

Advent of mobile telecommunications in Ghana: Their role and contribution to the business activities of small and medium-scale enterprises

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Abstract

The last two decades have seen tremendous growth in mobile phone ownership and use in both the global North and in developing countries like Ghana, which has contributed to the transformation of the social and economic lives of citizens. Nowhere is this evident than in small-scale business activity. This paper therefore focuses on the role and contribution of mobile phones on the operations of small and medium scale enterprises (SMEs) in Ghana. Rather than the quantitative and macro-level analysis prevalent in the literature, this present research advances prior research by undertaking a micro-level discussion that draws on several research instruments, including the interviewing of 40 owners of SMEs in Accra, Ghana and examines the impact of mobile phones on their businesses. The main argument and most significant insight and findings from the research is that, from the perspective of small-scale business owners, while mobile phones help to provide better market information, improve communication and efficiency, and reduce business costs, the environment in which they operate remains one of the most key factors that can help their prospects of contributing to overall development. Thus, if mobile telephony is to help the SME sector contribute to development, there is the need for support by the Ghana government in the form of financial assistance, marketing opportunities and infrastructural development.

Keywords: Ghana; SMEs; Mobile telecommunications; Economic development.

1. Introduction

The past two decades have, according to Qiang (2009, 7-9), brought an unprecedented increase in access to telephone services driven primarily by wireless technologies and the liberalization of telecommunications markets allowing for faster and cheaper rollout of mobile networks. The GSMA (2014) notes that in 2013 for example, the mobile industry contributed 5.4 percent to overall gross domestic product (GDP) in the sub-Saharan Africa (SSA) region, and this is forecast to increase to 6.2 percent by 2020. Also, in 2013, the mobile ecosystem directly provided employment to nearly 2.4 million people, a figure that is expected to grow to around 3.5 million by 2020. With Africa projected to experience an increased use of mobile phones by 2020, it is important that researchers pay attention to the implications of such developments. Ghana's mobile industry is no exception to this trend as in the past few years, it has been one of the fastest growing industry in the country (Koi-Akrofi and Koi Akrofi, 2011; Sankaran, Naillon, Nguyen, Chang, Hilde & Chadwick, 2011). Over the past two decades, the mobile industry in Ghana has witnessed tremendous increase in subscriber growth rate. Koi-Akrofi, Koi-Akrofi & Welbeck (2013) note that from a meagre figure of 2000 subscribers in 1994, mobile subscription increased to 17,436,949 in 2010. Subscriber numbers of 30,360,771 for 2014 represents a penetration rate of almost 113.37 percent of Ghana's estimated population (National Communications Authority 2015).

One area that has recently been the focus of discussion relates to the implication of mobile telephony on the operations of small and medium-scale enterprises (SMEs), and whether there are any transformational benefits for SMEs that employ mobile phones in their businesses. The main objective of this paper is therefore an analysis of the role mobile telecommunications play in the activities of SMEs in Ghana. The main research questions are as follows: How does mobile telecommunication affect the business operations of SMEs in Ghana? What are some of the factors that inhibit or promote the development of effective and profitable enterprises in the era of mobile telecommunication? These research questions were addressed through a random selection of 40 SMEs whose owners were interviewed from March to May 2016 regarding the impact of the mobile telecommunications on their businesses. Since there is no reliable or single public register or data-base of small businesses in Ghana (Wolf, 2004), the selection was based on the willingness of the owners of SMEs to be interviewed for the study. Accra was chosen because it has a strong presence of SMEs, is the political and administrative capital of Ghana, and the

most industrialized and urbanized city in the country. Thus, although the urban setting for this study comes with its own peculiarities, the dynamics of SME activities, structure, financing models, etc., are almost the same across Ghana. Apart from most using apprenticeship training systems, the number of staff will be around same, and capital accumulation methods – micro finance, etc., will be similar. Hence, the sentiments captured in the literature and the research findings from the operators of SMEs in Accra would mirror the situation of those in the non-urban areas.

With a set of questions that served as an interview guide and allowed for the asking of follow-up questions, the interviews sought to find information on the background of operators and firms, how mobile phones were impacting their business operations and the problems they face. The solutions that are necessary to deal with these problems were also elicited in the interviews. The response of interviewees, involved in activities such as wood-processing, tailoring, food-processing, textiles and clothing, building and construction, and printing and publishing to name a few, were descriptively coded, categorised, summarised and formed the basis of analysis in the ensuring sections of the paper. The advantage with this approach is that interviewees provide their own perspectives on issues they consider salient (Spiggle, 1994).

The paper is organised into five sections. Section one looks at the various theories and literature on SMEs. It analyses the benefits of assisting the small-scale sector, as well as what critics say regarding their operations. Section two examines the history of mobile telecommunications in Ghana. Section three discusses the role and contribution of mobile telecommunication on the activities of small-scale businesses in Ghana. Section four examines the challenges that SMEs in their use of mobile phones for business purposes contend with. The last section offers suggestions regarding how to overcome the constraints and ensure that SMEs' use of mobile phones help their business operations.

2. Small and medium-scale enterprises (SMEs): Theoretical discussions and literature review

The last two decades have seen the process of economic globalisation and the accompanying neo-liberal agenda being promoted by international institutions like the International Monetary Fund, World Bank and World Trade Organization. As Arthur (2002: 720) notes, the basic assumption of economic globalisation and neo-liberalism is that a market-friendly approach is the best means of ensuring

economic growth since market forces are superior to the state as an agent of economic growth and transformation. An important policy initiative of economic globalisation and neo-liberalism is the cutback in government expenditure and the subsequent retrenchment of government workers. With the massive layoff of public sector employees that accompanies the implementation of neo-liberal policies, coupled with the inability of the private sector and formal economy to absorb the excess labour force, many individuals seek employment in the informal and small-scale sector of the economy, making it the fastest growing in terms of employment creation (Arthur, 2002: 727). Unsurprisingly, the promotion of small-scale industries has become one of the major policy avenues of governments to deal with the problem of socioeconomic underdevelopment (Arthur, 2007).

Although there is no globally acceptable definition for SMEs, some useful theoretical insights may be drawn from the ensuing discussions. To begin, what is termed to be micro, small or medium in size depends on the national or regional accounting practices. As Smit and Watkins (2012) note, these are normally defined according to the range of firm sizes in a given country, where threshold levels can vary significantly. Some commonly used methods include value of capital stock or the value of product turnover. However, such methods are difficult to apply due to the problems of valuing capital machinery. Indeed, the geographical placement of SMEs as well as country specific legislation influences the numerous SME definitions. According to Reeg (2013), generally, in industrialized countries, SMEs are defined as enterprises with fewer than 99 employees. On the other hand, in most low- and middle-income countries, the size segment for micro and small enterprises accommodates nearly all low-productivity businesses. These businesses, which are usually run by a single person or include a few family members as employees, are typically located in informal markets characterized by low wages and unskilled labour.

In Ghana, Quartey & Abor (2010) point out that the Ghana Enterprise Development Commission uses a 10 million Ghanaian cedis upper limit for plant and machinery in its definition of small-scale enterprises. However, depreciation of the local currency as against major trading currencies often makes such a definition outdated. It is for this reason that Ghana's National Board for Small-Scale Industries (NBSSI) applies both fixed asset and number of employees' criteria. For the NBSSI, small-scale enterprises are firms with more than nine workers, and have plant and machinery (excluding land, buildings and vehicles) not exceeding 10 million Ghana cedis. Another definition is given by the Regional

Project on Enterprise Development Ghana manufacturing survey paper, which categorized SMEs into four; micro enterprises are those that employ less than six employees; very small enterprises constitute those employing six to nine employees; small enterprises are businesses that employ between 10 and 29 workers while medium-sized enterprises are those that employ between 29 to 50 employees (Quartey & Abor, 2010). Given that the most commonly used criterion is the number of employees, this paper conceptually defines SMEs in Ghana as businesses employing not more than fifty people.

Besides issues relating to definitions, it needs to be pointed out that the SME sector, which is broken down by types of activities, also exhibit certain characteristics. Quartey & Abor (2010: 222) point out that in addition to being labour-intensive in nature, in terms of activity, many SMEs are mostly engaged in retailing, trading or manufacturing. Finally, majority of SMEs are female-owned businesses, which often are home-based compared to those owned by males. Furthermore, Donner (2006) notes that SMEs, which are found in urban and rural areas alike include trading stalls and retail stores, small manufacturers, transport providers, and services such as tailors and plumbers. Some microenterprises are home-based or have no fixed location, such as hawkers who sell their wares on the streets. Thus, the degree of permanence, productivity, and formality varies considerably between microenterprises. Some are indeed ‘entrepreneurial,’ growing firms with skilled owners and productive business models, but the majority are simply self-employed and often struggling to get by and will never grow their businesses into larger enterprises (Mead & Leidholm, 1998). As shown in Tables 1-3, some of these characteristics were evident in the businesses that were interviewed in this study.

TABLE 1: AGE DISTRIBUTION OF BUSINESS OWNERS INTERVIEWED

Age Group	N (%)
21-30 years	5 (12.5)
31-40 years	10 (25)
41-50 years	12 (30)
51-60 years	8 (20)
Above 60 years	5 (12.5)
Total	40 (100)

Source: Research data/results (2016).

TABLE 2: EMPLOYMENT LEVELS AMONG BUSINESSES INTERVIEWED

Number of Employees	N (%)
1-10 employees	24 (60)
11-20 employees	8 (20)
21-30 employees	4 (10)
More than 30 employees	4 (10)
Total	40 (100)

Source: Research data/results (2016).

TABLE 3: BUSINESS ACTIVITIES AND GENDER OF INTERVIEWEES

Activity	Gender		
	Male	Female	Total (%)
Retailing	1	2	3 (7.5)
Textiles, tailoring, seamstress & fashion designing	3	4	7 (17.5)
Metals and engineering	1	0	1 (2.5)
Ceramics and pottery	2	2	4 (10)
Metals and engineering	2	0	2 (5)
Computing & electrical works	2	0	2 (5)
Ceramics & pottery	1	2	3 (7.5)
Food processing	2	5	7 (17.5)
Carpentry & wood processing	2	2	4 (10)
Hairdressing	0	2	2 (5)
Printing & publishing	1	2	3 (7.5)
Hotels & restaurant	1	0	1 (2.5)
Building and construction	1	0	1 (2.5)
Total	19 (47.5%)	21 (52.5%)	40 (100)

Source: Research data/results (2016).

Whatever the definition and characteristics, SMEs perform key roles in the efforts to promote socioeconomic development in the developing world. It is in this regard that the fundamental contribution of SMEs to the overall

performance of the economy as well as the success factors behind them have become a crucial motive for researchers to investigate (Ndabeni, 2008). As Marsden (1992), Ndabeni (2008) as well as Smit and Watkins (2012) state, the activities of SMEs are acknowledged and seen to be of vital importance for the promotion of economic growth, spurring innovations and creating new products, creating employment, and addressing poverty particularly in times of shrinking public sector. For example, Tieguhong, Grouwels, Ndoye, Mala, Sakam, Useni, Marcel & Betti (2012) argue that strengthening entrepreneurial capacities of SMEs based on non-wood forest products in Central Africa has formed an important entry point for poverty alleviation. In Africa, Mead & Liedholm (1998) note that at least one-third of new entrants into the labour force are employed by SMEs. Xaba *et al.* (2002) have also pointed out that numerous studies point to the fact that about 61 percent of urban employment in SSA was found in the small-scale sector, and that about 93 percent of new jobs were also created in that sector. In South Africa, Kim (2011) notes that SMEs generated more than 55 percent of all jobs and 22 percent of the country's GDP. Similarly, in Ghana, SMEs, according to Abor, Agbloyo & Kuipo (2014) contribute significantly to the country's national product by either manufacturing goods of value, or through the provision of services to both consumers and/or other enterprises, and account for 70 percent of the country's GDP and 92 percent of its businesses (Quartey & Abor 2010). Finally, Ndabeni (2008) suggests that throughout the developing world, by becoming business incubators, SMEs are increasingly considered to be innovative instruments for developing and promoting competitive small firms. True competitiveness requires businesses that can establish strong positions in niche markets through innovative products and services. In addition, SMEs provide livelihood opportunities as well as nurture and enhance entrepreneurship, and hence have external benefits on economy wide efficiency, innovation and aggregate productivity (Katua 2014; Mamman, Kanu, Abdul, Alharbi, and Baydoun, 2015).

Despite their positive characterization, SMEs often contend with structural and administrative challenges and constraints such as the lack of adequate access to finance and capital, lack of managerial skills and training, lack of equipment and technology, regulatory issues, and limited access to international markets, which hinder their efforts to make a positive contribution to socioeconomic development and alleviate poverty (Arthur, 2012). In Ghana for example, Mensah (2004) paints a bleak picture of small-scale businesses. According to him, small-scale businesses are 'dominated by one person, with the owner taking

all major decisions. The entrepreneur may possess limited formal education, access to and use of new technology, market information, and access to credit from the banking sector is severely limited; they have weak management skills, thus inhibiting the development of a strategic plan for sustainable growth; they experience extreme working capital volatility; and inability to acquire skills and modern technology impede growth opportunities.’ Similarly, as Acs and Kallas (2007) point out, while the potential enhancements entrepreneurship may offer an area are considerable, the fact remains that entrepreneurial activity varies greatly across and within countries, and disagreements exist as to whether SMEs can create jobs, generate economic growth, initiate innovation, and be successful agents against poverty. For example, rural retail and service businesses have been found to contribute only modestly to local employment, income and tax base. In the manufacturing sector, no association between the increase of incomes in the lowest income quintile and SMEs is necessarily observed, nor is a link made between the importance of SMEs and the ‘depth and breadth of poverty.’ Also, Sherrarden, Sanders, and Sherrarden (2004) contend that small businesses offer less job security, lower wages, fewer fringe benefits, worse working conditions, and less skill enhancement opportunities than large firms. Be that as it may, the promotion of SMEs has become part of the broad development strategy in Africa. As Gadzala (2009, 204) notes, apart from employing the bulk of workers and providing income for those without any other means of survival, SMEs are instruments for poverty alleviation and improving equality as well as contributing to GDP.

3. History of mobile telecommunications in Ghana

Goni (2011) states that Ghana’s telecommunication infrastructure was laid and expanded by the British during their colonial rule mainly to facilitate the social, economic and political administration of the country. Although various policies, projects and initiatives were adopted by the Ghana government after independence in 1957 to develop and improve the telecommunication sector, according to Osiakwan (2008), reforms in the sector commenced with the promulgation of National Redemption Council Decree No 311 in 1974, which declared Post and Telecommunications department a public corporation. The decree culminated in the establishment of the Ghana Post and Telecommunications Corporation (GPTC), which was placed under the authority of the Ministry of Transport and Communication and remained responsible for operating the nation’s telecommunications and licensing of telecom until October 1995. Tobbin (2010)

points out that before the 1990s when the main telecommunications reform started in Ghana, there were many significant projects which were earmarked to improve the operations of the GPTC and introduce competition into the sector. In 1975, GPTC started a series of projects known collectively as the First and Second Telecommunication Project (FTP and STP), which provided the bases for the relative improvements in the sector and ensured the installation of a new international telephone exchange, the rehabilitation of various exchanges and external cable network (Frempong & Henten, 2004).

Notwithstanding these developments, except the large transnational corporations which had their own separate communications system, there was a general lack of communications ability in Ghana. The limited number of land lines, often in disrepair, extremely costly, and available only after a long ordering period, made it extremely difficult to conduct business in Ghana. At its worst in the 1980s, this meant that businesses and government offices were generally crippled in their operations. The inability to communicate was compounded by the absence of information about the most basic economic activities within the society and among key actors as the government mostly stopped publications of almost all economic information, and only gradually improved information flows after democratization in 1993. It is under these circumstances that Osiakwan as well as Tobin note that major reforms in Ghana's telecommunication sector commenced with the introduction of the five year Accelerated Development Programme (ADP) between 1994 and 2000 (Osiakwan, 2010). The ADP aimed at increasing teledensity from 0.31 percent to about 1.5-2.5 percent through the provision of public and private payphones; improve public access in rural and urban areas; expand coverage of mobile services; promote Ghanaian ownership of telecommunications companies; and retain overall public regulatory control of the sector through the creation of a single agency (Spintrack 2004, cited in Frempong Esselaar, Stork & Anyimadu, 2005: 95). As Frempong, Esselaar, Stork, and Anyimadu (2005: 95) point out, 'the strategies adopted to achieve these objectives included the privatization of Ghana Telecom (GT) through the sale of a strategic stake to an international operating company; the creation of a competitive duopoly by licensing a second national network operator with similar rights and obligations; mobile cellular telephone services; data transmissions; paging and payphones; the establishment of an independent regulatory agency for the sector; and allowing large corporate users to develop their own private networks'.

Liberalisation of the telecom sector in Ghana began in the early 1990s when the government allowed for private participation to complement the

activities of the then GPTC to increase coverage and enable the introduction of more value-added telecommunications services in the country (Frempong & Atubra, 2001). Several mobile telecom providers emerged in Ghana because of the liberalization of the mobile telecommunication sector. As Goni (2011: 28) has pointed out, Millicom Ghana Limited introduced mobile services and operations in Ghana in 1992/1993 with Mobitel as its network name. Celltel, which later became 'Kasapa,' followed suit and began its operations in 1995. Scancom also entered the market in the same year using the network name 'Spacefon.' In 2001, Ghana Telecom introduced its mobile telephone services under the network name 'OneTouch.' Osiakwan (2008) notes that several factors influenced the Government's decision to embark on the liberalization of the telecommunications sector. First, it did so because of its obligations under the World Trade Organization (WTO) agreements and as part of the World Bank and IMF conditions for making loan advances for restructuring the sector. Secondly, the Government used licenses to encourage the expansion of the network through foreign investment. Thirdly, the Government used the licensing process to generate public revenue, and to encourage the provision of certain basic telecommunications, in the public interest.

The first step towards privatisation of the sector was the separation of the Posts and Telecommunications Divisions into two autonomous institutions. As Tobbin (2010) points out, this was carried out through the enactment of the Statutory Corporations (Conversion to Companies) Act, 1993, Act 461. The Act metamorphosed the Telecommunications Division into Ghana Telecom Company (a company limited by shares) in June 1995 with the Ghana Government being a majority shareholder. Also, as part of the strategy of ensuring rapid development of the telecommunications sector and to break the monopoly of the Ghana Telecom (GT), a second national operator was licensed in 1997. The second operator, Westel, as Frempong (2002) notes, was to have similar rights and obligations as pertained to GT. Both companies were granted exclusivity rights for five years with Ghana Telecom and Westel mandated to roll out 250,000 and 30,000 lines respectively within the five-year period. The creation of duopoly was to introduce competition into the fixed line telephone sub-sector to enable subscribers enjoy benefits such as better and less costly services.

Before the reform, Ghana Telecom acted both as a player and a referee. With the reform, Frempong (2002) notes that an independent regulatory institution, the National Communication Authority (NCA) Act 524 was passed in December 1996. The Act's objective was to regulate communications by wireless, cable

radio, television, satellite and similar technology for orderly development and operations of efficient communication services in Ghana. According to Addy-Nayo (2001), the ADP was also expected to address the problem of imbalance in distribution of telephone in Ghana by narrowing the gap between the rural and urban areas, and by increasing the number of telephone lines to 500,000 by the turn of the century. This target was considered ambitious by some industry watchers because a phone line in 1994 cost at least US\$200 to install in a country with a per capita of US\$350. However, Frempong (2002) notes that after the privatization of Ghana Telecom, phone lines increased from over 63,000 in 1995 to 200,000 by December 2000. For Frempong *et al.* (2005), this meant almost a 200 percent increase in less than six years thus negating the initial fears. Although reforms in Ghana's telecommunications sector made the country one of the most liberalized mobile telephone markets in Africa, until recently these numbers did not radically exert competitiveness and rapid development in the market. In the past decade, however, the industry has witnessed tremendous increase in subscriber growth rate for all the mobile telecom operators (Nimako, Azumah and Donkor 2010). Currently, there are six major competitors in Ghana's mobile telecommunications industry: Mobile Telecommunication Network (MTN); Millicom Ghana (Tigo); Airtel (formerly Zain); Expresso; Globacom (Glo Mobile); and Vodafone, which in 2008 bought a 70 percent stake in the state-owned Ghana Telecom for US\$900 million. The sale to Vodafone sparked criticism from various groups in Ghana who suggested that the Ghana government sold off the state asset too cheaply, diminished the integrity of Ghana's sovereignty and threatened its national security.

4. Role and contribution of mobile telecommunications

Aker (2010) and Jensen (2007) have pointed out that an emerging body of research in developing countries show that the reduction in communication costs associated with mobile phones has tangible socioeconomic benefits, improving agricultural and labour market efficiency and producer and consumer welfare in specific circumstances. According to Kuofie, Boateng, and Yellen (2010), many of the positive social impact of mobile phone include greater contact and improved relationships with families and friends; providing remote connectivity to social networks; inclusion of the less digitally literate in communities; offering better time management such as preventing long travelling hours; and using mobile phones for distance learning. Furthermore, because of mobile industry's investment and consumers' rapid adoption of the innovative services, Koi-

Akrofi *et al.* (2013) point out that the industry has become one of the major (and growing) components of the Ghanaian economy. Teppeh (2011) notes that 'in 2010, the mobile operators and certified mobile dealers employed over 6,000 full time workers. There are over 1.5 million people whose employment is related to the industry through retailing of telecom accessories and scratch cards,' and through assembling handset phones and printing the credit/unit cards. As stated by Deloitte/GSMA (2012), 'numerous small-scale businesses have also opened shops to sell, repair, and charge mobile phones, either using car batteries or small generators. In the early years of mobile phone usage, entrepreneurial individuals started businesses to rent mobile phones, especially in rural areas'.

Cleeve and Yiheyis (2014) state that recent research reveals that phone sharing, and the facility for phone charging, has been an engine of small-business revolution, particularly in rural areas. Ownership of a mobile phone can create a business opportunity, whereby owners can charge a small fee for making a call. Since most Ghanaians mainly use pre-paid phones, mobile phone companies had to create extensive phone credit distribution networks in partnership with the formal and informal sector. Thus, small shops that have traditionally sold dietary staples and soap now sell mobile phone credit (airtime) particularly in small denominations. Young men and women are often found selling airtime cards in the streets. At the superficial level, the need of Ghanaians to keep buying Subscriber Identity Module (SIM) cards, with their limited number of minutes of phone usage per card, means that many SMEs have become sellers of SIM cards, thereby adding to their income. Indeed, Kuofie *et al.* (2010) point out that 'all throughout Ghana, one sees street hawkers, corner shops, and small kiosks with mobile phone providers' insignia to large retail stores of services and products of the phone providers. Services provided at these locations include buying SIM cards, buying phone units, having a phone unlock, repairing or simply buying a new handset.'

Moreover, in his study in the Akuapem North District of Ghana, Kwakwa (2012) found that more than 50 percent of the 94 respondents used their mobile phones for marketing/sales purposes, while 97 percent of respondents used them to make voice calls, and send text messages, which in turn contributed to the lowering of operational cost and increased savings. Finally, research by Boadi, Boateng, Hinson, and Opoku (2007) on selected rural businesses in Ghana showed that the use of mobile phones facilitated cost reduction and provided them with the chance to deepen both their internal and external business relationship. In the operations of a commercial farming entity, Boadi *et al.* (2007:259) noted that

'the introduction of m-commerce succeeded in cutting down costs including fuel, advertising, and travel allowances for sales and marketing staff. The sales and marketing staff previously used to travel an average of 240 kilometres daily to take orders and visit prospective customers. Instead of the daily routine visits by sales representatives, customer visitation is now once per week'.

Such positive assessments are corroborated by the responses of interviewees in this research. The 40 interviewees spoke of the challenges they faced (high business costs, poor communication, inadequate marketing opportunities, and the inability to expand production at a faster rate) before the widespread availability of mobile phones in Ghana. When inquiries were made, the main findings regarding what interviewees considered to be the most significant impact of mobile phones on their business were as follows: twelve mentioned reduced cost, especially transportation, informing customers about availability of products and services, scheduling appointments with customers, placing and restocking orders, and by implication the optimal use of their time and efficiency in business; five cited increased employment; eight reported an increase in productivity, sales volume and profits; while another fifteen noted their contribution to the economy, ease with which they are able to communicate with customers, suppliers, and staff, as well as market their products. One of the twelve interviewees who cited cost reduction stated:

'Previously, things were tough. It took a lot of my time to get the necessary raw materials for my work. I had to travel and it was difficult. Now, that is not the case. Although I sometimes like face-to-face interactions in some dealings with my customers, it is no big deal if I am not able to. Also, I just have to arrange with my supplier and I go and pick my items. This means that I am better able to spend less time on the road and concentrate on producing to sell to the public.'¹

Apart from cost reduction, there was also increased business activity that had led to increased employment. For the five interviewees who mentioned employment growth, they noted that they had been able to expand their businesses by employing at least three more people. While this may not seem like much, for the business owners, it constituted a significant expansion to their operations. As one of them put it: 'I used to have eight workers, but I have recently added three more. I am sure that but for the dumsor,² I would have been able to employ even more people.'³

¹ Interview, male involved in hotels and restaurant, 19 March 2016, Accra.

² 'Dumsor' is the Ghanaian term for the load shedding programme that arose because of the persistent, irregular and unpredictable electricity supply that the country began experiencing in 2012.

³ Interview, male involved in electrical repair works, 18 March 2016, Accra.

The following statements by some of the interviewees in this study also attest to the contribution of mobile phone diffusion among SMEs in Ghana to economic development:

‘My business has benefitted substantially from the use of mobile phones, and this has positive implication for their overall living standards and that of the Ghanaian economy as a whole in terms of revenue accruing to the government.’⁴

‘Revenue from government which is coming from the taxes I am paying can be used to expand social services to benefit everyone.’⁵

‘By paying the wages of their workers, as well as contributing to the tax base, I think I’m making a positive economic contribution to mother Ghana. I think there is a multiplier effect on the economy from my tax contributions.’⁶

‘The days when I had to travel long distances to conduct business are long gone. All I have to do now is to ring and discuss business on the phone. I can check on customers for their orders and order raw materials. This has cut down my business costs and I am really happy.’⁷

One interviewee summed it up best:

‘With the mobile phone, I am better equipped to deal with various problems that crop up in my business operations even when I am not on the business premises. It provides me with information on market prices and allows for faster response to customer needs.’⁸

Apart from these, there is also the role that mobile phones play in the marketing of the products of SMEs. Effective marketing, which have implications for increased profit earnings and expansion in output, often entails the pricing and distribution of the products, as well as the promotion and advertisements that come with it (Boapeah & Poppe 1992). For O’Dwyer, Gilmore & Carson (2009), SME marketing activities are driven by owner/managers and are defined in terms of tactics to attract new business, focusing on competitors, customers, and the business environment. Frempong (2009: 87) argues that mobile phones have become a strategic tool for SMEs in their relationship with customers and suppliers. In researching the issue of how mobile phones were influencing their marketing activities, 32 of the interviewees (80 percent) in this study revealed

⁴ Interview, female fashion designer, 12 May 2016.

⁵ Interview, female involved in catering and food processing, 30 March 2016, Accra.

⁶ Interview, female hairdresser, 9 May 2016, Accra.

⁷ Interview, female seamstress, 22 March 2016, Accra.

⁸ Interview, male involved in printing, 20 April 2016, Accra.

that they rarely engaged in advertising of their products in the traditional media such as radio, television, and newspapers because of the lack resources. This is unsurprising because as Baah-Ofori & Amoako (2015: 82) state, the marketing models of SMEs in Ghana involve creating awareness through word of mouth either personally or through friends and acquaintances. While rarely engaging in advertising of their products, more than half of the interviewees indicated that because of their mobile phones, they can easily co-ordinate the transportation of their goods to customers, and have a good sense of when their suppliers would deliver their raw materials for production and marketing of products. One interviewee stated that:

‘Because of mobile communication, I can produce on advanced orders from my customer. The customer does not have to travel to see me just to place an order. If they travel to come to see me and I am not there, then they have wasted their time and money. Now, this can easily be done on the phone.’⁹

Added another:

‘I am able to have access to the day-to-day information on how much my products are being sold or marketed in different parts of the country.’

The responses of business owners regarding the ease of communication, the concomitant cut in business costs and efficiency in operations, improvements in the marketing of products, business expansion, profitability and growth seem to suggest that they were generally satisfied with the impact mobile phone was having on their businesses. Indeed, the views of interviewees did conform to the reasonable expectations about the impact of their mobile phones on their businesses. It was also consistent with findings of various writers (Boadi *et al.*, 2007; Frempong, 2009; Ofori-Asare, 2011; Salia *et al.*, 2011) regarding the transformational benefits of mobile phones on SMEs in Ghana.

5. Mobile telecommunication and SMEs in Ghana: Problems and challenges

Despite the identified benefits and contribution of mobile phones on the activities of SMEs, there are a few concerns that are often raised. First, there are problems and challenges relating to adequate access to funds and capital. When it was inquired as to why they did not go for a bank loan to deal with such problems, the common explanation from interviewees was that they were better

⁹ Interview, female fashion designer, 12 May 2016.

¹⁰ Interview, female involved in catering and food processing, 30 March 2016, Accra.

off not doing so. Indeed, only 16 of the interviewees (40 percent) had applied to the banks for financial support for their business. Of these, ten were unable to secure the loans for reasons that the interviewees noted included long loan processing time, lack of collateral, insufficient documentation to support loan applications, and the inability to afford the high interest and lending rates that averaged 35 percent as of the end of 2015. One interviewee who had secured a bank loan for his business indicated that:

‘I have had a long relationship with my bank. I was their client before I started this business. I took out a loan when I was working with the government and paid everything on time. I guess that helped me when I needed the loan for my business.’¹¹

Despite this positive experience, many of the interviewees (60 percent) were not so eager to go to the banks for loans. The skepticism about their chances of getting any financial assistance from the banks was reflected in the statement by one interviewee:

‘I cannot pay the interest rate on their loans. Also, I do not have a house to use as a collateral. I hear from my friends and colleagues that this is what the bank would seek from you before they give you even a small loan. So why should I bother myself to go through all this hassle, which would not come to anything.’¹²

Another lamented that:

‘The banks see us as nobody. They think we are risky and only deal with the big-men and big-women in society. It is only to whom you know. It is unfair but what can I say.’¹³

These findings are consistent with that of Asare, Gopolang & Mogotlhwane (2012) who note that the lack of adequate access to credit and capital from the banking sector in Ghana means that there is a huge burden on SMEs to raise by themselves substantial amounts of capital for business activities from personal sources or through family support, informal means and social networks.

Regarding marketing of their products, O’Dwyer *et al.* (2009) argue that this function in SMEs is hindered by constraints such as poor cash flow, lack of marketing expertise, business size, tactical customer-related problems, and strategic customer-related problems. The response of interviewees in this study

¹¹ Interview, male involved in textiles and clothing, 16 May 2016, Accra.

¹² Interview, female seamstress and fashion designer, 23 March 2016, Accra.

¹³ Interview, male carpenter, 22 April 2016, Accra.

showed that 20 (50 percent) of them were aware of the great opportunities (establishing and maintaining relationship with clients, customer satisfaction and loyalty, cost reduction, expanding their business horizons, and increasing expectation of revenue growth) with the use of internet platforms for electronic customer relationship management (e-CRM) (Baah-Ofori & Amoako, 2015). However, e-CRM and mobile marketing, which is defined by Scharl, Dickinger and Murphy (2005: 165) as marketing on or with a mobile device such as smart phones to ‘provide customers with time and location sensitive, personalized information that promotes goods, services and idea, thereby benefiting all stakeholders,’ were not being adequately taken advantage of by interviewees in this study. While the number of consumers patronizing marketed products and services on the internet are on the increase, Yamoah (2014) notes that the volume of online business in Ghana remains low and internet connection is not always available.

Furthermore, there was low usage by interviewees of many of the other services and facilities that could be accessed using mobile phones because of the excessive costs associated with internet subscription and data; exorbitant costs of accessories such as chargers and earphones; the difficulties with having easy access to software; and lack of local language content. In fact, only twelve interviewees indicated that they had used social media platforms such as ‘Facebook’ and ‘Whatsapp’ for marketing purposes.¹⁴ As a result, the phones were used mainly by the business owners to take photos, send SMS, and engage in voice communication with customers and friends. It also meant that SMEs, as Baah-Ofori & Amoako (2015) argue, underutilize the potential benefits of using mobile marketing, which include increasing market penetration, building product brand, competing with larger firms, reducing marketing costs, and easily communicating and connecting with customers. As one interviewee stated:

‘With the slow speed of transmission and connectivity, my mobile credit units would finish very quickly should I use the other services.’¹⁵

The following statement also proves illustrative:

‘Good cell phones are very expensive. The ones I have are all imitation and do not last long. Many people are going to Dubai and China and bringing low quality handsets, cell phones and accessories to sell to us. They are always not working properly. But I have no alternative since I rely very much on my cell phone for

¹⁴ Baah-Ofori & Amoako (2015: 93) point out that ‘Facebook’ is the popular free social network website and ‘Whatsapp’ is the cross-platform messaging subscription service for smartphones.

¹⁵ Interview, male involved in textbook printing, 17 March 2016, Accra.

operations of my business. Also, I have to keep buying phone cards and they are also expensive but I have to.’¹⁶

Another interviewee echoed the sentiment of many others by saying:

‘It is very expensive to bring internet access to all. Only the rich can afford it. For now, I am fine with just using my phone to talk to my customers and link up with them.’¹⁷

The final problem cited by interviewees was poor and inadequate infrastructure, in particular ‘dumsor,’ and its negative impact on their business activities.¹⁸ The frustrations caused by ‘dumsor’ on their businesses is evidenced by the following statements:

‘The lack of electricity has been a hindrance to my business. I need back-up in case my main line does not work. I do not want to lose business because my lines are not working.’¹⁹

‘Dumsor must stop completely if we are to move forward with our business.’²⁰

Due to ‘dumsor,’ 40 percent of the interviewees indicated that they had acquired generators to power up their equipment and businesses when the power went out. The use of generators increased the production and operational costs of their businesses because of the need to purchase diesel to power them. Ironically, for those who could afford the generators, it became another source of income, since they were able to charge a fee for charging the mobile phones of their clients. Furthermore, except for 10 interviewees, the remaining indicated that they had more than one mobile phone with different service and network providers. Irrespective of business type, size and income level, interviewees indicated that dissatisfaction with services such as call drops and call breaks, internet interruptions, and the lack of inadequate infrastructure and power rationing in the country meant owning multiple phones, SIM cards and subscribing to different network providers were a necessity since mobile phones were their primary means of communication.

¹⁶ Interview, male wood carver, 14 April 2016, Accra.

¹⁷ Interview, male involved in textbook printing, 17 March 2016, Accra.

¹⁸ A report by Ghana’s Institute of Statistical, Social and Economic Research (ISSER) revealed that due to the power crisis, the annual sales of small and micro businesses dropped by about 37 percent to 48 percent, and Ghana lost \$686.4 million yearly, which represented between two percent and six percent of GDP annually (Emmanuel Torny, ‘Ghana loses \$2.2 million daily to dumsor,’ (2015) <http://pulse.com.gh/news/power-crisis-ghana-loses-2-2-million-daily-to-dumsor-id3758094.html> (Retrieved 1 May 2016).

¹⁹ Interview, male tailor, 20 April 2016, Accra.

²⁰ Interview, male carpenter & furniture manufacturer, 21 March 2016, Accra.

6. Promotion and development of SMEs: Charting the way forward

The preceding discussions have shown how the inadequate access to credit and finance, poor marketing techniques, and infrastructure deficit have negatively impacted the operations of SMEs in Ghana. It is considering these challenges that the Ghana government should put in place measures and policies that cannot only sustain the benefits accruing to the mobile telecommunication sector but also the small-scale business sector. This is because the growth potential of the country can be accelerated by taking advantage of benefits that mobile telephones offer. First, Reeg (2013) notes that although it can help to grow businesses, the lack of access to bank finance and other forms of capital and credit is seen as an overarching barrier to SMEs in developing countries. With inadequate access to credit, capital and finance a critical constraint faced by SMEs (Abor *et al.*, 2014: 98), the responses of interviewees confirm the need for improvements in institutional support in the form of easy access to credit with low interest rates. For the Commission for Africa (2005), small enterprises cannot grow in isolation and need access to a range of financial services to take advantage of market opportunities. As Abor *et al.* (2014) found, SMEs in Ghana with ‘better access to finance are more likely to export. SMEs need such funding to cater for the high fixed costs of exporting, international marketing and branding, and meeting higher quality standards required for overseas markets. Thus, SMEs’ access to finance will increase the likelihood that these firms can internationalize leading to an increase in their sales, profitability, competitiveness, market share and technological awareness.’ It is therefore a positive development that in addition to various financial policy initiatives by government agencies,²¹ Savings and Loan Companies in Ghana have, according to Quaye & Sarbah (2014: 132), ‘aided and continue to serve SMEs as they provide an alternative avenue for access to credit for small borrowers for whom the procedures and requirements of the traditional financial institutions are too cumbersome and discriminatory.’

Also, in addition to interviewees suggesting a review and reduction by government of taxes on mobile phone calls, they also called for phone providers to offer reasonable services on contract basis instead of the pre-paid approach currently in place; give concessions to businesses and not charge them as they charge individual users; as well as explore the possibility of networks connectivity tied to mobile phones instead of individuals coming with their

²¹ Quaye & Sarbah (2014: 128) note that Ghana government agencies which provide support for SMEs are NBSSI, Business Assistance Fund, Ghana Investment Fund, GRATIS Foundation, Rural Enterprise Project (REP) and Microfinance and Small Loans Centre (MASLOC).

own phones, buying a SIM, and getting connected. Moreover, with complaints about the cost of quality handsets, it is hoped that with RLG Communications, a local company currently involved in mobile phone assembly in Ghana, and international companies such as Huawei Technologies, and Tecno Mobile of China planning on doing likewise, mobile phones will become cheaper, affordable and more accessible to small-scale business owners.

Furthermore, given the problems of infrastructure, all the interviewees held that there was the need for the Ghana government to immediately address the power outages and frequent power supply disruption to prevent further business collapse. With developing better infrastructure among the highest-ranked suggestion by the interviewees to improve their operations, it is a welcome development that since the beginning of 2016, there has been an improvement in power supply to businesses and indeed the whole country. This improvement is due to the Ghana government securing at the end of 2015 ten power plants from the United Arab Emirates-based Ameri Energy, which was connected to the national grid. Also, the government ordered an emergency power plant, the Karpower Barge from Turkey, which will generate 225 megawatts of power and directly supply into Ghana's electrical grid for ten years.²² Finally, to promote mobile marketing, Hinson (2011: 183) has suggested that SMEs in Ghana could create Facebook accounts on the social platform, seek to create a Facebook network, and subsequently target friends and others with their products and services. For him, this is far more effective in terms of reach and cost compared to the traditional forms of communication. In fact, one of the twelve interviewees for this study who used social media platforms for marketing purposes indicated:

‘I think the chat features in the social media would allow me to connect with my clients, which can help build better relationships with them for both the immediate period and long-term.’²³

Another interviewee added that she attended a roundtable in February 2016 hosted by Facebook for SMEs, and learned about how she could use facebook to reach customers, brand her products, and get great returns. For her,

²² Despite the improvements, analysis carried out in 2016 by the Volta River Authority (VRA), the body corporate in Ghana with the mandate to generate power and electricity, indicated that electricity supply bottlenecks that stem from a cut in gas supply from Nigeria, planned maintenance, fuel constraints of thermal power plants, as well as inadequate generation reserve capacity, meant that the power crisis, load shedding exercise and electricity rationing was going to persist in Ghana

(<http://www.myjoyonline.com/news/2016/June-28th/no-end-to-dumsor-vras-contingency-analysis-reveals.php>) (Retrieved 4 July 2016).

²³ Interview, male involved in building construction, 18 March 2016, Accra.

‘I now know that Facebook offers me the chance to advertise, increase the awareness my friends and other people have about my products and also increase engagement with my customers.’²⁴

7. Conclusion

The last two decades have seen mobile telephones becoming part of the landscape of many people in Africa. With their increasing use comes the belief that mobile telephones would help transform the lives of people by improving their welfare and providing an avenue for innovative solutions to many local problems. The consensus is that mobile telecommunications contributes to economic development by increasing investment and resources; providing better networking and market information; lowering overheads and improving efficiency; and increasing connectivity to (and coordination with) international economic activity (Donner, 2006; Aker, 2013). As the evidence in this paper showed, the use of mobile phones in Ghana has helped SMEs by lowering operational and especially transportation costs, improving production planning and marketing, customer services, and communication with suppliers. Although the paper has added to the existing literature that deals with the impact of mobile phones on SMEs in Ghana, the methodology employed did have its own limitations and weaknesses. First, the selection of interviewees was not based on a systematic and well-defined random sample. As a result, the selection of interviewees did not reflect the wide range of activities in which SMEs are involved. Moreover, given the small sample size, one cannot draw statistical significant conclusions from the findings. Despite these limitations, the analysis in the paper helped to make out what the gaps in the existing literature are and what kind of additional data needs to be collected on the impact of mobile phones on SMEs in Ghana. It contributed to our knowledge of the contributions of mobile telecommunication on their businesses. It also buttresses the literature that argues that the environment in which SMEs operate remains one of the most key factors that can help their prospects of contributing to overall development. Hence, the Ghana government needs to support SMEs and mobile phone sector through improvements in infrastructure, easier access to capital and finance, as well as helping them connect to both local and international markets.

²⁴ Interview, female dress maker & fashion designer, 31 March 2016, Accra.

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