

Differences between firms from the formal sector and the informal sector in terms of growth

Empirical evidence from Tanzania

Gorah Kassim Abdallah

*Doctoral Department, Maastricht School of Management, Maastricht,
The Netherlands and Academic Department,
Tanzania Institute of Accountancy, Dar es salaam, Tanzania*

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Abstract

Purpose – Small businesses growth has become an important area of study in the field of entrepreneurship. This paper aims to extend the inquiry by investigating whether there is a significant difference in growth between firms from the formal sector and the informal sector in the least developing countries (LDCs), particularly Tanzania.

Design/methodology/approach – A survey strategy as well as non-probability sampling are used. The sampling included 50 formal and 61 informal small businesses from the furniture industry. Data collected were evaluated using chi square and compounded annual growth rate (CAGR) techniques.

Findings – The results indicate that firms from the formal sector do not grow faster than firms from the informal sector. on the contrary, our tests reveal that firms from the informal sector predominantly grow faster than firms from the formal sector.

Research limitations/implications – The study was conducted in Tanzania which is just one of the 48 LDCs in the world. Second, the literature that is used predominantly applies to developed countries. Third, the field work dependent on the respondent's perception. Finally, change of measurement scale from five to three is ought to have contributed to mixed findings.

Practical implications – The overall implications are that external factors like inadequate regulatory tax systems may affect growth of formal small businesses and thus influence market opportunities for informal small businesses. Further, internal factors like inefficiencies of workers from formal enterprises may affect growth and therefore create more opportunities for informal enterprises.

Originality/value – Exploring differences between firms from the formal sector and the informal sector, and the way five scales were aggregated into three scales in the methodology.

Keywords Growth, Chi square test, Compounded annual growth rate, Formal and informal small businesses

Paper type Research paper

1. Introduction

In recent years, many studies have generally acknowledged the role of small businesses in job creation, and the substantial contribution of enterprises to economic development (Ayanda and Laraba, 2011; Bruce *et al.*, 2009; Neumark *et al.*, 2011; Wit and Kok, 2014). Literature on entrepreneurship has noted that owner-managers from small businesses are normally working under unstable environment and, thus, are persistently looking for the means of mobilising scarce resources (Kodithuwakku and Rosa, 2002) so as to exploit more identified opportunities. In this regard, innovative plans are quickly formulated to support



growth motives (Colombelli *et al.*, 2013), more knowledge about customer demands are accumulated and adequate technologies for new products are developed (Choi and Shepherd, 2004) to increase the level of growth (Davidsson, 1991; Merz *et al.*, 1994; Shariff *et al.*, 2010). As a result, small businesses indicate higher growth rate than large businesses (Haltiwanger *et al.*, 2013; Ayyagari *et al.*, 2014) and, therefore, contribute significantly to poverty reduction (Al-Mamun *et al.*, 2014; Boateng *et al.*, 2015). Certainly, the growth is recognised both as an important technique of assessing performance of small businesses (Clayton *et al.*, 2013; Shariff *et al.*, 2010) and a measure of economic success of enterprises (Barringer *et al.*, 2005). Although the argument of small businesses growth is intuitively appealing, and there are many empirical studies supporting it, enterprises growth is noticed to be below the recommended rate in some countries, particularly in the least developing countries (LDCs) (Nichter and Goldmark, 2009). Obviously, one of the possible explanations of insignificant growth is the mushrooming of the firms from informal sector (Ishengoma and Kappel, 2006). Majority of them are headed by owner-managers with low level of education (Kristiansen, 2004), and lack of knowledge about entrepreneurship (Olomi and Sinyamule, 2009). Consequently, the low levels of both education and entrepreneurship knowledge possessed by informal entrepreneurs create a gap between business activities conducted and entrepreneurial innovation expected (Ngowi, 2009). Also, the reasons above evidences why firms from the informal sector become inefficient, and thus generate lower growth rate (Loayza, 1997). Empirical studies have shown that majority of informal entrepreneurs can improve business education level and therefore motivated to grow once firms from informal sector are formalised. Formalisation is said to equip new knowledge through broader networking that usually create new market and expose entrepreneurs to undertake more risks activities and entrepreneurial actions related to innovation (Zawislak *et al.*, 2008). Hence, formalisation increases growth rate of these businesses in terms of innovation, franchising and resources (finance and human capital) (Coleman, 2007; Watson, 2008; Link and Scott, 2012; Tsuruta, 2012). Despite the fact that previous studies have investigated about factors causing differences between the two sectors, this research enriching the existing literature by exploring whether there are differences between firms from the formal and informal sectors in terms of growth (Arinaitwe, 2006; Williams, 2011). Essentially, this responds to the call of modern scholars who insist on more research about entrepreneurship in LDCs (Naudé, 2008).

The remainder of this paper includes, first, a review of the literature in which the difference between formal and informal sector is discussed, and where three approaches are used to distinguish the two sectors. In addition to that, the concept of growth is described through time frame, growth measurements and growth indicators, followed by differences in growth between the formal and informal small businesses. Furthermore, the hypothesis is presented, followed by details of the fieldwork and methodology. Nevertheless, hypothesis is tested by chi square and compounded annual growth rate (CAGR) techniques, and the results are presented and discussed in detail. The paper ends with conclusion, implications, limitations and academic recommendations for future studies.

2. Differences between formal and informal sectors

There is no agreed definition that distinguishes between formal and informal sectors (Peattie, 1987; Ulysea, 2010). Instead, academicians explain the differences from three different perspectives (Nelson and De Bruijn, 2005): the social-economic perspective, the behavioural perspective and the institutional perspective. First, there are academics who focus on activities that characterise socio-economic differences. Here, firms from the informal sector are considered to be predominantly small in size, family owned, relying on indigenous

resources, low in technology, low in threshold to become an entrepreneur, having no proper wage agreements, etc. (Swaminathan, 1991; Fortin *et al.*, 1997; Bangasser, 2000; Bigsten *et al.*, 2000; Williams *et al.*, 2009). These characteristics explain what may be regarded as one of the weaknesses of informal small businesses (Williams and Nadin, 2012), namely, that they are labour-intensive instead of capital-intensive (Rauch, 1991). As a result, among others, they have high transaction costs and are unable to benefit from economies of scale (Ferreira-Tiryaki, 2008; Taymaz, 2009; Ulyssea, 2010). Adversely, firms from formal sector are run by qualified entrepreneurs who aim at maintaining the quality of service/products produced and meeting the obligation of tax payment for public services like judiciary and security (Prado, 2011).

The second perspective highlights proactive behaviour connected with motives, decisions and success of a business (Koop *et al.*, 2000; Adom and Williams, 2012). According to this view, the majority of informal small businesses are established because of a lack of choice, and the owners are pushed with necessity to meet demands for their leaving (Sadi and Al-Ghazali, 2012; Williams and Youssef, 2013; Adam, 2014). Rosa *et al.* (2006) studied on what motivates owners from informal sector to start their businesses. They surveyed 1,006 Ugandans and Sri Lankans and found that a majority of owners from informal sector are driven by survival and lack of choice. Contrary to that, formalised small businesses which normally operate within regulatory framework aim to meet growth motives (Holmes and Zimmer, 1994).

Finally, the institutional perspective defines the informal sector as the sector operating outside of the government regulatory system (Nelson and De Bruijn, 2005). Firms from the informal sector conceal business operations to avoid penalties from government authorities (Mattos and Ogura, 2009). The risk of detection by tax authorities is viewed to be low compared to the cost of time and income spent on formalising their businesses (Sookram and Watson, 2008). As a result, they suffering low public trust due to inferior goods or services, lack of access to resources (land, credits, etc.), penalties once caught and weak rule of law (Ulyssea, 2010). Additionally, they have less financial benefits, like the possibility to purchase materials on credit, to borrow from formal financial entities, to early retirement and to cash discounts (Ngiba *et al.*, 2009). Firms from the formal sector, on the other hand, are recognised by legal framework. They have access to public goods and services (electricity, roads, water, etc.) through the protection by state organs and property rights, and they have better access to financial institutions (Straub, 2005). Consequently, they can meet customer needs better in terms of quality and quantity (Ihrig and Moe, 2004) and are more efficient (Kathuria and Raj, 2013) in terms of business planning (Baird *et al.*, 1994). As a result, firms from the formal sector attract more customers, and they grow faster compared to informal businesses. This can be evidenced in Tanzania, where most contracts for supply of goods and services to the government departments and agencies are awarded to firms from the formal sector only (URT, 2013).

3. The formal and informal sector in Tanzania

In Tanzania, the best approach that can be used to distinguish between the firms from the formal and informal sectors is the institutional perspective (Nelson and De Bruijn, 2005). Informal small businesses operate outside of the legal framework, and they are not registered in the official documents (URT, 2008a). Instead, their operations are covered under the umbrella policy of business licenses issued by the local authorities (Nelson and De Bruijn, 2005). Additionally, many of them are household enterprises, not keeping books of accounts and employing only few workers (Pfander and Gold, 2000). As a result, informal small businesses are working in isolation from each other, in a more undeveloped and informal

environment compared to formal businesses (URT, 2008a). On the contrary, firms from the formal sector follow legal system by registering with the Business Registration and Licensing Agency (BRELA), through which they gain legal status with the associated obligations and acts of compliance to government regulation (Nelson and De Bruijn, 2005). This is the legal barrier that creates benefits for formal small businesses as opposed to informal small businesses in three main areas (URT, 2008b), namely, property archetypes, business organisation archetypes and expanded market archetypes (URT, 2008a).

First, with regard to property archetypes, enterprises in informal sector are normally operating in the local areas only (URT, 2008a). Their properties cannot be easily exchanged due to non-standardised valuation, and documents of ownership are almost never accepted in the court of law (URT, 2008a). For this reason, firms from the informal sector are excluded from the right of access to capital by financial institutions.

Second, the archetypes of business organisation create barriers that many informal small businesses are facing with regard to limited liability (URT, 2008a). As a result, owners are exposed to business risk (URT, 2008a). Additionally, they do not provide for contracts between enterprises and stakeholders (suppliers, clients, creditors and investors) (URT, 2008a). Hence, stakeholders become reluctant to do business with informal enterprises because their rights are not protected (URT, 2008a).

With respect to archetypes of the expanded market, enterprises under informal sector do not protect trade-names and trademarks of enterprise products, and they do not prepare financial statements (URT, 2008a). As a result, they fail to obtain credit outside the local area, they cannot operate in a broader jurisdiction, and they do not enjoy free publication of their financial statements in different accounting journals. (URT, 2008c).

Note: Contents about differences between formal and informal sectors are copied from my first paper on differences between formal and informal small businesses in identifying and exploiting entrepreneurial opportunities; empirical evidence from Tanzania.

4. Growth

There is no universally accepted meaning of the term growth (Leitch *et al.*, 2010) because literature describes the concept of growth in three different perspectives. First, growth is viewed as an independent variable influencing outcomes of dependent variables (outcome of growth); second, growth is referred to as processes taking place in an organisation (actual growth process); finally, growth is described as a dependent variable explaining the impact of independent variables (growth as an outcome) (McKelvie and Wiklund, 2010). Furthermore, scholars argue that growth is invariably considered to provide realistic information about firm performance, where it is clearly associated with two other elements: of growth indicator and of time span (Shepherd and Wiklund, 2009). That is to say, there should be a clear pattern of combination between measurement, time frame and growth indicator elements to avoid unexpected heterogeneity in the growth results (Delmar *et al.*, 2003). The details of the three elements are discussed below.

First, timeframe is considered to be a sensitive element (Fitzsimmons *et al.*, 2005) that may result in regular or irregular growth (Delmar *et al.*, 2003). Majority of small businesses indicate growth at the beginning of business life and die before reaching the intermediate stage (Mead, 1994); thus, assessing them at a short span can hardly reflect the real picture of the growth (Birley, 1987). Therefore, a longer period is recommended to manifest a real growth pattern, to allow comparability and generalizability of the growth results (Weinzimmer *et al.*, 1998; François *et al.*, 2004).

With respect to the measurement of business growth, the basic approaches used are absolute and relative (Wiklund *et al.*, 2009; Coad and Hözl, 2010). Generally, the absolute

measures growth based on differences in size between two points in time, whereas relatives approach usually calculates growth rate in proportions (Shepherd and Wiklund, 2009). Delmar *et al.* (2003) suggested the use of absolute formula for large businesses and relative measurement for small businesses. However, empirical findings indicate that absolute measurement can also be applied for small businesses and later translated into relative measurements (Shepherd and Wiklund, 2009). In this study, a combined approach of absolute and relative was applied, and therefore, the results are extremely improved by efficiency of both measurements.

With regard to growth indicators, they are classified according to subjective and objective measures (Moreno and Casillas, 2008). Normally, the subjective indicators measure perceptions of entrepreneurs about growth through high, medium, low or no growth, growth aspirations (want to grow or not), perception of firms' directors and attitude towards growth (Kolvereid, 1992; Foreman-Peck *et al.*, 2006; Delmar and Wiklund, 2008; Moreno and Casillas, 2008). However, objective indicators predominantly measure information that exist and observed in terms of employment number, sales, net assets, market share, sales volumes, company reputation, return on investment (ROI), profitability, established corporate identity (Davidsson, 1991; Hart and Oulton, 1996; Delmar *et al.*, 2003; Abdelrahim and Alasadi, 2007). The outcomes of both the subjective and objective indicators are later accelerated by influencing factors that include individual influence, growth aspiration of the owner, entrepreneurial action, environment, industry and market, perception, skills and knowledge (Davidsson, 1991; Kolvereid, 1992; Rauch *et al.*, 2005).

Similarly, literature recommended the use of the sales volumes and employment indicators particularly for measurement of growth in small businesses. This is because it is easier to obtain sales and employment data from the business, to see them from the firm's reports, to access them from the accounting documents and they are more practical indicators of empirical studies than other objective indicators (Delmar *et al.*, 2003; Fadahunsi, 2012). As a result, both employment and sales indicators are frequently used for job creation and/or economic development (Jarillo, 1989; Morrison *et al.*, 2003; Headd and Kirchhoff, 2009; Cruz *et al.*, 2012).

Nevertheless, selection between the sales and employment indicators depends on the study undertaken, the choice of growth measurement and the timeframe to be used (Leitch *et al.*, 2010). Admittedly, each indicator has different impact on growth (Shepherd and Wiklund, 2009) and yields different results. François *et al.* (2004) suggested the use of sales and employment indicators on trading and manufacturing businesses, respectively. This is because sales indicator has substantial correlation with profitability in trading sector (Wolff and Pett, 2006), whereas employment indicator provides better explanations of new jobs creation in the manufacturing sector (Mead and Liedholm, 1998). In addition, employment is most preferred indicator for measurement of firm size and in cross-cultural comparative studies (Cooney and Malinen, 2004; Coad and Hölzl, 2010).

5. Differences in growth between formal and informal small businesses.

The emerging body of literature about differences in growth between formal and informal small businesses can be traced from among others the concepts of manager's attitude towards growth, resource-based view (RBV) and institutional theory (Brown *et al.*, 2005; Arinaitwe, 2006; Wiklund *et al.*, 2009). The theories are predominantly explaining either what influences the differences in growth or why a difference in growth between the two sectors happens as it is explained below.

According to RBV differences in growth between firms from the formal and informal is normally observed at the time of founding the business. Formal small businesses are always

established with abundant resources in terms of finance, human and networking (Wiklund *et al.*, 2009) and have access to utilities (Webb *et al.*, 2013). On the other hand, informal small businesses are created without owning proper resources (Kolvereid, 1992). This was observed in a study conducted by Davidsson (1991) which comprised 510 firms. By using interviews and questionnaires on four industries, the study found that a substantial difference in growth between the two sectors is determined by plentiful resources possessed by owner-managers from the formal sector. Notably, entrepreneurs from formal small business are exposed and credited by both formal and informal financial institutions, whereas their counterparties are limited to informal institutions only. Gagliardi (2009) went a step further in investigating about the contribution of formal financial institutions to the growth of formal and informal small businesses. The study noticed that the beneficial effect of formal financial institutions is extremely high on formal firms than on informal firms. As a consequence, the formal financial institutions contribute to higher percentage of growth on formal enterprises than on informal enterprises.

Similarly, human capital concept which can be explained in terms of knowledge, experience and skills (Wiklund *et al.*, 2009), generally assist owner-managers from formal enterprises to create more entrepreneurial activities which contribute to the growth (Alvarez and Busenitz, 2001). Rauch *et al.* (2005) examined the effect of human capital of business owners, human capital of employees and human resource development and utilisation, of 119 business owners in German. It was found that knowledge, skills and experience developed and used by members of a firm have strong impact on formal employment growth. Admittedly, firms from the formal sector are run by more specialised and experienced people, with required professional qualifications and skills (Bryson *et al.*, 1997). Therefore, utilisation of experts' knowledge increase production, discover as many as different customer groups and, thus, substantial growth is observed in terms of more jobs created (La Porta and Shleifer, 2008).

A third resource of RBV is networking. Networking can be considered as a technique of establishing, maintaining, developing and using relationships to create new opportunities for the benefits of all actors (Evans, 2015). Among them include:

- potential and existing customers and suppliers;
- competitors from local and outside the market;
- business friends and colleagues; and
- government agencies and employees (O'Donnell, 2014).

By using interpersonal and organisational relationship, networking is recognised as a marketing strategy (Preechanont and Tao, 2013), which positively impact on firm's success to a sector that has substantial number of actors (Ebbbers, 2013). Definitely, based on institutional framework, firms from the formal sector have a wider networking in terms of size and frequency of communication (Lee and Tsang, 2001) and therefore gathered first-hand information about external environment (Lee and Tsang, 2001). Hence, formal entrepreneurs are equipped with necessary information that can be used for innovative activities (Mukkala, 2010; Kchaich Ep Chedli, 2014). Literature observed that registered firms are more innovative and show higher employment growth than unregistered firms (Meriküll, 2010). This is because formal firms have large share of product innovators on the market, so price competition is reduced between formal and informal firms. Further, price elasticity becomes very low, and inflow of skilled workers is extremely high (Smolny, 1998). That means, the increase in skilled workers, proportionately increases the level of employment growth in the formal enterprises (Mittra and Jha, 2015). This can be observed in

a study by De Elejalde *et al.* (2015) who found that innovation increases the number of both skilled and unskilled workers. The study explained that as formal enterprises invent a process or product, jobs of unskilled are considerably taken over by skilled workers using new technologies, and then, more jobs are created for unskilled workers due to increase in demand for casual workers. In brief, it can be concluded that through innovation both skilled and unskilled workers are accommodated by formal enterprises at different proportions (Aboal *et al.*, 2015).

With regard to institutional concept, literature have explained that differences in growth between firms from the formal and informal sectors is caused by external environment (Chen and Roberts, 2010). Particularly, the way each sector operates within a social framework of norms, values and other external factors (Fernando and Lawrence, 2014). Among the external factors include laws, policies, regulations, written and unwritten rules as well as taxes imposed by government (Scott, 1987; Chen and Roberts, 2010; Roxas and Coetzer, 2012). Scholars confirmed that compliance with external factors enables firms from the formal sector to obtain legitimacy in a form of reward, which shape the enterprises on how to operate and, thus, provides the right of existence (Chen and Roberts, 2010). Accordingly, legitimacy enhances reputation of firms from the formal, particularly social recognition and acceptance, which facilitate access to scarce resources like finance and professional cadre (Sleuwaegen and Goedhuys, 2003), and therefore, contribute to growth. Nevertheless, it is admitted that lack/little of enforcement of regulations (Dabla-Norris and Inchauste, 2008) may provide opportunities for firms from informal sector to grow faster than firms from the formal sector as it was observed in LDCs (Chen *et al.*, 2002; Becker, 2004; Aggarwal *et al.*, 2011).

6. Hypothesis based on literature

Scholars acknowledges that owner-managers from the formal small business establish enterprises particularly for growth motivation and are always committed to achieve growth target (Barringer *et al.*, 2005), by fulfilling the needs of customers (Okpara and Kabongo, 2009). Obviously, firms from the formal sector benefit from access to numerous financial institutions, property rights protection, economies of scale and attractive investments (Nicholls-Nixon, 2005; Beck *et al.*, 2008; Tsuruta, 2012). In short, the above economic benefits empower firms from the formal sector to create more job vacancies for growth (Löfsten and Lindelöf, 2002). Conversely, firms from informal small businesses are hardly ever protected by policies issued by government authorities (Macias and Cazzavillan, 2009), particularly, policies recognising their existence (Loayza, 1996). For this reason, firms from the informal sector conceal their operations, retain few employees and therefore become small in size (Beck *et al.*, 2006). The study thus formulates the following hypothesis:

H1. Firms from the formal sector grow faster than firms from the informal sector.

7. Fieldwork

The fieldwork for this research project was conducted in Dar es Salaam, the major business city of Tanzania, where a large number of small businesses are located. Prior to the actual fieldwork, potential stakeholders were contacted to gain more knowledge about formal and informal small businesses in Tanzania. In this instance, officers from Ministry of Industry and Trade (Department of SMEs), Property and Business Formalisation Program (in Swahili MKURABITA), Business Registrations and Licensing Agency (BRELA), National Economic Empowerment Council (NEEC) and Tanzania Woodworking Federation (TAWOFE) were interviewed. In these interviews, it was initially found that there is no relevant and reliable data base kept for formal and informal small businesses in Tanzania. Hence, the study adopted a non-probability sampling procedure.

Before going into the details of the fieldwork, it is important to explain about BRELA. This is an executive agency established by the government under the Executive Agencies Act No. 30 of 1997. It is mandated to provide for the formalisation of among others including small businesses. Small businesses are registered in the category of business names and issued with a certificate of registration upon satisfying requirements of formalisation. It is this certificate of registration which was used in this study to distinguish between formal businesses (those firms registered with BRELA) and informal businesses (firms that are not registered with BRELA).

The actual field work started with TAWOFE. Being a newly registered federation, it only provided 50 names of small businesses which were not in the format of “registered” and “unregistered” enterprises. Also, majority of the 50 owner-managers were reluctant to participate in the study because of perceived business confidentiality. So, TAWOFE decided to use personal and local networks to introduce the fieldworker to members and non-members of their federation. As a result, the population increased to 367 firms and participants felt free and trusted the researcher sufficiently to provide the information requested openly.

Subsequently, in collaboration with the National Kiswahili Council (in Swahili BAKITA), the questionnaire was translated from English into Swahili, and the two versions were sent to an editor who found only minor errors. The corrected Swahili version was later sent to a sample of ten small business owner-managers to determine whether the questions were easily understood and captured the intended information, and respondents would stick to the answer given (validity and reliability). All ten firms were non-registered enterprises.

8. Methodology

The study adopted non-probability sampling particularly convenience sampling due to the fact that sampling frame could not be established (unreliable data base), difficulty to obtain individual cases (some of entrepreneurs from formal small businesses were not willing to be interviewed), and there were little variations in the population.

As it was explained in Section 7 of fieldwork, a total number of a sample of small businesses initially obtained from TAWOFE was 367. Then, the registration status of all 367 firms was investigated. It was discovered that 60 of them were registered with BRELA and 307 were unregistered. Of the 60 registered businesses, 50 were found responsive in terms of meeting the necessary conditions. This included being in the business for three years or more, having a small number of employees and willing to participate in the study. Similarly, of 307 unregistered businesses, 244 were willing to collaborate of which 61 informal businesses were selected on the basis of picking one from every four businesses.

Data were collected by means of face-to-face interviewing of the owner-managers of the firms selected (also called entrepreneurs in this paper). The owner-managers of the registered businesses were also asked to show their certificate of registration as evidence of their formal status. Those who possessed the document were categorised as formal businesses, while the rest were treated as informal businesses.

Before analysis, data from each sector were sequentially arranged according to a year of study and on a number of employees hired. That means, firms with one employee were grouped into a first class, followed by a group of firms with two employees, subsequently up to a last group which contained enterprises with seven employees.

By this arrangement, five tables each representing five years of study were created (2008-2012). Each table contained seven classes of firms, distinguished by a number of employees owned from each sector. Thereafter, corresponding classes from two tables were compared to determine changes in number of employees, where states of increase, stagnant and decrease were developed (Table I).

Classes explaining maximum number of employees	Firms from formal No. of employees in each class	Firms from informal No. of employees in each class
<i>Distribution of employees in 2008</i>		
1	11	21
2	24	20
3	15	18
4	28	28
5	40	15
6	6	0
7	0	7
Total	124	109
<i>Distribution of employees in 2009</i>		
1	11	25
2	26	24
3	18	24
4	24	20
5	40	15
6	12	0
7	0	7
Total	131	115
<i>Distribution of employees in 2010</i>		
1	12	29
2	24	28
3	27	21
4	28	20
5	40	25
6	6	0
7	7	7
Total	144	130
<i>Distribution of employees in 2011</i>		
1	12	28
2	24	18
3	24	30
4	24	24
5	45	15
6	6	24
7	14	7
Total	149	146
<i>Distribution of employees in 2012</i>		
1	12	27
2	22	20
3	24	27
4	28	20
5	40	30
6	12	24
7	14	0
Total	152	148

Table I.
Distribution of
employees for a period
of five years between
formal and informal
sectors

As mentioned earlier, three states were generated by comparing corresponding classes from two years. For example, a number of employees in the first class of 2008 were compared with a number of employees in a respective class of 2009. The results from each sector were recorded in the following states:

- an increase state, where a number of employees in the succeeding years surpassed precedent years.
- a stagnant pattern, where an equal number of employees were observed in both former and consecutive years.
- a decrease pattern, where a number of employees in a preceding period exceeded subsequent year.

Hence, ten combinations, each with three states of outcomes were formulated as follows: 2008/2009, 2008/2010, 2008/2011, 2008/2012, 2009/2010, 2009/2011, 2009/2012, 2010/2011, 2010/2012 and 2011/2012. Afterwards, the combinations were used for analysis in the chi-square test.

9. Operationalisation and the results

As aforementioned, the study used two techniques to analyse the extent of employment growth between the two sectors. These include chi-square tests and CAGR method.

First, the chi-square test was used to measure significance difference between the two sectors in terms of employment growth based on the outcomes of ten combinations. As explained earlier, each combination contained three outcomes of increase, stagnant and decrease from both sectors. These were treated as observed values. Then, Excel program was used to create another table of expected values from each combination of observed values as shown in [Table II](#).

The results from chi-square test indicated that firms from the informal sector scored higher observed values than expected values in all the ten combinations of the increase in growth pattern. Conversely, formal enterprises scored lower observed values than expected values in all the ten combinations of the increase in growth pattern. Subsequently, significance tests about observed and expected values (growth pattern) between two sectors was conducted accordingly. Surprisingly, the test showed that seven of ten combinations were significant ([Table III](#)).

The results of the chi-square suggest that firms from informal sector significantly grow faster than firms from formal sector. Therefore, the hypothesis which states that firms from formal sector grow faster than firms from informal sector is fully rejected.

A second technique of CAGR technique was applied to measure differences in employment growth between firms in the two sectors. Unlike the chi-square test, the CAGR is used to determine growth rate almost never affected by variability in the period covered. So, the CAGR formula was used to determine differences in employment growth rate between two sectors for a period of 2008-2012.

The results of the CAGR show that the growth rate between formal and informal small businesses was 0.04 and 0.06, respectively. These rates were later tested for significance, at 0.05 significance level. Test statistics fell into a non-rejection region of -0.688 , which implied that there was insignificant difference between the formal and informal sectors in terms of growth. Although 0.06 and 0.04 were significantly similar, the rate of 0.06 from the informal enterprises is considerably higher than the rate of 0.04 from the formal enterprises. Again, the hypothesis which states that firms from formal sector grow faster than firms from the informal sector is rejected ([Figure 1](#)).

Growth changes	Formal	Informal	Total	Differences between firms
<i>Growth changes for 2008/2009</i>				
Observed values				
Increase	11	14	25	
Stagnant	51	22	73	
Decrease	4	8	12	
Total	66	44	110	131
Expected values				
Increase	15	10	25	
Stagnant	44	29	73	
Decrease	7	5	12	
Total	66	44	110	
<i>p</i> value	0.014			
Significance level	0.05			
<i>Growth changes for 2008/2010</i>				
Observed values				
Increase	20	29	49	
Stagnant	98	7	105	
Decrease	0	8	8	
Total	118	44	162	
Expected values				
Increase	36	13	49	
Stagnant	76	29	105	
Decrease	6	2	8	
Total	118	44	162	
Significance level	0.000			
	0.05			
<i>Growth changes for 2008/2011</i>				
Observed values				
Increase	29	43	72	
Stagnant	30	22	52	
Decrease	4	6	10	
Total	63	71	134	
Expected value				
Increase	34	38	72	
Stagnant	24	28	52	
Decrease	5	5	10	
Total	63	71	134	
<i>p</i> -value	0.143			
Significance level	0.05			
<i>Growth changes for 2008/2012</i>				
Observed values				
Increase	21	54	75	
Stagnant	68	20	88	
Decrease	11	15	26	
Total	100	89	189	
Expected values				
Increase	40	35	75	
Stagnant	47	41	88	
Decrease	14	12	26	
Total	100	89	189	
			(continued)	Table II. Ten combinations of increase, stagnant and decrease in growth from both sectors

Growth changes	Formal	Informal	Total
<i>p</i> -values	0.000		
Significance level	0.05		
<i>Growth changes for 2009/2010</i>			
Observed values			
Increase	21	18	39
Stagnant	40	27	67
Decrease	8	3	11
	69	48	117
Expected value			
Increase	23	16	39
Stagnant	40	27	67
Decrease	6	5	11
	69	48	117
<i>p</i> -value	0.522		
Significance level	0.05		
<i>Growth changes for 2009/2011</i>			
Observed values			
Increase	26	37	63
Stagnant	24	22	46
Decrease	8	6	14
	58	65	123
Expected values			
Increase	30	33	63
Stagnant	22	24	46
Decrease	7	7	14
	58	65	123
<i>p</i> -value	0.387		
Significance level	0.05		
<i>Growth changes for 2009/2012</i>			
Observed values			
Increase	25	44	69
Stagnant	52	20	72
Decrease	4	11	15
	81	75	156
Expected value			
Increase	36	33	69
Stagnant	37	35	72
Decrease	8	7	15
	81	75	156
<i>p</i> -value	0.000		
Significance level	0.05		
<i>Growth changes for 2010/2011</i>			
Observed values			
Increase	12	37	49
Stagnant	42	7	49
Decrease	7	21	28
	61	65	126

Table II.

(continued)

Growth changes	Formal	Informal	Total
Expected values			
Increase	24	25	49
Stagnant	24	25	49
Decrease	14	14	28
	61	65	126
<i>p</i> -value	0.000		
Significance level	0.05		
<i>Growth changes for 2010/2012</i>			
Observed values			
Increase	13	36	49
Stagnant	80	20	100
Decrease	5	17	22
	98	73	171
Expected values			
Increase	28	21	49
Stagnant	57	43	100
Decrease	13	9	22
	98	73	171
<i>p</i> -value	0.000		
Significance level	0.05		
<i>Growth changes for 2011/2012</i>			
Observed values			
Increase	10	17	27
Stagnant	50	24	74
Decrease	7	15	22
	67	56	123
Expected values			
Increase	15	12	27
Stagnant	40	34	74
Decrease	12	10	22
	67	56	123
<i>p</i> -value	0.002		
Significance level	0.05		

Note: This results indicates strong significant difference between formal and informal sectors in growth pattern

Table II.

10. Discussion

The aim of this study was to find out whether firms from formal sector grow faster than firms from informal sector in LDCs, in this case Tanzania. The literature from developed world has been used to gain more knowledge about the concepts of formal and informal small businesses, growth, differences in growth between formal and informal small businesses, analysis techniques and developing measurement scales which were tested in Tanzania environment.

The findings from the chi-square and CAGR show that the previous proposition “firms from the formal sector grow faster than firms from the informal sector is considerably different from our results”. In contrast, results in this study indicate that “firms from the informal sector grow faster than firms from the formal sector”. This shows that there are environments where firms from the informal sector grow faster than their counterparties

Table III.
Summary explaining significant differences between the two sectors in terms of employment growth

Combinations of growth changes	Period	Significance results	Non-significance results	Explanations
I	2008/2009	✓		Firms from the informal sector grow faster than firms from the formal sector
II	2008/2010	✓		Firms from the informal sector grow faster than firms from the formal sector
III	2008/2011		✓	Firms from the informal sector grow faster than firms from the formal sector
IV	2008/2012	✓		Firms from the informal sector grow faster than firms from the formal sector
V	2009/2010		✓	Firms from the informal sector grow faster than firms from the formal sector
VI	2009/2011		✓	Firms from the informal sector grow faster than firms from the formal sector
VII	2009/2012	✓		Firms from the informal sector grow faster than firms from the formal sector
VIII	2010/2011	✓		Firms from the informal sector grow faster than firms from the formal sector
IX	2010/2012	✓		Firms from the informal sector grow faster than firms from the formal sector
X	2011/2012	✓		Firms from the informal sector grow faster than firms from the formal sector

particularly in LDCs. That means, theory and practice are different, and therefore, the hypothesis is fully rejected.

The results seem to provide compelling evidence according to LDCs environment which indicate that informal small businesses grow faster than formal small businesses (Chen *et al.*, 2002; Becker, 2004; Aggarwal *et al.*, 2011). However, based on this study, the gap may be attributed by:

- an inadequate tax system that creates market opportunities for the informal sector;
- lack of efficiency in the formal sector;
- lack of access to key utilities; and
- little relationship between employment indicator and firms from formal sector as well as shifting from five to three scales used to measure significant value in chi-square test.

The details of differences between theory and practice are explained below.

First, the results indicate that there is a market opportunity for the informal sector to attract employment. The situation is predominately caused by a low level of enforcement of tax and regulations in LDCs in this case Tanzania. According to registration procedures, formal enterprises are established after fulfilling the registration requirements, and getting permission from the government authorities. Among the requirements are disclosure of business premises; business capital and formal employment number; and business and income taxes calculated by officers from councils and central government, respectively. The legal requirement increases costs of production from formal enterprises, where goods are sold at high prices to compensate for rent, salaries and tax expenses. On the other hand, the majority of the informal enterprises are found in the alleys where government officers cannot recognise them easily. So, costs in terms of rent, business and taxes are evaded, a strategy which allows them to sale their products at lower prices. In that way, informal entrepreneurs attract

Calculation of compounded annual growth rate

CAGR

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\left(\frac{1}{\# \text{ of years}} \right)} - 1$$

For formal small businesses
= 0.04

For informal small businesses
= 0.06

In summary we have:

Business sector:	Formal small business	Informal small business
Annual growth rate	$\bar{x}_1 = 4$	$\bar{x}_2 = 6$
Standard deviation	$s_1 = 12.02$	$s_2 = 17.64$
Random sample	$n_1 = 50$	$n_2 = 61$

Significance test

Hypothesis test was carried out as follows:

1. Null and alternative hypothesis
 $H_0 : \mu_1 - \mu_2 = 0$
 $H_1 : \mu_1 - \mu_2 > 0$
2. Significance level $\alpha = 5\%$
3. Critical value of the test is $z^* = 1.64$
4. The test statistics is calculated as follows

$$Z = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

$$Z = \frac{(4 - 6) - (0)}{\sqrt{\frac{(12.02)^2}{50} + \frac{(17.64)^2}{61}}}$$

$$Z = \frac{-2}{\sqrt{8.440}}$$

$$Z = -0.688$$

Figure 1.
Compounded annual
growth rate

many customers from the local market, they get many orders and employ many part-time employees to meet the orders. Admittedly, low level of enforcement of taxes and regulations tend to lower operations of formal enterprises but increases the operations of informal enterprises (Dabla-Norris and Inchauste, 2008). In short, LDCs experiences more informal firms attracting more employees than their counterparties because the low level of enforcement of taxes and other regulations is considerably affecting the growth of formal firms due to unequal competition environment between the two sectors (Dabla-Norris and Inchauste, 2008).

The second is lack of efficiencies from employees in the formal sector. It is explained by the reviewed literature that formal enterprises are innovative and employ skilled employees in anticipation of increasing production and creating more jobs for the displaced unskilled workers. The study findings are a reflection of inefficiencies from employees in the formal enterprises to the extent that efforts of creating more jobs for skilled and unskilled workers were frustrating. As both formal and informal entrepreneurs with business experience of more than five years were interviewed, these results evidence that most employees from informal sector attained job experience and skills from formal sector. As a result, informal enterprises become more productive, create more jobs to unskilled workers and employ them on part-time and full-time basis.

Similarly, the general perception about RBV is that access to utilities contributes to the growth of the firm particularly in under developed world (Webb *et al.*, 2013). Interestingly, lack of access to key utilities like electricity can be observed as a valuable factor in explaining the growth of informal firms in the LDCs. The results about furniture manufacturing indicate that formal enterprises are considerably dependent on electricity for machines operations in furniture production. The heavy machines use electricity for levelling and smoothening timber, polishing, etc. So power outage means suspension of furniture production. On the contrary, informal firms rarely afford to buy heavy machines for furniture manufacturing; thus, they deemed to labour intensive. Owner-managers from informal small businesses use manual tools for furniture production. Consequently, production schedules are not interrupted by power outages. In short, lack of utilities displaces production activities from formal firms to informal firms.

Furthermore, the employment method was found to bear little relationship with the formal sector. Firms from formal sector are characterised as capital-intensive, i.e. they depend on technology and skilled labour for production. However, informal small businesses are labour-intensive, i.e. they depend on unskilled workmanship for production. Therefore, employment indicator seems to favour informal enterprises.

Finally, it should be noted that the original data used in this study which previously were measured in five scales (growth for 2008-2012), were further aggregated into three scales of decrease, stagnant and increase, and tested using chi square. It is therefore admitted that changes of scales from five to three may have influenced our results and therefore rejection of hypothesis. It is however, not ignored that there is a possibility that if growth data presented in this study were measured in different approach using the five scales, the possibility that results could be different is significant.

11. Conclusion

Previous studies conducted in the developed world show that firms from the formal sector grow faster than the firms from the informal sector. With this view in mind, the majority of the policy makers, government officers, entrepreneurs and vocational training institutions in LDCs are likely to comprehend the growth as a direct consequence of formal enterprises.

This study however has shown that growth is a nuanced construct affected by external and internal factors. External factors like low level of enforcement of tax and regulations affects growth of formal small businesses by create market opportunities for informal small businesses, while internal factors like employees' inefficiencies hamper the efforts of creating more jobs for skilled and unskilled workers.

11.1 Implications

The study makes a number of contributions in both theoretical and practical perspectives.

In theoretical perspective, these results contribute towards existing entrepreneurship literature by indicating that differences between entrepreneurs from formal and informal small businesses can be explained in terms of employment growth. Indeed, by using chi-square and CAGR, the study has shown that there are environments where firms from the informal sector grow faster than firms from the formal sector.

Second, it should be recalled that this study has used the entrepreneurship theory to explain the differences between firms from formal and informal small businesses in terms of growth, and has developed the measurement scales from the said literature. The findings show that these measurement scales are applicable to LDCs (including Tanzania).

With regard to practical areas, these findings show that there is a need for the government to create a data base for small businesses. Currently, formal entrepreneurs are known and heavily taxed in terms of business and income taxes, and rent, while informal entrepreneurs pay nothing. So, with the establishment of the data base for formal and informal enterprises, the government will have up-to-date records of small businesses in the country, where tax base will be broadened, and both sectors will be taxed proportionately.

Similarly, the government needs to contemplate the possibility of granting tax holidays for new owner-managers for a grace period of between one and two years from the commencement of the enterprises. The tax holidays are ought to provide enough time for informal entrepreneurs to adjust for ups and downs of cash flows and therefore entice them to formalise their businesses, and pay taxes. The approach will broaden the tax base and reduce tax rates.

11.2 Limitations

Limitations of this study may be observed in four important areas. First, the study is conducted in Tanzania which is just one of the 48 LDCs in the world. Second, the literature that is used to build the concepts predominantly applies to developed countries. Third, the fieldwork is dependent on the respondent's perception which may lead to biased results. Fourth, the change of measurement scale from five to three which is ought to have significantly contributed to mixed findings. Despite the fact that these limitations have already been considered to some extent in this study, future studies are encouraged to take yet better account of these limitations.

11.3 Academic recommendations for future research

Finally, future studies in this direction should focus more on applying other small businesses growth measures like sales and assets in the investigation of differences between formal and informal small businesses in terms of growth, with a special focus on the effect of external and internal factors. The need for statistical-based and large-scale empirical studies is also emphasised.

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Corresponding author

Gorah Kassim Abdallah can be contacted at: abdallah@msm.nl

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