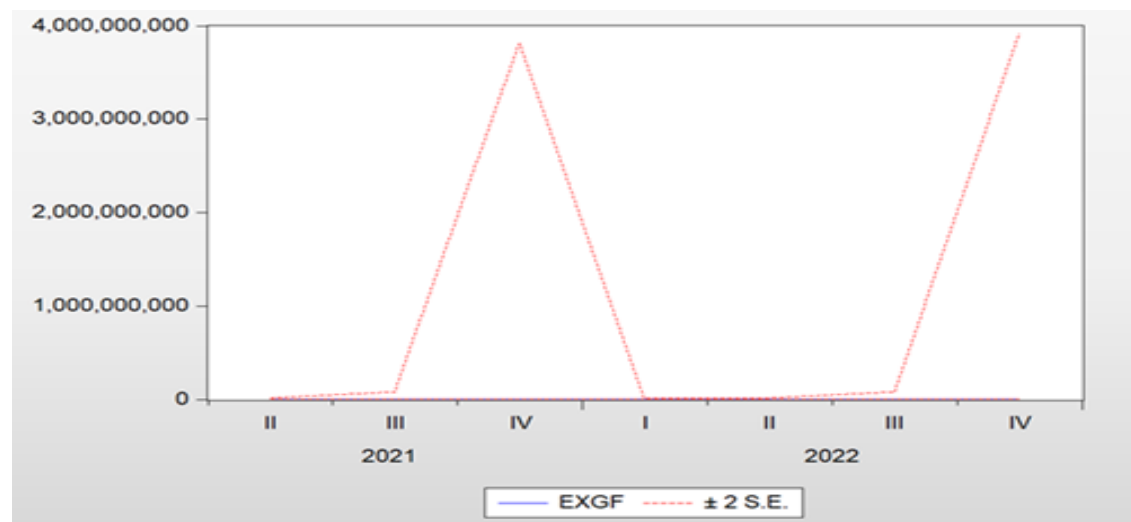
Figure 5.9: The quarterly exports of goods out sample forecast.

A comparison has done between the actual and the out sample forecast of exports of goods for quarterly as shown in Figure 5.9 and Figure 5.10. From figure 5.10, we can see that the forecast growth of the exports of goods shows a fluctuated trend. It first decreases from 2020Q1 to 2020Q2, then it increases until 2021Q1 and was estimated continue to increase until 2021Q2. But it was estimated to be decreases started from 2021Q2 to 2022Q1 and become unchanged until 2022Q4.
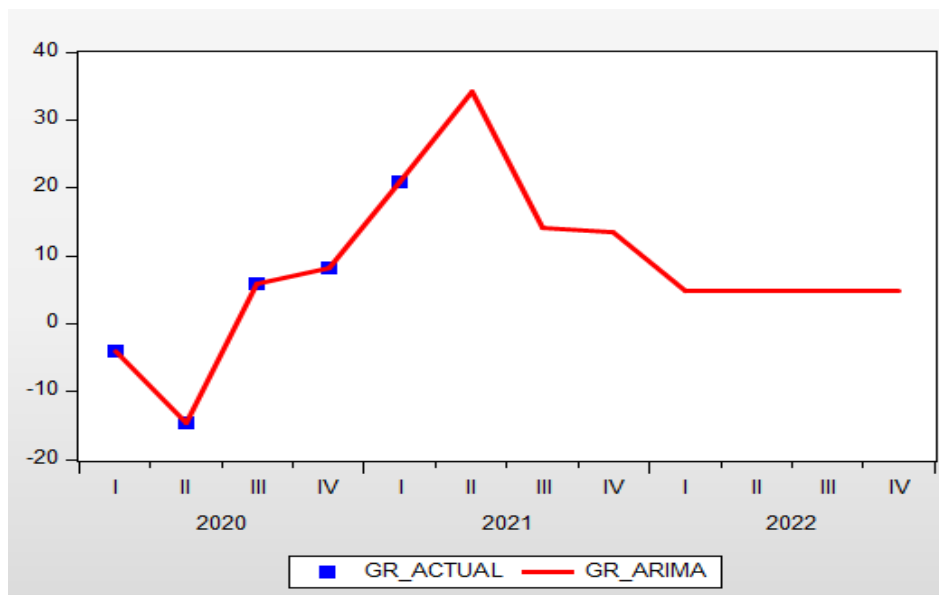
Figure 5.10: The actual growth vs. the forecast growth of exports of goods (quarterly)

While in Figure 5.11, we can see that the forecast growth of the exports of goods increases from the year 2020 to the year 2021 and then decreases sharply from the year 2021 to the year 2022.
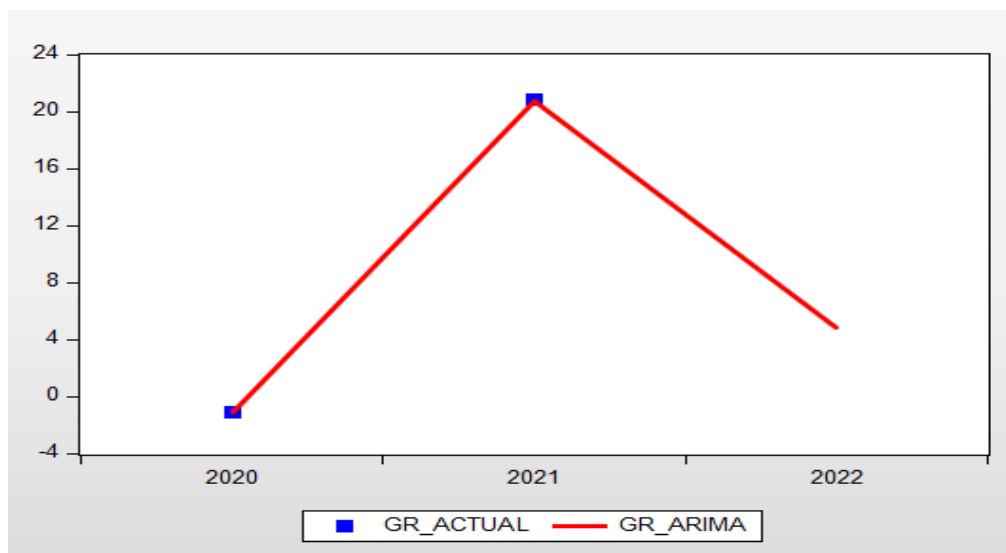
Figure 5.11: The actual growth vs. the forecast growth of exports of goods (ann)

5.5. Comparison with qualitative forecast

Based on the actual growth value of exports of goods that can be collected via the DOSM, the exports of goods dropped 4.1 per cent in 2020Q1 and dropped

14.7 per cent in 2020Q2. Started from 2020Q3 to 2021Q1 the exports of goods begin to rose from 5.9 per cent in 2020Q3 to 8.3 per cent in 2020Q4 and lastly rose to 20.9 per cent in 2021Q1 compared to the same period of the previous year. As we compare to the forecast value of the growth of the exports of goods (q-o-q) in Table 5.3 using the ARIMA model, the growth of the exports of goods in 2020Q1 to 2021Q1 shows exactly the same amount.

Table 5.3 The actual vs. the forecast growth rate comparison of exports of goods (quarterly)

Year, Quarter	EXG-Actual	EXG-ARIMA
2020, Q1	-4.7	-4.7
2020, Q1	-14.7	-14.7
2020, Q1	5.9	5.9
2020, Q1	8.3	8.3
2021, Q1	20.9	20.9
2021, Q2	N/A	34.2
2021, Q3	N/A	14.2
2021, Q4	N/A	13.5
2022, Q1	N/A	4.9
2022, Q2	N/A	4.9
2022, Q3	N/A	4.9
2022, Q4	N/A	4.9

The actual growth value of exports of goods in 2020 dropped 1.2 per cent and then rose to 20.9 per cent in 2021. As we compare to the forecast value of the growth of the exports of goods (y-o-y) in Table 5.4 using the ARIMA model, the growth of the exports of goods in 2020 was the same which is dropped 1.2 per cent and in 2021 in rose by 20.7 per cent which the difference between actual and forecast growth rate was 0.2 per cent.

Table 5.4 The actual vs. the forecast growth rate comparison of exports of goods (y-o-y)

Year	EXG-Actual	EXG-ARIMA
2020	-1.2	-1.2
2021	20.9	20.7
2022	N/A	4.9

Based on World Bank Global Economic Prospects June 2021, despite continued pandemic-related disruption, rising oil prices and faster-than-expected

recoveries in most regional economies, are supporting activity in oil exporters. Rising oil prices, and recovery in demand, are expected to return current account balances to surplus and increase inflation in many oil exporters.

According to Malaysia Economic monitor June 2021, in April 2021, headline inflation increased to 4.7%. The increase in headline was mainly due to fuel price increases stemming from base effect from the same period last year. The Producer Price Index (PPI) of local production recorded a marked increase of 10.6% in April 2021.

According to Malaysia Economic Monitor June 2021 as well, Malaysia's exports accelerated in 2021Q1. This was largely driven by increased external demand due to stronger global economic activity and the low base in 2020Q1. Much momentum was driven by manufacturing exports on the back of increased global demand for E&E products and rubber gloves. Exports growth was also supported by a narrower contraction in commodities exports mainly due to higher LNG prices.

Based on Petropoulos (2021), Malaysia merchandise exports will be an increase from 2021 until 2022 which is 12.2 per cent and 6.8 per cent respectively. Based on our forecast, the pattern of the graph is almost the same with the forecast value by Petropoulos (2021) even though the value of growth rate was quite different.

What we can see from the qualitative forecast compared to the forecast we did was that Malaysia economic has begun to recover. The similarities of the forecast we have done and the qualitative forecasts are there will be a rise in growth in 2021 and in 2022 the exports of goods will be increased at a decline rate.

The increase of exports of goods was driven by the upward trends in commodity prices and high demand for semiconductor prices. And because of the arrival of the vaccine for covid-19, Malaysian economic activity also can be carried out and thus production of Malaysia product will also increase. Besides that, the increasing demand for the E&E product, rubber product and commodity product has caused the growth of the exports of goods to increase.

6. CONCLUSION

As we have discussed in the earlier sections, BJ methodology requires four steps which is Identification, Estimation, Diagnostic Checking and Forecasting. These steps are required so that we can develop a more appropriate and accurate model. After trial and error and checking based on the indicators, we can conclude that the best model to forecast the exports of goods is ARIMA (2,1,2). Based on the result of the ARIMA model, the result of the forecast is very close to the actual growth rate values of exports of goods. We can assume that this happens due to the recovery in the market after the impacts pandemic Covid-19 and the Movement Control Order (MCO) issued by the government.

In conclusion, we found that BJ methodology is a perfect forecasting tools for exports of goods. It is a reliable method for forecasting considering the difference between actual and forecast result is very close. By using this model, we hope it may help stakeholders, investors, government, policymakers and other related party in making better planning for the future.

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DISCLOSURE OF CONFLICT

The author declares that he has no conflicts of interest.

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STRATEGY FOR ENHANCING KAI ARGO PAHRAYANGAN CUSTOMERS' LOYALTY

Agustinus Trinarso*

ABSTRACT

This study aims to know about things that needed to be done to build customer loyalty. Customer loyalty is believed could give a view on the decision to enhance satisfaction and loyalty thus it can be used to make a business strategy. The focus of the study is on the customers of PT. Kereta Api Indonesia (Indonesia Train Company) especially the passenger of Argo Pahrayangan with Jakarta – Bandung route through Gambir Station. Price fairness and service quality become the variable of the study. The methodology used is descriptive qualitative with a library-based approach to analyze customer's loyalty. The result showed that the higher the level of price fairness, the higher the customer's satisfaction. It's possible to observe that service quality can also affect the customer's satisfaction. Therefore, in conclusion, both price fairness and service quality are having a significant relationship with customer satisfaction.

KEY WORDS: Price fairness, Service quality, Satisfaction, Loyalty

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1. INTRODUCTION

Residents' mobility has strong relationship with the level of society's socio-economic within a region. This lead to discussion related to residents' mobility and transportation used. In its development, nowadays, residents' mobility refers to the utilization of mass transportation.

Mass transportation is becoming an option by society as a means of transportation since it is able to give efficiency in time and price. There are many

choices of mass transportation in DKI Jakarta that can be used to move from Jakarta to other countries, such as train, plane, bus and travelling service.

Jakarta – Bandung is one of the favorite travel routes which can be reached through air and land transportation, such as using plane from Halim Perdanakusuma airport to Husein Sastranegara airport, using private transportation, bus or travelling service through Jakarta – Cikampek tolls, and using train.

Agro Pahrayangan is executive and premium economy train that serve trip from Jakarta to Bandung. In relation with marketing strategy, the passenger of Argo Pahrayangan train is becoming the object of this study due to know the strategic steps of a company in keeping the customer's loyalty by defending and enhancing the customer's satisfaction.

Continuous improvement for service quality becomes something must to do in order to survive and win the competition among transportations. Besides, price determination also become a sensitive thing if it does not implement well. The customer can move to other transportation if he does not satisfied with the price and service (Peng & Wang, 2006).

The average volume of Agro Pahrayangan's passengers in January and February 2020 started to decrease since the reopening of Jakarta – Cikampek tolls (Firmansyah, 2019).Yuniar(2019)explained that Jakarta – Cikampek tolls inaugurate on December 12th 2019. In order to win the competition, it needed strategy to keep passenger's loyalty in using train as transportation.

Marketing strategy based on customer's loyalty become a step for company to enhance the financial performance and maintain survival. Another thing that also become consideration related to competition is the higher cost of acquiring new customer. Alfian(2012) stated that customer nowadays is very critical in choosing a product, until he reach for satisfactory to buy the product. Customer's decision in buying thing makes producer become selective to apply the marketing strategy. It is meant to keep getting attention and loyalty from customers.

Loyalty is closed to customer who satisfied with the service given by a company.

Customer's satisfaction will become the basic development of various customer's behavior model after he bought a product or use a service. Customers will evaluate the product or service whether it meets their expectation or not. According to Dwiana and Wardi(2013)the level of satisfaction is a function of the difference between perceived performance and expectation.

The quality of service can affect the customer's loyalty both direct and indirect through satisfaction (Caruana, 2002). In its development, a study related to the service quality has been done in many. The measurement of service quality in this study followed the measurement by Parasuraman, Zeithaml, and Berry that use five dimension including tangibility, responsiveness, guarantee, reliability and empathy(Parasuraman et al., 1988). Every companies is competing in enhancing the service quality (Bolton et al., 2003). By enhancing the service quality then it will affect the customer's satisfaction (Anderson et al., 1994).

Price is greatly determine the customer's satisfaction in using service because the amount of charge set by Agro Pahrayangan train related to the level of passenger's income. If the price is higher, then customer will think twice in using public transportation. Otherwise, if the price is lower, then customer tends to take advantage of public transportation without any long consideration.

The policy on determining price has strong connection with the decision of service offered. The analysis of price tend to direct on how far price can be valued as fair and based on the advantage. Therefore, this study used price fairness as the variable in analyzing the influence toward dependent variable.

Study on loyalty, satisfaction, price fairness and service quality are not a new thing but the result will be different if applied on case of train transportation.

The originality of this study has been confirmed that this study is done in case that happened in PT. Kereta Api Indonesia (Indonesia Train Company) especially in Agro Pahrayang customers.

Based on the background of the study above, the researcher want to know about the effect of price fairness and service quality in obtaining customer's satisfaction, thus customer can be loyal to PT. Kereta Api Indonesia (Indonesia Train Company) public transportation.

2. METHODOLOGY

This study used descriptive qualitative approach using library based research that implemented by noting the previous findings on variables of customer's loyalty, customer's satisfaction, price and service quality. Then combining the existing findings and analyzing those findings in coherent and clear way (Sugiyono, 2009).

Descriptive qualitative is choose to describe the related problems which then reviewed to produce relevant findings to build customer's loyalty. The data source is collected through books and journals, while the secondary data is obtained from some previous literatures.

3. RESULTS AND DISCUSSION

This study combines some previous studies' findings with variable of price fairness (X1) and service quality (X2) to analyze its influence toward variable of customer's loyalty (Y) with price satisfaction variable as mediation. The result and discussion is explained as below;

The influence of price fairness towards loyalty through customer's satisfaction

A study from El-Adly(2019)who analyzed on the behavior of hotel customers in United Arab Emirates found that price had positive relationship with customer's satisfaction. Similar result also found in Opata et al., (2019) andHan et al., (2019)study that customer's satisfaction is affected by the price fairness. Moreover, Wantara and Tambrin(2019) done research to batik customer and indicated that price fairness and satisfaction influence the customer's loyalty. Last but not least, Fadhilla, Zimbalis, Setyawati, and Anthony claimed that price fairness had positive influence and significant on loyalty of customer's satisfaction(Fadhilla et al., 2019).

The influence of service quality towards loyalty with customer's satisfaction as mediation variable

In the marketing context, service quality can affect the satisfaction (Kotler Karen, 1995). It is strengthen with some findings, such as Hapsari et al., (2017)in her study about the plane customer's satisfaction found that service quality had positive relationship with customer's satisfactory.

Makanyeza and Chikazhe(2017) and Othman et al., (2019)also supported that service quality influence customer's satisfaction. Furthermore, to know the effect of service quality indirectly on customer's satisfaction, Priyo et al., (2019)done a study on hotel customers and showed that the service quality had positive influence with loyalty through customer's satisfaction.

4. CONCLUSION

Based on the analysis above, it can be concluded that;

1). There is positive influence between price fairness on customer's loyalty. The positive relationship from research variables showed that the higher the level of price fairness, the higher the customer's satisfaction. Therefore, customer's loyalty can be enhanced by keeping the price fairness and customer's satisfaction.

2). There is positive influence between service quality towards customer's loyalty which showed that the higher the service quality the higher the customer's satisfaction is. Thus, customer's loyalty can be increased by keeping the service quality and customer's satisfaction.

DISCLOSURE OF CONFLICT
The author declares that he has no conflicts of interest.

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