Mobile telephone opportunities: the case of micro- and small enterprises in Ghana

Godfred Frempong

Abstract
Purpose – Emerging literature from developing countries speak volumes of innovative application of mobile telephones to support the economic activities of the micro and small enterprises (MSEs). Invariably the technology is improving the efficiency of these operatives and boosting their competitiveness. The purpose of this paper is to analyze the contributions of mobile telephones to the development of micro and small enterprises in less urban and rural areas of Ghana.

Design/methodology/approach – The methodology used was basically questionnaire administration and was augmented by focus group discussions to collect data from MSEs in six locations in the country. The sample size was 600 enterprises and the selection was based on the International Standard Industrial Code.

Findings – The majority of the respondents were positive about the impact of mobile telephones on their businesses in terms of ease of contact with customers and suppliers, reduced cost of transportation and profitability. However, there is the urgent need for the development of innovative services to meet the changing needs of the enterprises.

Originality/value – Generally, these findings will contribute to the emerging empirical evidence of the strategic role mobile telephones are playing in the economies of developing countries.

Keywords Mobile communication systems, Small enterprises, Business development, Rural areas

1. Introduction

Development literature has buttressed the importance of micro and small enterprises (MSEs) in national development. MSEs offer opportunities for people who are excluded from paid employment in large businesses to enter into the productive market due to lack of qualified skills, age, or lack of geographic mobility (Barrett and Burgess, 2008). MSEs also have the capability of introducing innovations into the market and to serve as a catalyst for societal development (Reijonen and Komppula, 2007).

What constitutes an MSE varies with different definitions focusing on particular elements such as the number of employees, annual turnover, industry of enterprise, ownership of enterprise and value of fixed assets (Abor and Adjasi, 2007). The National Board for Small Scale Industries (NBSSI) defines micro scale enterprises as those which only employ up to five people or have fixed assets (excluding land and buildings) of €250 million (also excluding land and buildings), while small enterprises are those which employ between 6-29 people or have fixed assets not exceeding €780 million. Most MSEs are very small with the majority consisting of one person working alone. Self-employment is thus the key element in these economies.

In the less urban and rural areas[1] of Ghana, MSEs are the main economic actors, besides those working in agriculture. The contributions of these enterprises to employment and
wealth creation, as well as poverty reduction are pronounced. About 70 percent of enterprises are MSE, and it is estimated that nearly 40 percent of Ghana’s gross national income is attributed to these enterprises (Ghana Government, 2003a). It is believed that these enterprises can easily trigger growth in the economy due to their numbers and the niches they occupy in the national economy. Therefore, the growth and development of these businesses have become paramount and should feature prominently on government’s development agenda.

The government policy for MSEs, which is currently under review, has the objective of creating a conducive environment for MSEs to grow and facilitate the development of a vibrant, productive and competitive MSE sector in the country (Ministry of Trade and Industry, 2002)[2]. Under the policy, the government, among others, seeks to:

- promote dynamic enterprise culture for innovation;
- promote employment growth within the informal sector;
- develop the MSE sector to serve as a means to establish linkages between the formal and informal sectors of the economy;
- improve the technology base, product quality and productivity of the MSE sector; and
- upgrade the application of indigenous technologies (Ministry of Trade and Industry, 2002).

These strategies are intended to galvanize MSEs to play critical roles in national development and help to create and distribute wealth so as to reduce poverty in the country, thus helping the country to achieve one of the Millennium Development Goals.

The government’s intentions for the MSE sector are linked to the national ICT for Accelerated Development Policy which has the objective of engineering an ICT-led socio-economic development process with the potential to transform Ghana into a middle income, knowledge-based and technology driven economy (Ghana Government, 2003b). The policy is to support the development of the private sector and to catalyze different segments of the national economy.

Emerging literature from developing countries provides numerous examples of innovative applications of ICTs to support MSE development. For example, farmers in Bangladesh have been using mobile telephones to monitor market prices of rice, vegetables and other farm produce (Dholakia and Kshetri, 2002). Dholakia and Kshetri further report that farmers in remote areas of Cote d’Ivoire share mobile telephones to track the hourly fluctuations in cocoa and coffee prices.

Similarly, fishermen in India have long been using mobile telephones to collect information on prices at different ports before deciding where to land their catch (Rai, 2001). The flexibility of the technology enables them to seek information while on the high sea. The Chinese are using mobile telephones for e-commerce, home shopping and share trading (Laperrouza, 2002). While the introduction of basic telephony services including mobile in rural China has reduced price dispersion and purchase prices of various commodities (Eggleston et al., 2002).

These examples (and many others) provide the opportunity to assess the extent of usage of the technology in the Ghanaian economy, especially by the economic operatives in the less urban and rural areas where mobile telephones remain the dominant means to participate in the digital revolution. Using a simple mobile telephone impact model, the paper analyses the contributions of mobile telephones to the development of MSEs in Ghana. It contributes empirical literature on the importance of mobile telephones in the activities of MSEs in developing countries.
2. Mobile telephony and business development in context

Of all the ICT services, mobile telephones have increasingly become the dominant service that is accessible to many people, irrespective of their physical location. The International Telecommunication Union (ITU) estimated that by the end of 2007, there would be over 3.1 billion mobile subscribers in the world, compared to 1.3 billion fixed telephone lines (ITU, 2008a). The same ITU data indicated that over 60 million new mobile telephone subscribers joined the mobile telephone family in Africa in 2007. Africa has been one of the fast growing markets for mobile telephones and this has made the technology prominent on the continent.

The relative ease of access and the flexibility it provides in communication has resulted in mobile telephony being the preferred means of communication not only for social, but increasingly for business activities. Its popularity in most African countries has been fuelled by the poor penetration of fixed line networks.

Technological development and business innovations are making mobile telephones strategic technologies for boosting business development, thus moving away from being a tool for only voice communication. For example, mobile telephones now provide multi-purpose platforms for services such as internet connectivity, e-banking, and e-commerce among others (Frempong et al., 2007). Using technologies such as GPRS, EDGE, CDMA, and UMTS among others, internet services are now provided via mobile telephones and this has the potential of increasing access to internet services. Companies in the Philippines, Kenya, Tanzania and South Africa have developed mobile telephone platforms that support a number of e-financial services through the mobile telephone handset. Consequently, it has become versatile equipment, offering significant business benefits to enterprises[3]. These innovations and their applications are increasingly contributing to business competitiveness, as well as developing new business models whose impacts are enormous. Invariably these have impact on economic growth, and according to Waverman et al. (2005), the growth is very significant in developing countries.

The importance of mobile telephones to African countries is enormous and has been summarized as:

- an infrastructure service to improve efficiency of markets, promote investment, reduce risk of disasters, and contribute to empowerment;
- an economic sector where mobile telephone operators can make big profits, and pay taxes;
- a development tool for innovative applications to increase efficiency of service delivery or opened opportunities for new services (Scott et al., 2004); and
- access to the market for informal operatives (Gough and Grezo, 2005).

3. Mobile telephones impact model

Figure 1 provides a simple impact model to illustrate the contributions of mobile telephones to MSE development. The model emphasizes that mobile telephones exhibit positive influence on some of the critical pillars of business operations – access to market, reduced cost of doing business, e-financial services and access to business information. The positive impacts on these pillars will contribute to the competitiveness of the MSEs in the market. The inherent advantages of a competitive MSE may contribute to the development of the economy of the area in which it operates.

The model recognizes the importance of a national trade and industry policy and economic environment to support the catalytic role mobile telephones play in business development. Such trade and industry policy regime should recognize MSEs as a key engine of growth and should provide a conducive environment for them to thrive. Equally important is the dynamism in the local market. A dynamic and responsive market may engender innovation through the adoption of proven technologies and services to bolster competitiveness in the market.
Generally, the trade and industry policy and the dynamics in the local market provide stimuli for the adoption of innovative ideas and services to support business activities. In this paper, the model provides a framework for analyzing the contribution of mobile telephones to MSE operations in Ghana.

4. Brief overview of Ghana’s mobile telephone market

Ghana has one of the liberalised mobile telephone markets in Africa but until recently these numbers did not radically exert competitiveness and rapid growth in the market (Frempong et al., 2005). Six companies have been licensed to provide mobile telephone services in the country. Four are in operation, with the remaining yet to commence business. The four operational companies are Tigo Ghana Limited, MTN Ghana, One Touch and Kasapa Telecom.

MTN Ghana is the market leader, controlling over half (52 percent) of the market. Tigo has 27 percent, One Touch 17 percent, while Kasapa has the least market share of 4 percent. With the exception of Kasapa, the other operators have services in the ten regions of the country and provide mobile internet based on CDMA (Kasapa), GPRS and EDGE (MTN, Tigo and One Touch).

Figure 2 shows the combined trend in growth of both mobile and fixed line telephones. The growth of mobile telephony has been accelerating rapidly since 2003, becoming a substitute for fixed line telephones. Between 2000-2007, the compound average growth rate (CAGR) of fixed line telephones was 6.5 percent, while that of mobile telephones was 81.4 percent (ITU, 2008b). The ease of subscription and the flexibility it provides for communication purposes have contributed to its rapid growth. The multi-purpose nature of the technology has contributed to its popularity and being transformed from its original social status symbol to a versatile technology for economic activities.
The 2007 household and individual user survey in Ghana reveals that, while mobile uptake is significant, it is highly concentrated in urban areas (Gillwald, 2008). This raises the need deploy the service across the country, especially in the unserved less urban and rural areas. The level of rural participation could be increased if communities adjoining major highways, where most mobile transmission facilities pass, could use the signals for communication, with these unintended subscribers contributing to the reduction of the urban/rural divide (Frempong et al., 2005).

Recent mobile telephony growth has been high, comparing positively with the situation in South Africa. Almost 60 percent of Ghanaians aged 16 and older have active SIM cards which they use to both make receive calls, however, this level of users is mainly concentrated in urban areas.

5. Methodology

This section presents the methodology used to conduct the survey on the use of mobile telephones by MSEs for their business activities. For the study, two less-urban and rural areas from each of the Southern, Middle and Northern belts were selected, following two key principles. The first was that the area should not form part of the major town identified by the National Population and Housing Census conducted in 2000. Second, mobile telephone service should be available in the locality. The selection of the study areas was randomly done after the study population had been determined.

A sector approach, based on International Standard Industrial Classification was used to select a total of 600 MSEs, with 100 from each of the sampled areas. The size of each business category was selected to reflect the size of such category in the national economy. The MSEs from each business category were selected irrespective of whether the entrepreneur owned mobile telephones or not. This was to identify the widespread usage of the service, as well as seek the opinions of users and non-users on mobile telephone as a business tool. Table I gives a summary of the selected MSE.

Data was collected using a questionnaire and augmented by focus group discussions. The questionnaire covered issues such as general information on the enterprise, level of usage of mobile telephones, expenditures on the services and the impact of mobile telephone usage on businesses, among others. The type of questions asked was informed by an earlier study on the usage of ICTs by small and medium enterprises (SMEs) in the country (Frempong and Essegbey, 2006).

In most instances, caution was taken to explain the questions succinctly to the respondents so as to exact the correct and credible responses. For example, on the question of the use of
mobile telephones for business purposes, the respondents were first asked the number of calls they make in a day. This was followed by another question that sought to delimit social calls (to friends, family members, close associates, etc.) from those that have direct bearing on their economic engagements. The caution was based on the findings of Donner (2006) which revealed that MSEs in Rwanda, who one would expect to be business focused, largely used mobile telephone as a personal device (Donner, 2006).

Data on calls made by the respondent was obtained from the call log of most of the handsets. What was done was to select the number of calls made within a week and divide the data by seven to give an indication of an average daily calls. From this data, the respondent was asked to indicate the number of those calls that were related directly to their business operations. In some cases, the respondents also gave data on their patronage of mobile telephone kiosks.

The more difficult data to obtain was on the level of expenditure, as most of these operators did not keep accurate data on their finance. In view of this, respondents were asked to recollect expenditures they had made on calls in the immediate past month. Borrowed from Esselaar et al. (2007), control questions were built into the questionnaire to check for consistency of responses during the administration of the questionnaires. The control questions introduced some element of credibility into the responses. Also, the enumerators were trained on how to gain the confidence of the respondents so as to solicit the financial data from them.

For focus group discussions, participants were purposively selected based on their willingness to participate, their level of articulation and responsiveness during the questionnaire administration, age and gender.

6. Analysis of survey results

The following analysis is based on indicators such as sample characteristics (educational background, age profile), level of business mobile telephone usage, and types of business transaction among others.

6.1 Sample characteristics

From the sample of 600, 67 percent were males and women constituted 33 percent. The large disparity between the males and females was due to the preponderance of males in a number of business categories. Sectors such as transport, metal fabrication, garage services and construction among others, are dominated by men. Although women dominate in the retail, wholesale, catering and hospitality businesses, men are still involved in these as well.

6.1.1 Age profile. Most of the respondents were within the active economic age group of 26-40, but a large number (41 percent) were in the 26-35 range (see Table II). It appears that managing MSEs is largely undertaken by a youthful segment of the population of the study areas. This differed from a similar study in Nigeria where relatively older entrepreneurs were involved in MSS activities (Adeoti and Adeoti, 2008).
6.1.2 Educational background of respondents. The use of enhanced services of mobile telephones is knowledge intensive and requires some level of education or literacy. In the survey, a high number of respondents had some kind of formal education, but the majority had basic education (see Figure 3). Only 35 (about six percent) of respondents had tertiary education, and 134 (22 percent) of had secondary/technical education.

6.2 Ownership of telephones

A great majority (84 percent) owned mobile telephones, with only 16 percent who did not have any telephone at all. However, this does not mean that this group of businessmen and women do not use telephones at all. These may be patrons of mobile telephone kiosks and communication centers in their locality.

Of those having telephones, 92 percent were mobile telephone subscribers, 7 percent had both fixed line and mobile telephones, while only one percent had only fixed line telephones. This indicates that mobile telephony is the most popular communication technology among the MSEs and also confirms the findings of Frempong and Essegbey (2006) in which mobile telephony was found to be the dominant communication technology used by SMEs in Ghana. It also corroborates the situation in South Africa where mobile telephony is the main communication technology for many small businesses (Samuel et al., 2005).

### Table II Age group of respondents

<table>
<thead>
<tr>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20</td>
<td>37</td>
</tr>
<tr>
<td>21-25</td>
<td>93</td>
</tr>
<tr>
<td>26-30</td>
<td>120</td>
</tr>
<tr>
<td>31-35</td>
<td>125</td>
</tr>
<tr>
<td>36-40</td>
<td>100</td>
</tr>
<tr>
<td>41-45</td>
<td>57</td>
</tr>
<tr>
<td>46-50</td>
<td>28</td>
</tr>
<tr>
<td>51-55</td>
<td>17</td>
</tr>
<tr>
<td>56-60</td>
<td>14</td>
</tr>
<tr>
<td>61 and above</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>600</td>
</tr>
</tbody>
</table>

Source: Field data (2007)
6.3 Level of usage for business activities

The survey investigated the frequency of use of mobile telephony for business activities. Only 3 percent of MSEs made 13 or more business calls in a day. Another 20 percent made between 5-8 business calls daily, while the majority (53 percent) made between 1-4 calls daily (see Figure 4). The group that made the highest number of calls had more formalized business structures and were very active in their business activities. Most of the sampled MSEs were able to indicate the level of business calls they made, however, it is worth cautioning that due to the informality of many of the MSEs, distinctions between usage for strictly business activities and for individual/household can be very blurry (Donner, 2006).

6.4 Type of transactions

An attempt was made to ascertain the business uses of mobile telephony by MSEs. About 53 percent used the service to check for orders, 46 percent to check on prices of goods on the market, 47 percent to order raw materials, while 41 percent used the service to check on their debtors. Only about 17 percent used the service to check on new products. The responses indicate that MSEs use the service to address some of the critical pillars of business operations with checking on orders as the dominant activity (see Table III).

6.5 Expenditure on business related calls

For monthly expenditures on business related telephone calls (see Table IV), the majority (50 percent) spent between US$5.10-20.00. Monthly telephone expenditure for about 23 percent was between US$5.10-10.00 and almost 27 percent spent between

---

**Figure 4** Daily business-related calls

<table>
<thead>
<tr>
<th>Number of Calls</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to 8</td>
<td>131</td>
<td>20%</td>
</tr>
<tr>
<td>9 to 12</td>
<td>103</td>
<td>8%</td>
</tr>
<tr>
<td>13 &amp; Above</td>
<td>29</td>
<td>3%</td>
</tr>
<tr>
<td>1 to 4</td>
<td>273</td>
<td>53%</td>
</tr>
<tr>
<td>No Response</td>
<td>112</td>
<td>16%</td>
</tr>
</tbody>
</table>

**Table III** Business activities supported by mobile telephones

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check prices</td>
<td>273</td>
<td>45.5%</td>
</tr>
<tr>
<td>Order raw materials</td>
<td>280</td>
<td>46.7%</td>
</tr>
<tr>
<td>Call service providers</td>
<td>138</td>
<td>23%</td>
</tr>
<tr>
<td>Check on customers for orders</td>
<td>315</td>
<td>52.5%</td>
</tr>
<tr>
<td>Collect debt from customers</td>
<td>248</td>
<td>41.3%</td>
</tr>
<tr>
<td>Check for new products</td>
<td>101</td>
<td>16.8%</td>
</tr>
<tr>
<td>Check market demand trends</td>
<td>66</td>
<td>11%</td>
</tr>
<tr>
<td>Others</td>
<td>99</td>
<td>16.6%</td>
</tr>
</tbody>
</table>

Note: Multiple responses were given and therefore amounts do not add to 100 percent
Source: Field data (2007)
US$10.10-20.00. About 16 percent spent over US$30.10 for business calls. Again, this group belongs to the category of MSE that had more formalized structures. In all, almost 30 percent of the MSE spent between US$5-10 per month. This figure is comparable to the findings of Frempong and Essegbey (2006) for which about 38 percent of the SMEs in Accra/Tema, Kumasi and Takoradi made similar expenditures for business calls.

7. Contributions of mobile telephony to business development

The mobile telephone impact model provides a framework to discuss the contributions of mobile telephones to the development of the business of the MSE. Discussion of the contribution of mobile telephones is based on the perspectives of the MSEs.

7.1 Access to market

Access to the market is discussed in the context of contact with suppliers and customers. Figure 5 provides the perspectives of MSEs on the importance of mobile telephones in linking the key actors of the market. The use of mobile telephones to contact customers and suppliers was scored “very good” by the majority of the MSE. Equally important was those who scored “good” for the same purpose.

The profile of the MSEs indicates that the majority were involved in wholesale and retail activities, repair works and provision of services. For these activities the ability to contact customers and suppliers lies at the core of the business operations. Even those involved in manufacturing still need a cost-effective way of establishing good contact with their suppliers of raw materials and customers. Consequently, in terms of access to the market, mobile telephony has become a strategic tool for linking sellers with buyers and service providers with those needing the service.

<table>
<thead>
<tr>
<th>Table IV Average monthly expenditure on business related calls (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Less than 5.00</td>
</tr>
<tr>
<td>5.10-10.00</td>
</tr>
<tr>
<td>10.10-20.00</td>
</tr>
<tr>
<td>20.10-30.00</td>
</tr>
<tr>
<td>30.10 and above</td>
</tr>
<tr>
<td>No response</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Field data (2007)

Figure 5 Respondents assessment of contact with suppliers and customers
7.2 Contribution to efficiency

Reduced cost of doing business is an integral part of an efficient system. The overwhelming majority (91 percent) of the MSEs underscored the cost-effectiveness of using mobile telephones for transactional purposes, which invariably contributes to reducing cost of doing business (Table V).

The positive assessment corroborates with the findings of Samuel et al. (2005) where spaza shop owners in Tanzania have reduced physical travel to contact suppliers or place orders by relying on their mobile telephones to perform these activities.

Although placing calls to make these contacts results in expenditures, in relative terms, it is cost-effective and further, prevents the loss of customers due to closed shops when the MSEs travel to make and take orders.

In terms of profitability, it was difficult to assess the margin of profit resulting from mobile telephone use, since obtaining income data from respondents is usually delicate. However, a qualitative assessment was carried out especially during the focus group discussion.

The majority of MSEs rated the contribution of mobile telephones to the improvement of their profits as “good”. A high number assessed such contribution as “very good” and “average” (see Figure 6). During the focus group discussion, participants were very emphatic about the contribution of the service to increased profitability of their businesses. However, a more rigorous analysis is required to ascertain this situation.

The experiences of MSEs in Egypt and South Africa buttress this point. In the survey by Samuel et al. (2005) about 60 percent of the micro entrepreneurs surveyed in each country reported that the use of mobile telephone had increased the profitability of their businesses.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>403</td>
<td>67.2</td>
</tr>
<tr>
<td>Good</td>
<td>143</td>
<td>23.8</td>
</tr>
<tr>
<td>Average</td>
<td>22</td>
<td>3.7</td>
</tr>
<tr>
<td>Poor</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Do not know</td>
<td>26</td>
<td>4.3</td>
</tr>
<tr>
<td>Total</td>
<td>600</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field data (2007)

![Graph](image)
In a study by Donner (2006), a micro operator in Rwanda estimated an increase of 30 percent in business activities that he ascribed to the use of mobile telephones.

7.3 Access to mobile telephone-based financial services

The MSE profile indicated that about 59 percent were operating bank accounts and therefore were accustomed to the operations of banks in the country. With those operating bank accounts, about 42 percent were operating savings account, 9 percent had a current account and eight percent operated both savings and current accounts.

Given the established relationship between the majority of the MSE and the financial institutions, an attempt was made to find out about their knowledge of the availability of mobile telephone based e-financial services. A large majority (70 percent) did not have any knowledge about such e-financial services and only 13 percent had some knowledge. Only a few had actually used mobile telephone based e-financial services.

Yet a number of banks are providing e-financial service based on mobile telephone platforms to enable customers to:

- check previous bank transactions;
- obtain foreign exchange rates;
- request cheque books;
- request bank statements and balances; and
- purchase mobile telephone credit.

The low patronage of mobile financial services was also evidenced in the study by Frempong and Essegbey (2006), where the uptake of such service by SMEs in Accra/Tema, Kumasi and Takoradi was found to be low. It can generally be concluded that the uptake of mobile telephone-based financial services has not yet taken root in Ghana.

8. Problems associated with use of mobile telephony for business activities

An attempt was made to catalogue and discuss problems that MSEs encountered in the use of mobile telephones for their business activities. Broadly, the problems can be categorized as supply-side and business-side problems.

8.1 Supply-side problems

The supply-side problems include cost of subscription, quality of service and cost of service. Table VI summarizes the supply-side problems enumerated by the respondents.

8.1.1 Cost of subscription. A concern raised by MSEs is the high cost of subscription including a SIM card and handset. A large number of the MSEs, especially the non-subscribers considered the cost of subscription as a hindrance to accessing mobile service.

The key issue is the cost of the handsets that the mobile telephone operators have little or no control over. With the exception of Kasapa, most of the handsets are sold by private companies and individuals who price their products based on prevailing market conditions.

<table>
<thead>
<tr>
<th>Table VI</th>
<th>Problems encountered with the use of mobile telephones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very serious</td>
</tr>
<tr>
<td>Cost of subscription</td>
<td>155</td>
</tr>
<tr>
<td>Cost of on-net calls</td>
<td>52</td>
</tr>
<tr>
<td>Cost of off-net calls</td>
<td>328</td>
</tr>
<tr>
<td>Quality of service</td>
<td>55</td>
</tr>
</tbody>
</table>

Source: Field data (2007)
and the exchange rate of the local currency. Consequently, the cost of handsets have contributed to the increased cost of access. Currently, handset prices range between US$30-400, whereas the price of SIM cards has fallen from an average of US$48 in 2004 to US$1.50-3.00 in 2008.

8.2 Call charges

Since 2004, mobile call charges have been falling generally, and significantly for on-net calls. The MTN peak on-net call charge has fallen from US$0.19 per minute in 2003 to US$0.15 in 2008, while off-net peak has also fallen from US$0.28 to US$0.16 per minute for the same period. Although off-net call charges have now fallen, in the past this was an important issue affecting inter-network communications and fuller use of mobile telephony services in the country. This explains why the majority of MSEs consider it to be a very serious problem. It has led to a situation where some users subscribe to multiple networks which makes it difficult to have an accurate picture of actual penetration levels in the country.

8.3 Quality of service

Poor quality of service was not a critical issue to the respondents. About 55 respondents (20 percent) classified quality of service issues as “very serious”, 86 as “serious”, while 109 and 105 considered it as “average” and “fairly serious” respectively (see Table VI). The rest did not have any problem with the quality of service. The “fairly good” ranking of the quality of service might be peculiar to the less urban and rural areas where the volume of traffic is not so high as to cause congestion and call drop outs among others in the networks.

During the focus group discussion, however, poor quality of service was one of the issues that came up strongly, with the participants making passionate appeals for policymakers to do something about it. It might be possible that during the focus group discussions, the participants gained better understanding about what quality of service entails and, therefore, were able to articulate their opinions more clearly on the state of the services in their localities.

8.4 Business-side problems

Business-side problems associated with the use of mobile telephony include insistence on face-to-face transactions, reliability of information acquired via mobile calls, access to telephones by customers, and problems around enforcing deals made during mobile calls. Table VII provides a summary of the business-side problems encountered by the MSEs.

It is abundantly clear that the stated business-side problems were not in any way affecting the use of mobile service. For the four indicators, a significant number of the MSE considered them as not being big problems at all. In effect, most of the MSE operators had more problems with the supply-side of the service and not the use of it in their own activities. This is an interesting phenomenon that should engage the attention of both policymakers and the service operators.

9. Emerging issues

This paper has revealed the importance of mobile telephones in the socio-economic development of the country. It has been ingrained in the economic activities even at the

<table>
<thead>
<tr>
<th>Table VII</th>
<th>Business-side problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very serious</td>
</tr>
<tr>
<td>Insistence on face to face transactions</td>
<td>15</td>
</tr>
<tr>
<td>Reliability of information</td>
<td>20</td>
</tr>
<tr>
<td>Most customers without phones</td>
<td>23</td>
</tr>
<tr>
<td>Problems in honoring deals</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: Field data (2007)
micro and small enterprise level. However, a number of issues have emerged which require further discussion so as to provide inputs for policy interventions.

9.1 Relevance of mobile telephones

There was overwhelming agreement among almost all of the MSE about the catalytic role mobile telephones play in business development. Consequently, they have made investment in the access and use of the service. The high acceptance and relevance of mobile telephones not only for social interactions but, more importantly for economic activities, provide an indication of the demand for the service and this should serve as an incentive for the mobile telephone operators to expand their coverage to the unserved areas of the country. Presently, the mobile telephone service is estimated to cover over 30 percent of the national population and there are many more potential subscribers, especially in the less urban and rural areas where the service has become a substitute for the fixed line telephones.

9.2 Cost of service

It is evident from the study that the cost of service is one of the hindrances preventing increased use of mobile telephones by MSEs. The monthly level of expenditures discussed in this paper epitomize this point. To bring in new subscribers requires the introduction of low priced services to reach the majority who are yet to come on-board, especially for those in the less urban and rural areas where poverty is pronounced.

Admittedly, there has been a gradual reduction in call charges since 2003. For MTN Ghana, call charges have decreased from US$0.19 per minute in 2003 to US$0.15 in 2008. For Tigo, from US$0.18 per minute in 2003 to US$0.13 in 2008, while One Touch declined from US$0.29 per minute to US$0.14 for the same period. Significant reductions are in the on-net tariffs, benefiting subscribers of the same network. Southwood (2006) argues that mobile operators have not got to the bottom of the price elasticity curve, therefore prices could still come down.

The introduction of the Communication Service Tax of 6 percent by the government that became operational in June 2008 will invariably increase mobile telephone tariffs as the operators will push the tax onto consumers. The import of the imposition is to increase government’s revenue to support youth employment and others development programs. The government intimated that its decision to impose the excise duty on airtime was based on its failure to adequately levy importation of mobile telephone handsets into the country. The underlying rational seems plausible but it might have a negative effect on the pricing of mobile telephone services in the country as mobile consumers are likely to bear the brunt of this levy. This might have negative implications for the MSE sector in small urban and rural areas. The policy will also negate the dynamism of the market to reduce prices in the mobile telephone segment of the ICT industry.

9.3 Mobile telephone-based financial services

Financial services based on mobile telephone platforms remain undeveloped in the country. This paper shows that only few people were aware and actually used the service. Actually, a number of banks such as CAL Bank, Zenith Bank, SGS SSB, among others, have operationalised this facility in their banking services.

The uptake of the service is low even in the commercial and metropolitan areas of the country. However, the experience of Philippines, Tanzania, Kenya and South Africa in using mobile telephone platforms for e-financial services is instructive for the Ghanaian financial institutions.

In the Philippines, some rural banks are involved in mobile phone money transfers, and the same can be done in Ghana where banks exist in almost every district of the country. The conducive and favorable macro-economic environment, coupled with the liberalization of the financial sector, should spur the introduction of similar to facilitate economic activities.
In some cases, mobile banking is targeted at those outside the traditional banking circles and tries to extend financial services to the doorsteps of people who shy away from the traditional banks. In South Africa, WIZZIT, a mobile banking provider, is providing access to banking facilities to about 16 million low income South Africans who do not have bank accounts. From the WIZZIT service, subscribers can check their transfer funds, purchase airtime and pay utility bills.

What is absent and urgently needed in Ghana is a comprehensive regulatory regime to govern electronic transactions. It is, therefore, of utmost importance for the Ministry of Communication to expedite actions to get the Ghana Electronic Transactions Bill promulgated into law by Parliament to boost electronic transactions. The Bill has been in existence since early 2006.

9.4 Quality of service and other issues

The survey results show that respondents had fewer problems with mobile telephone as an enabler of economic activities than with the service itself – problems of quality of service. Quality of service and tariffs were some of the critical issues raised by the respondents in the focus groups. Indeed what emerged strongly was the need for mobile telephone companies to improve on service delivery. Focus group participants cited many cases of service instability (poor reception, call drops) and irregularities (including unexplained deduction of credits, especially during credit transfer). This points clearly to the need for effective regulation to ensure that mobile telephone companies comply with their license obligations.

The recent National Communications Authority’s (NCA) ultimatum and in fact the call on MTN Ghana and One Touch to stop the sale of their SIM cards and improve upon the quality of their service is a step in the right direction (though a belated action). It is a positive signal to check and ensure sanity in the market to enable consumers enjoy good quality of service, and indicates the reinvigoration of the NCA to live up to its regulatory functions.

To ensure improvements in the mobile services, it is important that the companies put in place self-regulatory mechanisms. One of the ways of doing this is to establish an effective feedback system which enables them to have forward and backward linkages with their customers so as to collate the perspectives of the customers on their services.

10. Conclusion

Literature on mobile telephony and the impact framework give credence to the importance of the technology in bolstering socio-economic development activities. The contributions of the mobile telephone technology to the businesses of MSE have been illustrated in this paper and add to the emerging empirical evidence about the catalytic role. The majority of respondents in this study were positive about the impact of mobile telephony on their businesses. What is urgently required is the development of innovative services to meet the changing needs of the people, especially the businesses. Many countries have experiences that Ghana can emulate to enable fuller exploitation of the technology. Finally, cost of usage is a tricky issue and government policy should endeavor to stimulate price reductions to increase access and use of the service.

Notes

1. The term less urban refers to towns besides the country’s main cities and major towns (regional capitals). In these areas, economic activities are not as brisk as in the cities and regional capitals.

2. The government policy for micro and small business has been in draft form since 2002. It is hoped that the policy will be finalized soon to enable the actualization of the evolved strategies to develop MSE sector.

3. See www.is4profit.com/business-advice/it-telecoms/mobile-phones-for-small-businesses.html
References


About the author

Godfred Frempong is a research scientist of the Science and Technology Policy Research Institute of the Council for Scientific and Industrial Research. He holds a Master of Social Sciences in Science Policy from University of Lund, Sweden and a PhD in Sociology from the University of Ghana. He has been involved in policy research for the past 21 years and has extensively written about telecommunications and ICT development in Ghana and other related sectors. He is a member of the Research ICT Africa Network, where has participated in almost all of the network’s annual research cycles. The author is also a member of the African Technology Policy Studies Network. Godfred Frempong can be contacted at: goddie58@yahoo.com