

*Full Length Research Paper*

# The role of information communication technology (ICT) small and medium enterprises (SMEs) in job creation in Kampala, Uganda

Sonny Nyeko, Edward Kabaale, Musa Moya, Christine Amulen and Geoffrey Mayoka Kituyi\*

Accepted 7 November, 2013

This study examined the role of information communication technology (ICT) small and medium enterprises (SMEs) toward job creation in Kampala Uganda through a quantitative survey research design. The study mainly centered on the jobs created by small and medium size enterprises that provided ICT service and/or ICT based products. Primary data were collected using a pretested questionnaire and analyzed using descriptive statistics. Findings indicate that airtime retailing, phone repair and mobile money created most of the jobs (34, 19 and 17% respectively). Majority of ICT SMEs (73%) employed 1-5 people and most jobs created were for Technicians (40%) and Sales representatives (35%) while very few of the jobs were in software development (2%). The findings further indicate that 75% of the jobs created were in lower level of the management hierarchy while only 8% were top level jobs. In terms of salary, most employees of ICT SMEs in Kampala earned Ush.100,000- Ush.200,000 a month (43%), while only 5% earned Ush.1M and above.

**Key words:** Information communication technology (ICT), small and medium enterprises (SMEs), job creation, Uganda, employment, entrepreneurship.

## INTRODUCTION

The latest developments in area of Information Communication Technology (ICT) have resulted into information societies that are attracting investments in ICTs and creating jobs globally (Gurumurthy, 2004). Not quite long, ICTs did not contribute much toward national growth; however, today ICTs are a key driver for most economies, Uganda inclusive (Ssewanyana and Busler, 2007). The advent of telecommunications and mobile telephony in Uganda in the late 1990s is considered to have ushered in most of the technological achievements that the nation boasts of now. In fact it is believed that most of the jobs in the services sector in Uganda are created by ICTs with about 40% being contributed by telecommunications sub-sector alone.

The employment problem in Uganda is awful; with majority of the population being semi and/or unskilled, it is hard for them to find jobs. Owing to this, the Uganda Bureau of Statistics estimates that 70% of Ugandans are

engaged in subsistence agricultural activities. The highest unemployment rate (61%) is amongst the youth between 18 and 30 years. Most of these have attained basic primary and secondary education (70%). This scenario is largely attributed to low levels of industrialization in the economy where the manufacturing sector provides only 4.2% of the total jobs in the economy. The services sector on the other hand contributes 20% of the total jobs with most of them (400,000) coming from the telecommunications sector. The main factor for the lack of jobs is the lack of appropriate sectors that can boost the labour market and at the same time provide self employment. The potential benefits of information and communication technologies (ICTs) to small- and medium-sized enterprises (SMEs) are well known. ICTs enhance SME efficiency, reduce costs, and broaden market reach, both locally and globally. Since the SME sector plays a major role in



Department of Business Computing,  
Makerere University Business School,  
Kampala, Uganda.

\*Corresponding author. E-mail:  
kimayoka@gmail.com

**Abbreviations:** ICT, Information communication technology; SMEs, small and medium enterprises.

national economies, these benefits to individual SMEs collectively translate into positive results in the form of job creation, revenue generation and overall country competitiveness (UNDP, 2007). Africa has been hard hit with poverty and disease and this has had an immense effect on the quality of social, cultural and political lives of the people. This has made development to move at a very slow pace in the last decades. But the presence of ICT has somewhat carved out an alternative path to development (Langmia, 2005).

Although some scholars argue that technology offers only technical benefits to economies, there is evidence that ICTs have tremendous social benefits such as job creation (Gurumurthy, 2004). Consequently, the role of Ugandan ICT SMEs in providing jobs and self employment cannot be underestimated. The telecommunications industry in Uganda for example has created up to 400,000 jobs, both directly and indirectly (Bekunda, 2008). Most people, mainly the youth have embraced this technological opportunities and started businesses to employ themselves and their families just by buying and re-selling ICT products and/or repairing/servicing them. The studies analyzing the role of SMEs in employment growth are relatively rare in developing countries, and yet at the same time, demand for reliable, relevant and internationally comparable data on SMEs has been rising.

### Statement of the problem

One of the most important functions small and medium-sized enterprises (SMEs) perform in the economy is their ability to create new jobs (Stawasz, 2000). The ICT sector in Uganda, though relatively young compared to other sectors has made a reasonable contribution to employment. The Uganda Bureau of Statistics has documented the contribution of the ICT sector, especially the telecommunications industry in the formal sector. The informal jobs created by the ICT sector have been largely ignored. While the contributions of scholars in the field of ICT based SMEs in bringing about change in the lives of people in Africa and in South Africa in particular has been discussed and analyzed, the scholars have not looked at the Ugandan SME case, particularly in regard to job creation by the ICT retail sector (Langmia, 2005). Bertrand and Kramarz (2002) argue that retail businesses contribute significantly to job creation. In this day and age, the role of technology in improving the lives of people cannot be underestimated. The demand for reliable, relevant and internationally comparable data on SMEs is on the rise, and statistical offices have started to expand their collection and publication of data (OECD, 2007). Most people, including minorities, more than ever before are now buying goods and services online, sending messages across the globe to loved ones,

sending emails to donor agencies for support and receiving instant replies. All these activities create jobs for locals (Ebeling, 2003). Previous studies mainly focused on the role of SMEs in job creation in advanced industrial countries (Myung and Yongkyun, 2008). The researcher therefore sought to carry out a survey and ascertain the contribution of ICTs to the labor market in terms of creating jobs in Kampala, Uganda. This was an initial exploratory study accomplished through a simple survey.

### Objectives of the study

This research was guided by the following objectives:

1. To identify and analyze the ICT SMEs that created jobs in Kampala, Uganda.
2. To examine the investment climate for ICT SMEs in Kampala, Uganda.
3. To determine the ways through which ICT SME investments could be improved, thereby creating jobs in Kampala, Uganda.

### RESEARCH DESIGN

The researchers used a survey research design whereby a number of ICT SMEs were surveyed. The results from the survey were descriptively and quantitatively analyzed. The main type of data used was primarily collected from respondents in Kampala city. Some inferences however were based on secondary data in literature review that was gathered from the internet and public libraries. The target population covered a total of 30 ICT SME businesses in Kampala, from all the 5 City Council administrative Divisions. Six businesses were purposively selected from each division based on size, number of employees and nature of business; that is, family, group or personal business. The 30 organizations were then divided into three categories, ten in each; (1) Category A with over 50 employees, (2) Category B with between 20 to 49 employees, and (3) Category C with employees less than 20. A total of 12 respondents were picked randomly from category A, 5 from category B and 3 from category C using simple random technique to fill-in the questionnaire. The researchers targeted a study population of 200 respondents from the 30 selected ICT businesses. Table 1 shows the sample design breakdown for this study. The sample is in line with Roscoe's (1975) rule of thumb that sample size between 30 and 500 is adequate for this kind of study. A response rate of 87% was registered implying that 174 questionnaires were filled in and returned for analysis. Questionnaires were the main data collection instrument. Questionnaires were sent to proprietors of ICT retail

**Table 1.** Sample design breakdown

Category	Number of respondents	Sampling method
A	12*10=120	Simple random
B	5*10=50	
C	3*10=30	
<b>Total</b>	<b>200</b>	

**Table 2.** Questionnaire pre-test results.

Variable	N of items	Anchor	Cronbach Alpha coefficient	Content validity index
Investment climate for SMEs	7	5	0.722	0.681
ICT and job creation	7	5	0.701	0.612
Factors affecting the growth of ICT in Uganda	7	5	0.723	0.651

**Table 3.** Gender.

Gender	N	%
Female	71	42.5
Male	96	57.5
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

**Table 4.** Age.

Age	N	%
18-25	25	15.0
26-30	105	62.9
31-35	27	16.2
36-40	8	4.8
41 and above	2	1.2
<b>Total</b>	<b>167</b>	<b>100</b>

businesses of each organization in the study. Content validity index was used to test for validity of the questionnaire and Cronbach Alpha Coefficient was used to test for reliability as seen in Table 2.

## RESULTS

Results in Table 2 show Cronbach Alpha Coefficient greater than 0.7 and content validity index greater than 0.6. These results indicate that the questionnaire was both reliable and valid (Krishnaveni and Deepa, 2011; Carcary, 2008; Saha, 2008).

### Sample characteristics

#### *Gender of respondents*

Descriptive statistics were used to determine the gender of respondents as seen in Table 3. Results in Table 3 indicate that majority of the respondents were male (frequency=96). Female respondents were 71.

#### *Age of respondents*

Descriptive statistics were also used to determine the age bracket of respondents as shown in Table 4. Results in Table 4 show that most respondents were aged 20-30 years (frequency=105). This was followed by age bracket 31-35 which had contributed 27 respondents while 18-25 had 25 respondents. 8 respondents were aged 36-40 while only 2 respondents were aged 41 years and above.

#### *Marital status of respondents*

Descriptive statistics were used to determine the marital status of respondents as shown in Table 5. Results in Table 5 indicate that most respondents were single (frequency=78). 64 respondents were cohabiting while 20 were married. 5 respondents were divorced or separated. No respondents were widowed.

#### *Academic qualification*

Descriptive statistics were used to determine the academic qualifications of respondents as shown in Table 6. Results in Table 6 indicate that the majority of

**Table 5.** Marital status.

Marital status	N	%
Married	20	12.0
Single	78	46.7
Divorced/Separated	5	3.0
Widow	0	0.0
Cohabiting	64	38.3
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

**Table 6.** Qualification.

Qualification	N	%
Certificate	18	10.8
Diploma	88	52.7
Degree	59	35.3
Masters degree	2	1.2
PHD	0	0.0
Others (please specify)	0	0.0
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

**Table 7.** Experience.

Experience	N	%
1-3 years	79	47.3
4-6years	55	32.9
7-9years	30	18.0
10 years and above	3	1.8
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

respondents were diploma holders (frequency=88). Degree holders were 59 (35.3%) and certificate holders were 18. Only 2 had master's degree and 0 had PhD. This shows that the respondents understood and comprehended the research instrument.

### **Work experience of respondents**

Descriptive statistics were used to determine the work experience of respondents as shown in Table 7. Results in Table 7 indicate that 79 respondents had work experience of 1-3 years, 55 had experience of 4-6 years while 30 respondents had worked for a period of 7-9 years. Only 3 respondents had worked for 10 years and above.

**Table 8.** Mode of employment.

Mode of employment	N	%
Self employed	84	50.3
Working for another person/company	18	10.8
Business person	65	38.9
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

**Table 9.** Type of business.

Type of business	N	%
Airtime wholesale	8	4.8
Airtime retail	56	33.5
Sell mobile phones	16	9.6
Phone repair	32	19.2
Mobile money	29	17.4
Internet Service Provider	3	1.8
Internet Café	15	9.0
Secretarial be aural	8	4.8
Others (Please specify)	0	0.0
<b>Total</b>	<b>167</b>	<b>100.0</b>

Source: Primary data.

## **ICT and employment**

### **Mode of employment**

Descriptive statistics were used to determine the mode of employment of respondents as shown in Table 8. Results in Table 8 show that majority of the respondents were self employed (frequency=84). 65 respondents were doing business, while 18 respondents were working for another person or company.

### **Type of business**

Descriptive statistics were used to determine the type of business respondents SMEs were doing as shown in Table 9. Results in Table 9 show that majority of the respondents were in airtime retailing business (frequency=56). 32 respondents were in phone repair business while 29 were dealing with mobile money. A total of 16 respondents were selling mobile phones while 15 were working in internet cafes. 8 respondents were into airtime wholesale and secretarial be aural businesses respectively. Only 3 respondents were working with internet service providers.

### **Number of employees**

Descriptive statistics were also used to determine the number of people employed by SMEs where respondents

**Table 10.** Number of employees.

Number of employees	N	%
1-5 employees	122	73.1
6-10 employees	23	13.8
10-20 employees	8	4.8
21-50 employees	5	3.0
50-100 employees	7	4.2
100 and above employees	2	1.2
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

**Table 11.** Job category.

Job title	N	%
Technician	66	39.5
Accountant	12	7.2
Sales	58	34.7
Administrator	12	7.2
Software developer	4	2.4
Consultant	6	3.6
Other	9	5.4
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

worked as shown in Table 10. Results in Table 10 show that most SMEs had 1-5 employees (frequency=122). Some 23 respondents came from SMEs that employed 6-10 people, while 8 indicated that their SMEs employed 10-20 people. A total of 5 respondents indicated that their SMEs employed 21-50 people, while 7 and 2 respondents indicated that they employed 50-100 people and above 100 people respectively.

### **Job category**

Descriptive statistics were also used to determine the type of jobs provided by ICT SMEs as shown in Table 11. Results in Table 11 indicate that most jobs provided by ICT SMEs are technical (frequency=66) and sales (frequency=58). Accounts and administration contributed 7.2%, while software development and consultancy contributed 4 and 6 respondents, respectively. Other category contributed 9 respondents.

### **Level in management hierarchy**

Descriptive statistics were also used to determine the level in management hierarchy of the ICT SMEs in which respondents were as shown in Table 12. Results in Table 12 show that most respondents were employed at the lower level of management hierarchy

**Table 12.** Level.

Level	N	%
Top level	14	8.4
Middle level	27	16.2
Lower level	126	75.4
<b>Total</b>	<b>167</b>	<b>100</b>

Source: Primary data.

**Table 13.** Income.

Income	N	%
Below 100,000	8	4.8
100,000-200,000	72	43.1
200,000-500,000	53	31.7
500,000-1,000,000	26	15.6
1,000,000 and above	8	4.8
<b>Total</b>	<b>167</b>	<b>100.0</b>

Source: Primary data.

**Table 14.** Investment policies.

Response	N	%
Yes	25	15.0
No	142	85.0
<b>Total</b>	<b>167</b>	<b>100.0</b>

Source: Primary data.

(frequency=126). Only 27 and 14 respondents were employed at middle and top level respectively.

### **Net income**

Descriptive statistics were also used to determine the net monthly income of respondents as shown in Table 13. Results in Table 13 show that most respondents were earning a net of Ush.100,000-Ush.200,000 monthly (frequency=72). This was followed by respondents who earned Ush.200,000-Ush.500,000 (freq=53) and Ush.500,000-Ush.1M (frequency=26). Respondents who earned less than Ush.100,000 equaled with those who earned a net income greater than USh.1M (frequency=8).

### **Investment climate for SMEs**

#### **Investment policies**

The respondents were asked to indicate if the prevailing policies favored ICT SMEs in Uganda as shown in Table 14. Results in Table 14 show that majority of the respondents indicated that the prevailing policies did not

**Table 15.** Factors affecting growth of ICT SMEs.

Factor	N	Min	Max	Mean	Standard deviation
Lack of innovation	167	1	5	4.75	0.654
Existence of cheap alternatives from abroad	167	1	5	4.77	0.678
Over taxation	167	2	5	4.42	0.641
High illiteracy rates that affect demand for ICT products	167	1	5	4.43	0.692
Lack of relevant skills	167	1	5	4.45	0.605
Limited capital	167	1	5	4.55	0.648
Prohibitive interest rates	167	1	5	4.45	0.671
Valid N (listwise)	167				

Source: Primary data.

**Table 16.** Suggestions for improved investments in ICT.

Suggestion	N	Min	Max	Mean	Standard deviation
Government should offer Tax holidays, waivers and, or exemptions	167	1	5	4.44	0.672
Government should provide subsidies	167	1	5	4.45	0.658
Government should provide Security	167	2	5	4.52	0.631
Government should provide Investment advisors	167	1	5	4.62	0.655
Government should give investment grants to entrepreneurs	167	1	5	4.71	0.643
Government should give investment loans to entrepreneurs	167	1	5	4.23	0.665
Government should give free land to entrepreneurs	167	1	5	2.21	1.023
Valid N (listwise)	167				

Source: Primary data.

**Table 17.** ICT and job creation.

Response	N	%
Yes	162	97.0
No	5	3.0
<b>Total</b>	<b>167</b>	<b>100.0</b>

Source: Primary data.

favor ICT SMEs in Uganda (142). Only 25 respondents indicated that the policies favored ICT SMEs in Uganda.

### **Factors affect the growth of ICT SMEs in Uganda**

The respondents were also asked about factors affecting the growth of ICT SMEs in Uganda. Using a 5 point Likert scale where 1=strongly disagree, 2=disagree, 3= neutral, 4=agree and 5=strongly agree; the results were generated and analyzed using means as shown in Table 15. Results in Table 15 show that respondents strongly agreed that the factors affecting the growth of ICT SMEs in Uganda were; existence of cheap alternatives from abroad (Mean=4.77), lack of innovation (Mean=4.75), limited capital (Mean=4.55), prohibitive interest rates (4.55), lack of relevant skills (Mean=4.55), high illiteracy

rates that affect demand for ICT products (Mean=4.43) and over taxation (Mean=4.42).

### **Suggestions for improving ICT SME investments in Uganda**

Respondents were asked to suggest the possible ways through which ICT SMEs investment climate in Uganda would be improved. Using a 5 point Likert scale where 1=strongly disagree, 2=disagree, 3= neutral, 4=agree and 5=strongly agree; the results were generated and analyzed using means as shown in Table 16. Results in Table 16 indicate that respondents strongly agreed that government should; give investment grants to entrepreneurs (Mean=4.71), provide Investment advisors (Mean=4.62), provide security (Mean=4.52), provide subsidies (Mean=4.45), offer tax holidays, waivers and/or exemptions (Mean=4.44) and that government should give investment loans to entrepreneurs (Mean=4.23). The respondents however disagreed that government should give free land to entrepreneurs (Mean=2.21).

### **ICT and job creation**

The respondents were asked if ICT had the potential to create jobs in Uganda as shown in Table 17. Results in

**Table 18.** Suggestions for improved investments in ICT.

Suggestion	N	Min	Max	Mean	Standard deviation
Government should encourage SMEs to employ Ugandans	167	1	5	4.64	0.701
Government provide benefits for employing locals	167	1	5	4.47	0.623
SMEs should be innovative to increase productivity. This will create jobs	167	2	5	4.72	0.601
Government should provide payroll subsidies for SMEs employing locals	167	1	5	4.61	0.604
Government should waive payroll tax on new SMEs	167	1	5	4.78	0.682
Government should waive payroll tax on SMEs going through financial distress.	167	1	5	4.42	0.671
Valid N (listwise)	167				

Source: Primary data.

Table 17 show that majority of the respondents indicated that ICT has potential to create job in Uganda (162). Only 5 respondents indicated otherwise.

### ***How ICTs can be used to create jobs in Uganda***

Respondents were asked to suggest the possible ways through which ICTs can be used to create jobs in Uganda. Using a 5 point Likert scale where 1=strongly disagree, 2=disagree, 3= neutral, 4=agree and 5=strongly agree; the results were generated and analyzed using means as shown in Table 18. Results in Table 18 indicate that respondents strongly agreed that government should waive payroll tax on new SMEs (Mean=4.78) and also that SMEs should be innovative to increase productivity (Mean=4.72). The respondents also strongly agreed that government should encourage SMEs to employ Ugandans (Mean=4.64), provided payroll subsidies for SMEs employing locals (4.61), provide benefits for employing locals (Mean=4.47) and also that government should waive payroll tax on SMEs going through financial distress (Mean=4.42).

## **DISCUSSION OF FINDINGS**

The findings revealed that ICT businesses provided jobs for people mainly in the age bracket 20-30 years. Most of these were single males with diplomas as their highest academic qualifications. Many of these had worked for a period of 1-3 years in self employment. Findings also revealed that most ICT businesses were in airtime retailing and phone repair. The businesses employed between 1 and 5 people, many of whom are technicians and sales persons. It is important to note that most jobs created by ICT SMEs were operational in the management hierarchy, with a net monthly income of Ush.100,000-Ush.200,000. These findings re-affirm previous studies which suggested that ICTs provided jobs mainly for the youth at operational levels (UNDP, 2007;

Gurumurthy, 2004; Bekunda, 2008; Stawasz, 2000).

Another important finding was that the prevailing policies did not favor ICT SMEs in Uganda. Findings further revealed that the existence of cheap alternatives from foreign countries especially china was a big challenge for local ICT SME since they lacked innovation and had limited capital. Prohibitive interest rates, lack of skills, illiteracy and taxation also affected the growth of ICT SMEs thereby making it difficult to create jobs. These findings are in line with literature (ITU, 2009; Gerster Consulting, 2008; OCED, 2007; ILO, 2007).

For improved job creation in ICT SMEs, the finding revealed that government should give investment grants to entrepreneurs, provide investment advisors, security, subsidies and tax holidays for young entrepreneurs. Given these, ICT SMEs will maximize its potential to create job in Uganda (UNDP, 2007; ITU, 2007; Langmia, 2005; Stawasz, 2000).

## **Conclusion and Recommendations**

This study has identified and reaffirmed the need to encourage innovation in ICTs as key growth factors that will usher in more jobs. The study recommends that government should regulate importation of ICT products, reduce taxes on new ICT SMEs in order to encourage investment in the sector, improve access to credit by ICT entrepreneurs since majority of them are young people with limited capital and properties that would act as collateral for securing credit from commercial banks. Finally, this study recommends that initiatives be undertaken to promote other forms of ICT; for example, software development that will bring in higher yields other than relying on conventional ICT products that yield little, especially with dynamic changes in technology.

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