Enhancing Tax Administration to Micro Businesses Through Digital Technology: An Exploratory Study in Dar Es Salaam, Tanzania

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Abstract

Many studies have shown the importance of Micro Businesses in widening the tax base. However, a practical approach regarding tax administration of micro businesses has so far never been explored. Additionally, information on the manner in which digital technology addresses challenges of tax administration in the Tanzanian context is limited. Therefore, this study explores the potentials of digital technology in enhancing tax administration of micro businesses. Specifically, the study looks at the current tax administration of micro businesses, the challenges thereon, and the existing potentials of technological solutions in enhancing tax administration of micro businesses. The study used mixed method research approach whereby qualitative and quantitative data were collected through interviews and questionnaires respectively. Interviews were conducted to 24 informants from Tanzania Revenue Authority and questionnaires were administered to 137 micro businesses in Dar Es Salaam, Tanzania. Thematic approach was used to analyse qualitative data and descriptive analysis was used for quantitative data. The study finding reveal that the current tax practices to micro

businesses do not comply with tax theories of low administration cost, wide tax base, and simple to administer tax procedures. Additionally, micro businesses face multiple levies, informal operations, and complexity of tax systems that make compliance to tax administration difficult. Moreover, this study established that mobile technology is potential for addressing the challenges. The study contributed to the practical aspect of tax administration that can guide policy makers, researchers and tax administrators in tax administration of micro businesses.

Keywords: Tax administration, digital technology, and micro businesses

Introduction

Micro businesses (MBs) are a form of informal businesses operating in high footfall areas such as markets, bus stands, road junctions and densely populated residential areas (Gomera & Oreku, 2018). MBs form the backbone of people's economies, as they comprise a substantial part of people's incomes in developing countries (Ferranti & Ody, 2007). In most African countries, MBs are directly linked to the development of national economies through self-employment and growth of Gross Domestic Production (GDP) (Ajmeru et al., 2013). Although MBs have a significant contribution to the people economies, they are still classified under the informal sector; and this has practical implication in respect to their inclusion or exclusion in budgeting and economic strategies of most developing economies. Taxation is one of the important areas where MBs are evidently excluded in the national budgets and economic strategies.

Active taxation systems are presumed to mobilize revenues from a wide tax base in order to reinforce government legality, achieve fair sharing of costs, and catalyse national development. The main administrator of tax systems in many countries is the revenue authority of the respective countries (Fjeldstad & Heggstad, 2011). Revenue authorities are expected to assist the government in raising revenues through collecting taxes from multitude of taxpayers to meet government expenditure in the provision of social services. Despite the fact that most revenue authorities strive to increase the tax base, the inclusion of MBs is often not considered as an option due to some inherent challenges.

In this respect, many studies (see for example, Gomera et al., 2019; Kapinga et al., 2019; Mramba et al., 2017) have advocated for the usage of digital technology in enhancing business activities of practitioners, in the informal sector, MBs inclusive. Mobile money services, mobile banking, mobile training, and digital marketing are examples of MBs' activities undertaken using digital technology. The use of digital technology in MBs has expanded from the level of transaction to the level of connectivity with

other formal institutions (Donner & Escobari, 2009; Deen-Swarray et al., 2013). Digital technology has also supported the government, private, formal, and informal operations. The technological solution brought about by digital technology is its ability to generate and disseminate information to users at anytime anywhere.

There are many studies that focused on the importance of MBs in the economy (Kibassa, 2012; Engelschalk, 2007), the importance of a broad tax base to tax administration systems (Coleman & Evans, 2003; m Kundt, 2017), and on the ability of digital technology to simplify operations among formal and informal practitioners (Lubua, 2014). However, there is limited information on *how* the Tanzania Revenue Authority (TRA) can benefit effectively from digital technology and include players such as MBs in the tax system. This study therefore explores the potential of using digital technology by TRA in enhancing tax administration of MBs. The study also explores the current practice of tax administration among Tanzanian MBs, the challenges tax administration face, and areas where digital technology can potentially be applied to address the challenges. The study is based on establishing digital technology solution of tackling the challenges facing direct tax administration of MBs. In addressing this goal, three specific research questions were addressed.

- *RQ*1: What are the current practices of tax administration by TRA to MBs?
- RQ2: What are the challenges limiting TRA in the administration of taxes to MBs?
- *RQ*3: What are the potential technological solutions to tax administration challenges facing MBs operations?

2.   Literature Review
2.1   Informal operations within Micro businesses (MBs)

Informal business employs majority of the populations in many developing countries. This is despite the fact that such businesses fully or partially operate outside of the government regulation, and taxation system, and that they receive little attention if any from different government authorities (Ahmad et al., 1991; Ajmeru et al., 2013). However, informal businesses contribute substantially to the gross national products (GNP) in sub-Saharan Africa (Elly, 2017). In developing countries, majority of the population are employed in the informal sector, which is characterised by Micro Business (MB) activities (Coleman & Evans, 2003). For example, Tanzania is one of the African largest informal economies engaging 57.9 percent of the working age (Fjeldstad and Heggstad 2011). Micro Businesses (MBs), which characterise the informal sector, consist of firms with zero to ten employees who mainly belong to the poverty driven sector with lack of

resources and poor business record (Gomera et al, 2019). Tanzanian MBs are very small businesses that are located in densely populated areas with permanent but simple building structures. Despite their disadvantaged operational status, MBs have significant impact in the national economies through self-employment in many of the economic sub sectors such as food processing, clothes vending, electronic, agricultural production, and manufacturing, just to name but a few (Gomera & Mikko, 2015).

Most of the micro businesses have a dominant owner-manager working alone or with the assistance of at least one family member (Gomera et al., 2020). MBs exist all over the world but they are more prevalent in developing countries including Tanzania. MBs as for other practitioners in the informal sector, although they are the foundation of these economies that produce legal commodities and services are largely characterised by lack of business registration and non compliance with government regulations. Since MBs are informal in nature, local administrative and revenue authorities cannot have accurate statistics of the existence of such MBs in their localities. Majority of MBs are located in urban areas with high population densities. For example, almost 14.7 percent of MBs in Tanzanian are located in Dar Es Salaam (Satta, 2016).

Tanzanian MBs have been left behind in the tax system for a long time now despite their fast growth since the 2010s (Diao et al., 2018). The exclusion of MBs in the tax system is attributed to the following factors, generation of significant cost to the firm or business, and lack of record keeping (Dube & Casale, 2019). Almost 72.1percent of Tanzanian MBs do not keep proper records for tax assessment (Maskaeva et al, 2019). This makes MBs non-supportive to tax compliance and revenue collections. In addition, MBs lack awareness on how to compare presumptive taxes with formal sector taxes. This makes MBs harbour misguided assumption that they are being charged unfairly. Such perceptions make MBs de-motivated in tax payment and non-compliant with government regulations (Dube and Casale 2019).

2.2   Taxing Micro Businesses in Tanzania

Tax authorities are important pillars in collecting national revenue through taxation. Tax is the amount of money collected from the income generated or value added by citizens from employment or business undertaken (Mahangila, 2017). The need of taxing MBs is catalysed by deficits in the national budget (Dube & Casale, 2019). For example, in 2015, the average tax collection in Tanzania was below 12percent, which was lower than the average tax collection in other countries in East Africa (Mahangila, 2017). In addition, Tanzania has a narrow tax base whose domestic revenue to GNP is about 15 percent as compared to the national average of 17 percent in other countries in Sub-Saharan Africa (Maskaeva et

al, 2019). Moreover, Tanzania's Tax revenue is inadequate in meeting government expenditure. For example, for the year 2019, the average collection was TZS 12.6 trillion against TZS 33.1 trillion-of the budgeted expenditure. Due to a budget deficit of TZS 20.5 trillion, Tanzanian practitioners and researchers were called upon to think of different ways of increasing revenue.

TRA introduced presumptive tax focusing on individuals who cannot keep records and are unqualified for VAT registration (Haji, 2017). Tax presumptive is considered as the best option of administering tax to individuals earning less than TZS 20 million per year (Haji, 2017).. Presumptive taxes are simplified regimes that are levied on the presumed, rather than on the actual income of formal or informal enterprises (Ogembo, 2019; Mintz & Chen., 2011). This is designed based on sales turnover, rent payable by a client, and business premises. In TRA, presumptive tax is administered by the Department of Domestic Revenue. MBs are required to submit business location, rental deeds, and business ID for tax presumption. The question as to whether the client is taxed appropriately has not been properly addressed because tax assessment depends only on the available incomplete information.

Apart from presumptive tax, MBs are required to make other contributions such as environmental cleaning levy, business registration fees, agent fee, and car parking fees, and market fees for those operating in the market areas. Fees are collected by the Municipal authorities and submitted to the government by the responsible authority. Moreover, in 2018, MBs including street hawkers were required to be registered and be issued with identification cards in Tanzania. Such a process however needed the support like appropriate methodology of transforming the hawkers to formal practical, specific technology to maintain their database and specific programme to make them grow from one level of business performance to another. The aforementioned support could be provided by practitioners and researchers to make it achieve tangible results (Meinzer et al., 2019).

Additionally, TRA introduced Block Tax Management System (BMS) with the aim of bringing more taxpayers into the tax system. The set-up of BMS consists of areas of trading concentration that are mapped up in small segments. These segments are based on geographical, administrative set-up, or a combination of streets to form a block. However, the informal sector is still not expected to adopt this system since business registration of the informal practitioners is low.

2.3   Challenges facing Tax Administration of Micro Businesses

Micro Businesses are still not fully included in the TRA tax system due to many challenges as follows: first, most tax regulations do not

accommodate MBs, lack of accuracy with MBs' information, and lack of proper records among MBs (Elly, 2017; Haji, 2017).

Similar findings are reported in a study by Fjeldstad and Heggstad, (2011) who revealed that local government taxation faces challenges that limit the inclusion of MBs in the TRA tax net. Multiplicity, unstructured nature, and excessive levies such as taxes, fines, or fees create a huge burden to MBs. These levies were charged astronomically irrespective of the size, type, and level of earning of a particular business. This trend makes it difficult for MBs to graduate to the next level of growth. Moreover, according to Coleman and Evans, (2003), most MBs are not satisfied with tax practices of their local authorities. Most MBs commented that tax procedures are not well organized and thus affecting the amount taxable from an individual MB. Poor tax administration was cited as a discouraging factor to many tax paying firms. Sometimes, there is over estimation of taxes that ends up demoralizing taxpayers (Crawford & Freedman, 2008).

Moreover, Nakiwala, (2010) revealed that despite that, tax administration to MBs is an important revenue collation avenue, TRA tax practices are presumed uneconomic. The presumption is based on the grounds that the practices cause high cost of monitoring, controlling, and collecting taxes. In addition, geographical diversity of MBs causes constraints to tax administrators. It is also evident that, the costs incurred in tax administration of informal practitioners in most cases outweigh the benefits of the revenues generated (Haji, 2017). Furthermore, lack of information to tax authorities from MBs has been identified as another impediment against the inclusion of MBs in the tax net. The study by Slemrod and Yitzhaki, (1994) in Ghana found that information offered by MBs was not sufficient to support revenue authority in tax administration. For example, MBs lacked business records due to poor record keeping skills and thus personal memory substituted accounting system (Gomera et al., 2019). Therefore, the preparation of sound periodic financial statements such as balance sheets and income statements are virtually impossible. , this in turn negatively affects the link between MBAs and revenue authorities.

Another challenge is the complication of tax regulations or elimination of MBs in tax regulations. The complexity of tax laws makes MBs find tax compliance as a burden (Coleman & Evans, 2003). In this respect, many studies have proposed the need of strengthening the tax base by accommodating micro, small and medium enterprises (MSMEs) in the TRA's tax net, as this might lead to rationalizing turnover of tax regime. The initiative was also enveloped to help in pulling practitioners of the informal and semi-informal sectors into formal and, hence expanding TRA tax base (Elly, 2017).

As for the MBs, their inclusion in the tax net may help them transform from informal to the formal sector. This transformation is envisaged as advantageous to MBs in terms of accessing credit, accessing formal, and export markets, participating in government procurement, and enjoying attractive business opportunities available in the Government (Nakiwala, 2010).

2.4   IT and tax system in Tanzania

The implementation of IT tax automation has increased tax revenue, has reduced redundant data, and enhanced easy access to and availability of customers' data upon retrieval (Lokarach & Rugami, 2019). Various studies have revealed that, availability of accurate, relevant, and proper flow of information increases efficiency of tax administration (Lubua, 2014). Tax administration involves, among other things, the kinds of taxes collected, methods of collecting tax, methods used in estimating tax payable, and methods used in communicating with taxpayers. Therefore, aspects need to be considered by revenue authorities during information flow of enhancing tax administration from MBs

In Tanzania, IT has also improved compliance among taxpayers, which in turn, has boosted revenue collections. Currently, TRA uses a number of electronic tax administration systems, which include Integrated Tax Administration System (ITAX), Taxpayer Identification System (TIN), Computerized Motor Vehicle Registration System (CMVRS), Customs Administration System (ASYCUDA++) and Computerized Drivers' License System (CDLS). All these have reduced the pressure of manual operations. Variable Tax assessment brackets are automated online and a customer can fill in the required information and print it out for tax payment (Maskaeva et al., 2019).

In addition, Tanzania as is the case with other developing countries, has introduced Electronic Fiscal Device (EFD) as a tool of administering Tax in the country. EFDs are designed for use in business for efficient controls in areas of sales analysis and stock control systems, and which conform to the requirements specified by tax laws (Maskaeva et al., 2019).

Moreover, TRA is currently working on automation of the Block Management System (BMS) by improving registration, coverage, information capturing, and enforcement strategies. The BMS is intended to support the tax administration; however, it is assumed as a one-sided communication system that lacks the automation of tax laws for simplifying tax compliance and thus it only helps the tax authority to track down taxpayers. In addition, the system is not tailor-made for MBs. Therefore, this study focuses on the system that enhances two- way communication for simplifying compliance with tax payment among MBs.

In another work, Kira's (2017) work recommended for the digital technology on enhancing tax compliance among small taxpayers. However, Kira's study did not focus on the potentials of mobile technology toward tax administration of MBs and this is another motivation of carrying out the current research.

2.5   Conceptual framework

Given their importance in economic development, MBs' involvement in TRA's tax regime is vital and is empirically supported by many studies (Kundt, 2017; Joshi et al., 2014; the World Bank Group 2007). However, the economic theory on tax administration such as simple to comply and simplicity on tax administration (Kundt, 2017; Gale & Holtzblatt, 2002; Gallagher, 2005), poses challenges of not including MBs in the TRA's tax net, as their inclusion is likely to lead to high tax administration costs and complexity in issues of compliance.

Therefore, the conceptual framework in Figure 1 focuses on three aspects that connect the three research questions addressed in this study namely the current tax administration practices of MBs, the challenges limiting TRA from administering tax to MBs, and the potential technological solutions for tax administration of MBs.

In Tanzania, the digital technology is considered as potential to both TRA and business community in improving tax compliance and reducing administration and compliance costs (Dube, 2018; Lubua 2014). Despite the adoption of technology, MBs are still left out of the tax net. This motivated the current study into exploring the possibility of using mobile technology to include MBs in the country's tax net.
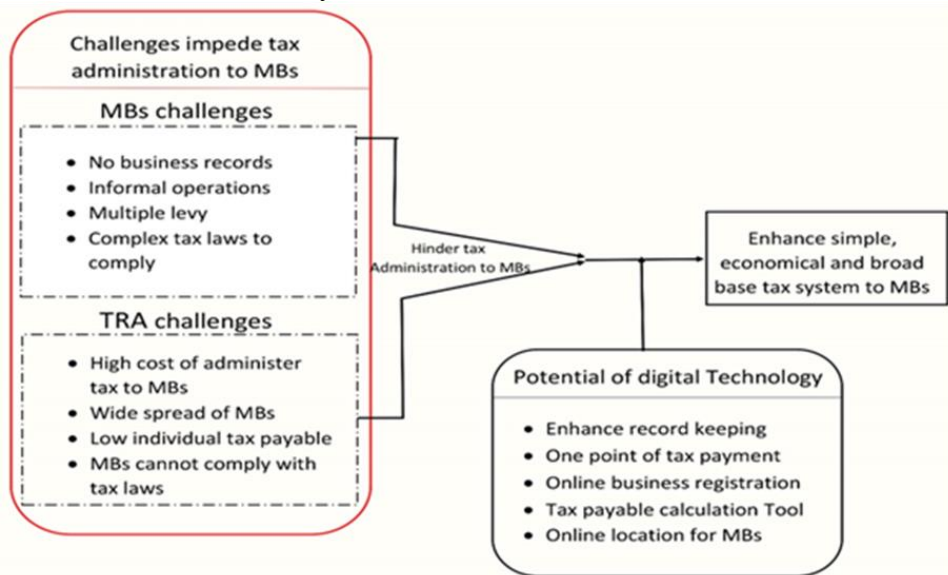

Figure 1: Conceptual framework of the study

MBs are required to pay taxes because they generate income from their daily undertakings. However, the current tax administration of MBs as for other small businesses in Tanzania lacks structured framework. As Haji, (2017) observes, MBs face multitudes of levies, which are charged by different authorities. This high tax burden creates difficulties of administering tax to informal practitioners, including MBs (Haji, 2017). Tax burden reduces the proportion of the total personal/ business income as large proportion is charged and taken by the government in the form of taxes, leaving the MBs with little expendable capital for business growth and development.

The MBs are not included in the TRA tax net, because most of the tax regulations do not accommodate MBs, lack of accurate information on MBs and lack of proper accounting records among MBs (Elly, 2017; Haji, 2017; Fjeldstad and Heggstad, 2011; Crawford & Freedman, 2008). In addition, TRA presume that, tax administration to MBs is uneconomic because of high cost of monitoring, controlling, and collecting tax revenues (Haji, 2017; Crawford & Freedman, 2008; Ahmad et al., 1991). These factors and the importance of taxing MBs attract research on the potentials of the use of technology in enhancing the inclusion on MBs in TRA's tax system and in enhancing effectiveness, efficiency, and economic benefits of tax system (Dube, 2018).

Digital technology has fostered a close relationship between the two parties. As proposed by Ebifuro et al., (2016), knowing the taxpayers, their status, names, and the size of their business, their characters, and location of their business are among the indicators of effective tax administration. The study showed remarkable success and recorded a large number of informal businesses. The current study focuses explores the adoption of mobile technology including the ability of determining geographical location of taxpayers, activeness, and taxpayers' ability of complying with tax laws as a means of effective tax administration.

3.   Research Design
The study adopted a mixed method research design (Creswell, 2014) in exploring TRA's tax administration to MBs. The mixed method used is convergent parallel mixed method (Creswell, 2014, Pg. 219-223), whereby data are analysed simultaneously. Convergent parallel mixed method was used because two types of data collection namely qualitative and quantitative were used through interview and questionnaire respectively (Kothari, 2004) to generate findings in response to the research questions.

3.1   Study area and Participants
The study was carried out in Dar Es Salaam City, which is the head office of TRA and the economic hub of Tanzania. Twenty-four TRA officers

were interviewed and 137 MBs were provided with questionnaires to collect quantitative data. The informants from TRA were earmarked basing on friendship, professional collegiate and willingness to participate in the study. The MBs participants were purposefully chosen based on (1) the kind of business and (2) willingness to participate in the study. Therefore, all 161 participants who participated in the study came from various business sectors in Dar Es Salaam City. Because the study was exploratory in nature, and which required more detailed and overview information from practitioners, the sample size was considered satisfactory (Bryman, 2012).

3.2 Data collection methods

The data collection tools included questionnaire for quantitative and interview guide for qualitative data. These data were collected simultaneously using the same variables, namely tax administration, challenges limiting tax administration of MBs, and the potentials of digital technology in tax administration as depicted in Figure 1 in section two of this paper. Qualitative data were collected through semi-structured interview whose questions focused on tax administration, challenges facing tax administration to MBs and the potential of technological solution to the identified challenges. These themes were built based on the research questions, practical aspects of tax administration, and tax theories. The interviews were designed as natural dialogues around the identified themes. The interview lasted for 15 to 25 minutes. The researcher made extensive discussions notes on the prior prepared form in each theme. The TRA interviews were conducted in Kiswahili as the language enhanced the researchers to get more detailed and meaningful inputs instead of English. However, afterward the translation was made to English for reporting purposes.

For the questionnaire, the specific aspects in each theme were further categorised in different aspects. The researchers designed questionnaires from a literature information for the collection of quantitative data. The questionnaires were divided into three themes named the current practices of tax administration by TRA to MBs, the challenges limiting TRA in the administration of taxes to MBs, and the potential technological solutions to tax administration challenges facing MBs. From each theme a number of statements most of which were identified in the prior conducted interview. Table I below summaries the data collection method types of data collected and kind of respondents to each research question.

Table 1: Connection of Research Question, Type of Data Collected, method and respondents

Research Question	Type of Data Collected	Method and Respondents	Reason
*RQ*1	Qualitative	Interview of TRA Officers	Current practices of tax administration by TRA to MBs performed by TRA therefore they were focal point to provide information
RQ2	Quantitative	Interview of TRA Offices	The challenges limiting TRA in the administration of taxes to MBs found to be experienced by both sides, i.e., tax authority and potential taxpayers.
	Qualitative	Questionnaire to MBs	
*RQ*3	Qualitative	Interview of TRA officers and MBs	The potential technological solutions expected to be used by both Tax authority and tax payers, therefore information from both sides seems to be crucial
	Quantitative	Questionnaire to MBs	

3.3   Analysis

Both quantitative and qualitative data were analysed using a side-by-side approach (Creswell, 2014, pg. 222), whereas quantitative information was analysed by themes and compared with qualitative information. This means quantitative and qualitative data were analysed separately, and then the results from each method were compared. For qualitative data, content analysis (Bryman, 2012) approach was used.

The content analysis involved a coding process, which entailed grouping of the collected data into three themes. The themes were current tax practises to MBs, challenges limiting tax administration to MBs, and the potential technology for tax administration of MBs. After categorising data into three groups, the data were interpreted to generate relevant information. Descriptive statistics was used to analyse quantitative data through SPPS. Qualitative data were broken down into small groups, which were categorized into three main themes, which were designed to establish tax administration to small business owners, the challenges of tax administration, and the potential areas where mobile technology could be used to tackle the challenges.

4.   Results

This section presents the study findings on, practical aspects of tax administration to MBs, challenges thereon, and the potential of digital technology in enhancing tax administration to MBs.

4.1   Participants General information

The primary participants of the study were MB owners in Dar Es Salaam City. All together, 137 MB owners filled in and returned the questionnaire. Secondary participants included 24 TRA Officers who

participated in the interview. These provided personal views on practical experience of tax administration towards MBs. Therefore, 161 participants (MB owners and TRA Officers) from various business sectors in Dar Es Salaam City provided information for this study. Table 2 presents demographic characteristics on gender, age, education level, the type of business, and business location of the MB owners who participated in the study.

Table 2: General information of MBs participated in the study

Categories of respondents		Frequency	Percent	Cumulative Percent
Gender	Female	59	43.1	43.1
	Male	78	56.9	100.0
	Total	137	100.0	
Age of MBs	18-30	48	35.0	35.0
	31-45	70	51.1	86.1
	46-60	19	13.9	100.0
	Total	137	100.0	
MBs Education level	Primary education	54	39.4	39.4
	Secondary Education	61	44.5	83.9
	Diploma Level	15	10.9	94.9
	Bachelor	7	5.1	100.0
	Total	137	100.0	
Type of MBs Business	Food Vendors	18	13.1	13.1
	Garments	16	11.7	24.8
	Fruits Vendors	17	12.4	37.2
	Cosmetics	23	16.8	54.0
	Mobile money Services	22	16.1	70.1
	Electrical utilities	28	20.4	90.5
	Hardware	7	5.1	95.6
	Mixed business	6	4.4	100.0
	Total	137	100.0	
MBs business location	Local Markets	21	15.3	15.3
	Bus stop areas	55	40.1	55.5
	Road junctions	52	38.0	93.4
	Other areas	9	6.6	100.0
	Total	137	100.0	

4.2   Activities performed in Tax Administration to MBs

Through interview with TRA Officers, the current practices of tax administration of MBs were rated as weak to nearly non-existent. The respondents reported that local authorities conduct most of the tax practises from MBs. However, in some cases, TRA applied a presumptive tax system to MBs. Regarding current tax administration practices to MBs, one of the interviewees had this to say,

We currently have weak direct communication with MBs concerning tax payment, since very few MBs are paying taxes to TRA. Moreover, we have found that MBs are paying multiple taxes, levy, and fines to different authorities including local authorities, market authorities, and cleaning agents." This gives them a negative perception towards taxation due to high levy burden. "*Most MBs are willing to pay tax, however the payment system for MBs is complex and costly that motivates neither the tax authority nor taxpayers*."

TRA confirmed to have the presumptive tax department, which mostly deals with MBs; however, the department seems to have failed to reach most of the MBs through tax campaign and training. Moreover, there is no full record for this group of taxpayers; therefore, TRA have failed to recognise MBs' direct contribution to the nation's income and public revenue generation. The department lacks a sustainable mechanism of meeting taxpayers. . Some TRA Officers reported to have been providing training to some of the MBs through radio, television, and visitation. "W*e are not providing active and continuous training to all kinds of MBs; rather we select few for training and follow-up*. They added that the selection of MBs to training depends on their nature and business environment.

In addition, from interviews, it was revealed that, business registration process was found to be very complex resulting in having too few MBs that are willing to register their businesses. Moreover, the Government (TRA) was found to have been aware of the working environment and the type of MBs' businesses although not to a large extent. Therefore, it could be concluded that TRA's administration of tax to MBs is not efficient.

In addition, the study revealed further that, MBs have no proper system for direct tax payment and have unrecognized businesses, which are surrounded by business uncertainties. Additionally, MBs were overburdened with multiple tax liabilities from different authorities. These liabilities notwithstanding, MBs were willing to contribute to national development. Table 2 presents a summary of findings on the current tax administration as ranked by MBs. These resulted from the Likert scale questionnaire containing a number of statements with their relative values as depicted in Table 3.

Table 3: Aspects of current practices of tax administration to MBs

S/N	Aspects reveal current Tax Administration to MBs	Minimum	Maximum	Mean	Std. Deviation
1	TRA do not provide training to MBs	1	5	2.77	1.742
2	MBs registered their business with local authorities	1	5	2.88	1.620
3	MBs have proper communication with authorities at business places	1	5	3.94	.811
4	MBs' business types and locations are recognized by the Government	1	5	4.17	.871
5	MBs have no proper system for direct tax payment	1	5	3.05	1.716
6	There is poor relationship between TRA and MBs	3	5	4.8	.541
7	MBs face multiple tax payment to different authorities	1	5	4.47	.718
8	MBs prefer TRA as only tax authority	1	5	4.26	.970
9	Informal operation of MBs lead to exclusion from direct involvement of national development	1	5	4.28	.897
10	MBs are willing to contribute in national development	2	5	4.46	.630
11	MBs advised to have active tax system	3	5	4.35	.671

However, from the data in Table 3 some items were confirmed as having low mean value and high value of standard deviation. Items such as TRA does not provide training to MBs, had mean of 2.77 and STD of 1.742, MBs register their business with local authorities had mean of 2.88 and STD of 1.620, and MBs lack proper system for direct tax payment had mean of 3.05 and STD of 1.716. as can be seen these variables had some variations across respondents.

The low mean and the high standard deviation were influenced by the business type as presented in the original individual respondents as captured and shown in Appendix 2. This confirms the observation made by TRA officers that the nature of the business of these MBs can influence tax administration mechanisms. For example, it was observed that food vendors, fruit vendors and MBs on garments were not tax friendly as compared to MBs on cosmetics, electric equipment, hardware, and mobile money services.

4.3 Challenges

The study found that TRA does not charge tax to MBs directly due to difficulties associated with administration of tax to small taxpayers. The challenges regarding complex tax laws and regulations were beyond the level of understanding of MBs and thus hindering MBs' compliance to Tax regulations. In addition, TRA confirmed that most of the

MBs were operating informally without any business records or business registration. Moreover, there was lack of proper tax administration mechanism to MBs, as no single authority was liable with levy collection from MBs; this discouraged MBs from complying with tax payment procedures. Another identified challenge was lack of information flow from tax authorities to MBs. Additionally, the respondents revealed that currently TRA does not use technology in tax administration to MBs. This is due to lack of updated skills among their staff on technology and lack of software that could effectively connect MBs and TRA. Inability of designing and operating software applications for taxing different groups of taxpayers was reported to have negatively affected tax administration to MBs. One of the interview respondents revealed, "*We do not have the technological incubation for software and system development.* Additionally, TRA included MBs in the presumptive tax system because these firms have poor information system, have no permanent address, leading to high tax administration costs.

The study revealed challenges that constrained tax administration of MBs. These challenges face both MBs and TRA. The statements in the Likert scale questionnaire were analysed to retrieve quantitative information derived from descriptive statistics as presented in Table 3. Specifically, the MB owners reported that there was no proper tax bracket, which relate to the income level of MBs (mean 4.04, STD .969). Moreover, MBs were not aware of revenue collection channels (mean 4.50, STD .708). Additionally, multiple taxes discouraged MBs from paying taxes (mean 4.50, STD .620)

The factors that hindered tax administration of MBs include, a wide spread of MBs, informal operations of MBs, and poor understanding of tax procedures. In addition, MB owners reported to have failed to pay property taxes due to lack of record keeping (mean 4.26, std .825), lack of knowledge among MBs on record keeping (mean 4.45, std .727), and lack of knowledge among MBs on Tax payment procedures under TRA (mean 3.23, std 1.693) MB owners were not able to access business services from local authorities because of operating informally (mean 3.21, STD 1.738) and sometimes lack of specific locations for MBs business operations (mean 3.15, STD 1.643). Additionally, MBs operate in difficult environments (4.56, STD .513) and their businesses were found to be unsustainable for any near future (mean 3.09, STD 1.680).

The findings show that, the challenges in taxing this informal sector, ranged from underreporting of taxable income, lack of authority, lack of mechanisms of monitoring activities of the informal sector, and lack of registration of businesses in the informal sector and non-compliance with taxation ethics.

Table 4: Quantitative findings on challenges affecting tax administration to MBs

S/N	Aspects reveal challenges affect tax administration to MBs	Minimum	Maximum	Mean	Std. Deviation
1	No proper tax bracket relate to level of MBs income	1	5	4.04	.969
2	MBs fail to pay proper tax due to lack record keeping	1	5	4.26	.825
3	MBs have no knowledge on Tax payment procedures under TRA	1	5	3.23	1.693
4	MBs fail to access of services from authorities due to informal operation	1	5	3.21	1.738
5	MBs are not sure of revenue collection channels	1	6	4.50	.708
6	No specific locations for MBs business operations	1	5	3.15	1.643
7	MBs are operating in difficult environment	3	5	4.56	.513
8	MBs have no knowledge on record keeping	1	5	4.45	.727
9	Multiple taxes discourage MBs from paying taxes	1	5	4.50	.620
10	MBs businesses are not going concern	1	6	3.09	1.680

The findings of this study have identified challenges preventing the inclusion of MBs into direct tax systems as reported in the foregoing sections.

However, from the data in Table 4, we can confirm that there were some items with low mean value and high standard deviation. Items such as lack of knowledge among MBs on Tax payment procedures under TRA (mean 3.23, STD 1.693), and MBs failure of accessing services from authorities due to the informal nature of their operations (mean 3.21, STD 1.738). Others include lack of specific locations for MBs business operations (mean 3.15, STD 1.643), and MBs businesses are not going concern (mean 3.09, STD 1.680).

The low mean and the high standard deviation were influenced by the business type as presented from respondents. This confirms that the challenges affect all MBs regardless of type and nature of the business. However, the impact of some challenges depends on the nature and type of business. Table 6 shows that food vendors, fruit vendors and garments dealers are commonly challenged by lack of knowledge on Tax payment procedures, lack of access to services from authorities, lack of specific locations for their business operations, and lack of business continuity (businesses are not going concern). The trend is different from MBs dealing with cosmetics, electricity supply, hardware, and mobile money services.

Moreover, the study data revealed that, some of the identified challenges correlate with poor mechanisms of TRA relationship with MBs. The data revealed a significant positive relationship between absence of tax brackets, lack of record keeping, lack of knowledge on tax payment

procedures, unknown tax collection channels, and multiple taxes on the one hand, and poor TRA relationship mechanisms with MBs on the other hand. The correlation was established based on the data as presented in Table 5.

Table 5: Correlation between challenges affecting tax administration and poor tax administration MBs

Challenges Impede Tax Administration to MBs	Poor relationship between TRA and MBs	
	N=137	
	Pearson Correlation	Sig. (2-tailed)
Absence of proper tax bracket relate to level of MBs income	.725	.008
Lack of tax record keeping to MBs	.564	.015
Lack of knowledge on Tax payment procedures for MBs	.852	.007
MBs fail to access services from authorities due to informal operation	.005	.955
MBs are not sure of revenue collection channels	.671	.012
No specific locations for MBs business operations	.115	.179
MBs are operating in difficult environment	.027	.755
MBs have no knowledge on record keeping	.017	.846
Multiple taxes discourage MBs from paying taxes	.733	009
MBs businesses are not going concern	.021	.812

4.4   Potentiality of Technology

Based on the challenges cited in section 4.3, researchers identified potential solutions of addressing them. These potential solutions include the use of a good number of mobile phones. However, the widely cited solution to most of the practical challenges is the application of mobile technology. According to the study participants, despite the widespread of the various identified challenges, almost all MBs had mobile phones that could be used to facilitate tax administration practises and enhance MBs direct involvement in the national development.

Digital technology was reported as a potential area for tackling tax administration challenges among MBs. From the findings, the study participants also recommended the use of digital technology in carrying out different activities in responding to tax challenges. Additionally, according to the respondents TRA should set a strategic training plan of equipping employees with the skills of designing technological solutions to address the challenges. This might include in house training and short courses, which staff could attend to upgrade their skills as per the emerging technologies. The respondents observed further that, TAX institute, practitioners, and other higher learning institutions in the country should be part of building specific software and skills for TRA in adopting current technology to address practical challenges facing tax administration.

Moreover, MBs proposed the usage of digital technology for business registration (mean 4.41, STD .692). Moreover, the mobile phone was recommended for use by MBs in making direct digital payment to TRA (mean 4.57, STD .566). In addition, participants proposed the usage of a mobile record keeping system that might help them generate information for tax purposes (mean 4.50, STD .698).

As for tax administration, participants recommended that, local authorities should deal with creating enabling business environment for MBs to function and leave the collection of tax levy to TRA (mean mean 4.36, STD .674). Moreover, it was recommended that digital technology systems and mobile training application services should be used to enhance tax compliance (mean 4.50, std.708) and MBs be trained on its application (mean 4.50, std .698). However, having a user friendly and simple mobile tax application was among the concerns of the study participants (mean 4.49, STD .687). The technological potentials on tax administration of MBs as presented in Table 6 indicate that TRA has the opportunity of using technology to increase tax base.

Table 6: Quantitative findings on technological potentials on tax administration to MBs

S/N	Aspects reveal technological potentials on tax administration to MBs	Minimum	Maximum	Mean	Std. Deviation
1	MBs prefer using digital registration for business registration	1	5	4.41	.692
2	MBs recommend presence of Direct Digital Payment system	3	5	4.57	.566
3	MBs recommend local authorities to deal with creating conducive business environment only	3	5	4.36	.674
4	MBs inspired to have mobile record keeping system	1	5	4.50	.698
5	MBs inspired to have digital technology system for tax compliance	1	5	4.50	.708
6	MBs prefer to use mobile training application	1	5	4.50	.698
7	MBs prefer friendly and simple mobile tax application	2	5	4.49	.687

5.   Discussion

From our findings, the explorative mechanism of enhancing tax administration to MBs through digital technology can be discussed under three themes: the current practical aspect of tax administration to MBs, challenges thereon, and the potential of digital solution to the existing challenges. Therefore, this section responds to the research questions that contributed to the achievement of the study objectives.

Research question *RQ*1 asked, *"What are the current tax administration practices performed by TRA to MBs?"* The results revealed a number of aspects in the tax administration to MBs. According to our findings,

the current tax practises to MBs are in the form of presumptive tax system. As identified by Ahmad et al., (1991) and Lapidoth (1977), the presumptive tax resulted from the application of indirect methods due to many reasons. These include simplification of the burden of taxpayers' compliance and the burden of tax collectors' administration. The burden is through the requirements of indicators of accurately estimating the actual income of the taxpayer in order to combat tax evasion, and encourage taxpayers to keep proper accounting records. However, the findings reveal that not all MBs are included in the presumptive tax net of TRA. Therefore, local authorities through levy and fines handle the rest.

It is important for local authorities to ensure that, MBs are taxed is because these businesses are a significant source of income generation. However, it is expensive to administer taxation to MBs. Therefore, local taxes and informal income collection mechanisms were found more preferable than the formal taxation administered by TRA because of the difficulty of enforcing many MBs into adhering to tax laws. Moreover, to eliminate multiple taxes from MBs, it was advised that TRA should be the only authority of collecting and administering levy or tax to all taxpayers. Moreover, participants emphasised the need for a mechanism of introducing an active tax system to informal practitioners in the country.

The finding revealed that MBs wishes TRA set up Large Taxpayer Offices (or units) to manage tax affairs of the large taxpayers given their importance in the economy of the nation. Accordingly, there is a need to establish a unit to manage MSMEs given its wide tax base. This would help different enterprises to graduate from informal to formal status and assume the brighter future of having a larger base of collecting revenue from the country as recommended by Fjeldstad and Heggstad, (2011).

It was also revealed that, MBs who are willing to pay taxes have the potential of enlarging tax base, increasing tax revenue, and creating a responsible society leading to sustainable source of national tax revenue. This supports the findings of a study by Chatama (2013), which revealed that taxing the informal sector increases tax revenue and reduces tax gap. Tax administration of MBs should focus on the minimal compliance requirements, simple and straightforward administration regulations to suit MBs skills, business environment incentives, and lowering interactive procedures with the tax authorities. The digital technology should be adopted to minimize administrative costs of dealing with MBs. Thus, administrative techniques should focus on connecting the compliance aspect with the benefits of being formal.

From the study findings, the inclusion of MBs in the tax net is a very complicated move. However, TRA has to accept that most of the citizens are of the MBs nature; thus, they have to devise a suitable mechanism of

implementing a simple, administrable, and effective tax system to MBs. Moreover, since the type and nature of MB businesses seem to affect some administrative aspects (refer to Table 3 in section 4 of this paper), specific actions should be taken to make sure that most of these businesses are efficiently included in the tax net.

The MBs should be included in the tax administration to enable for effective and efficient revenue collection. Firstly, the cost of administering small taxpayers should not outweigh the value of the revenues collected. However, the importance of considering the long-term benefit of tax administration to MBs is inevitable. These benefits may include an increase of long-term revenue from a wider tax base, the growth potential of MBs (effects of formalization), creation of responsible society and economic growth generally (fiscal social contract).

Research question RQ2: "What are the challenges impede TRA in the administration of taxes to MBs?" The results revealed a number of important factors that influence tax administration to MBs. These challenges are categorized into different themes namely, Informal operations of MBs, which were found to be the most significant challenge for TRA tax administration. Lack of Government policies concerning their practice and area of their investment has been challenging. It is argued that the current government is the only regime that has created potential opportunities to MBs. However, whether other future regimes would be in favour of MBs operations is yet to be seen. Additionally, many informal participants lacked basic knowledge on tax education as a whole. They still believe that paying taxes to the government is an option since it does not benefit their business instead it kills it.

From the study findings, it is proposed that MBs should be included in the direct tax system. However, the direct tax system, which requires keeping of records books appropriately, was found to lead to a high compliance burden to MBs in the form of costs, skills, and the required capacity. Not all these are in favour of most of micro businesses as they lack the ability of practising them as confirmed by the findings of Engelschalk, (2007).

Additionally, the challenges of tax administration of MBs have the root causes on the characteristics of MBs. Tanzanian MBs without being not registered for tax purposes do not keep proper records, hence it is difficult to get accurate tax assessment, and they have no room and knowledge of filing tax returns.

Therefore, due to the need for a large tax base and the importance of business growth in Tanzanian economy, the study recommends that stakeholders should think beyond presumptive taxation from MBs, as this involves the use of indirect means, which might be inaccurate, of ascertaining tax liability. Accordingly, where the revenue authority cannot ascertain a

taxpayer's income, or cannot verify the accuracy thereof, the presumptive regimes allow the revenue authority to *presume or* determine the amount of income based on alternative observable indicators. This may discourage MBs from growing hence remaining stagnant and reduce the tax base.

The findings revealed that the challenges such as lack of tax bracket, lack of accounting record, lack of knowledge on tax payment procedures, unknown tax collection channels, and multiple taxes could be tackled through the establishment of a strong relationship between TRA and MBs.

Research question *RQ*3: "*What are the potentials technological solutions to tax administration challenges that suit the MBs operations?*" Our study confirmed that the inclusion of micro business in direct tax net is considered to be in line with a simple application of tackling the challenges of tax administration referred to in the foregoing discussion.

Moreover, this study confirmed that the application of mobile tax administration to micro businesses is based on tax principles of fairness, efficiency, administrative capacity, and simplicity just to mention but a few. Basing on the simplification of the tax structure concerning administrative and compliance costs, the study confirmed that with mobile technology, the MBs registration, record keeping, and inbuilt tax computation within the tool can enhance administrative capacity. The administrative issues include registration, payment, information access, assessment, audit, litigation and the appeal system, sanctions, and penalties.

The initial cost of establishing digital system for tax administration to MBs may be regarded as high but, once the system is in full operation, the cost of future administrative activities would be reduced significantly. As the system focuses on managing large numbers of MBs, it may also reduce the number of administrators and, hence, reduce such costs as transportation and other operating expenses. Additionally, this also can assist MBs in keeping record not only for tax purposes but also for other business purposes.

This study among other things confirmed that through inclusion of MBs in the tax net, TRA has the opportunity of transforming MBs from informal operations into formal economy. The inclusion of MBs in the direct tax net may result in formalizing operations in their informal undertakings. Through technology, transformation is simplified, making it easier to master tax process, and motivate MBs into joining the tax net. Innovation in the tax system is necessary in making tax administration of MBs possible as it can support sharing of information at low cost (Dube, 2018; James, 2008). Apart from a change of perceptions of both authority and taxpayers, the digital technology should focus on outreach, and integration that create trust between MBs and TRA. Effective application of digital taxation among other things is presumed to enhance TRA outreach of micro business and create transparency and a two-way communication.

As it is argued, a good tax system should be simple for a taxpayer to comply with (Tanzi, 2013), then it is recommended that TRA should think of a mobile application, which would have a very simple user interface that could calculate tax and determine taxable amount. The study established that high economic and developmental expectations are often loaded with information generation by keeping and sharing it. Through technologies, developing countries could outperform and reach their citizens at all levels of development. The study confirmed that mobile technology could be one of the potential areas for investment in the transformation of informal to formal practitioners. This finding is consistent with the findings of various initiatives which have been made in Tanzania on mobile technologies for small-scale practitioners such as farmers (Misaki et al., 2019), street vendors (Mramba et al., 2016), MBs finance (Gomera & Oreku, 2018), and women entrepreneurs (Kapinga et al., 2019). This opens up the way for different authorities in seeing the potential of using technology-based innovations to formalize the informal practitioners and enable them benefit from the initiative. Moreover, other technological projects in healthcare, agriculture, education, governance, and business have shown great potential and the importance of inclusion in development through technology.

Based on the results of this study, the following technological solutions are suggested:

- Technological base that can enhance the relationship between TRA and MBs
- Record Keeping technologies for improved business performance indicators
- Technologies that help in MBs registration and maintenance of database for their operations and geographical areas of operations (Business registration and monitoring technologies)

Technological base that can enhance the relationship between TRA and MBs

Technologies for enhancing the relationship between TRA and MBs might have high importance for tax administration. The current mechanism of physical tax administration is weak and inappropriate. Therefore, through proper means of communication, record keeping, training on tax payment procedures, online channels of tax collection, and single authority for tax to MBs may improve revenue collection practices from MBs. This area of technology can lead to reliable information channels that could be used to ascertain taxable amounts to be levied to an individual MB owner. In addition, there is a need of applying mobile technology in providing training to MBs to enable them to comply with taxation practices.

Moreover, the enabling factors for mobile technology usage to MBs have been revealed in various studies (Azom & Muying, 2010; Baguma et al, 2013; Gomera et al., 2020). It was noticed that despite that, MBs have low capital; most of them own smart mobile devices, which are used for business operations. This provides the opportunity to the research community, practitioners, police makers, and authorities to invest in formalizing operations of different informal sectors. Apart from just having gadgets, the training on the potential and magnitude of how and to what extent mobile phone could be leveraged is critical to both tax collectors and MBs.

Record keeping technologies for improved business performance indicators

From the findings, the study confirmed that both TRA and MBs would benefit from proper record keeping. The current modes of record keeping have several limitations, which include unsystematic record keeping, unclear record, and insufficient information for tax calculations. It has been shown that poor record keeping affect business performance, as nothing can be properly indicated to measure performance of MBs. The study confirms that there is a need for record keeping as identified in the study by Gomera et al., (2019). The usage of record keeping technology might be offered in different forms of application such as marketing, bookkeeping, or tax-based application.

Technologies for MBs registration and database

For MBs operations and geographical areas of operations (business registration and monitoring technologies), the findings confirmed that, technological solution might be developed to help automate business registration process. The findings imply that when MBs apply for business license, they would have to do full registration online using an application whereby the same information will be connected to TRA and to the local authorities. This might provide a viable solution for MBs statistics and an appropriate amount can be collected from them throughout the financial year. The registration will also track the business and locate the business area, which might be formalized.

6.   Conclusion and Suggestion for Future Studies

The importance of MBs in the generation of national income to developing countries cannot be undermined. The authority of Tanzania tax administration is advised to take a serious consideration of the widening tax base for its potential in the national development. However, as the tax administration theory indicates that using low costs in administering tax, the technology would provide a potential solution for the initiative.

Thus, exempting the MBs from tax laws and regulation do not provide room for MBs to grow instead it creates irresponsible community of informal business owners. The challenge of tax administration cost must be addressed effectively through digital technology whereby, tax laws and regulations, can be an inbuilt aspect.

Addressing the challenges of taxing MBs should include providing them with special places for business and enabling them to make online registration basing on areas of their business. In this regard, TRA is advised to consider MBs as the tax hub that may stimulate and improve both revenue collection and build a responsible community of informal business owners in the country.

Themes of the study are broad and can be considered as exploratory in nature. Therefore, every identified issue such as tax administration of low-income earners, challenges, or potential technological solution call for in depth research in the area. The future research may be directed towards action research or design research in order to find out practical solutions to the identified challenges. This may involve designing, developing, and testing technological-based solutions for tax administration of low-income earners. Moreover, MBs is just a small part of the informal operations in Tanzania and other developing countries. As players in the informal sector are crucial in the national development, the study recommends that future studies should consider other players in the informal operations.

7.   Abbreviations

ASYCUDA++-   Custom Administration System
BMS   -   Block Tax Management System
CDLS   -   Computerised Drivers' License System
CMVRS   -   Computerized Motor Vehicles Registration System
EFD   -   Electronic Fiscal Device
GNP   -   Gross National Products
ITAX   -   Integrated Tax Administration System
MBs   -   Micro Businesses
MSMEs   -   Micro. Small and Medium Enterprises
TIN   -   Taxpayer Identification System
TRA   -   Tanzania Revenue Authority

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