Journal of Economic Theory 3 (4): 57-62, 2009
ISSN: 1994-8212

The Influence of the Deregulated Telecommunication Sector on Urban Employment Generation in Nigeria

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Abstract: The study examined employment generation through the deregulated telecommunication sector. The study which was conducted in Lagos metropolis among other things considered the socio-economic characteristic of GSM operators, the profitability and efficiency of GSM operations and the influence of some selected macro economic variables on income generated from the business. Data was sourced from both secondary and primary sources. Information was elicited from 80 respondents randomly selected from Mushin and Oshodi-Isolo within Lagos. The data collected was analysed with the aid of descriptive statistics, Gross margin and Net return analysis and multiple regression analysis. Findings show that majority of operators were educated youth with a mean age of about 29 years. Moreover, about 71.3% of total respondents were jobless before the inception of the GSM business. This shows that deregulation has actually reduced youth unemployment in the study area. Study also showed that GSM operation was profitable both in the short and long runs in the study area with N73,452, 36,627 and 86,105 as the mean gross margin, net returns and income, respectively. However, the return to scale analysis shows that operation is still in stage I of the production surface. Nevertheless, the factor inputs except education were efficiently allocated. The regression analysis shows that year of experience, cost of operation, amount of loans obtained and manday are significant factors in the GSM business. The study recommends an expansion in the scale of operation by the operators and greater access to credit and greater encouragement to uneducated unemployed youth by the government. The government should also persuade service providers to improve in their services and to also reduce service costs for operators.

Key words: GSM operators, macro economics, unemployment, micro economics, telecommunication sector, GSM business, Nigeria

INTRODUCTION

In recent times, the opportunity to earn a living has turned out to be quite elusive to a growing number of people in the Less Developed Countries (LDC). Unfortunately this seems to be mostly prominent in urban areas in Nigeria. Several years back, unemployment was rarely anything to be reckoned with in traditional Nigeria where tending of crops, herding of goats, fishing, among others were major occupation/obligations. According a report by ILO (1982), the problems then were wars, cattle raids, famine, diseases and poverty.

However, the tide turned the negative direction as far back as the early 1980s when many countries of the world were hit by economic recession. Since then, unemployment has assumed alarming and disturbing diamensions in Nigeria with millions of able bodied persons who are willing to accept jobs at the prevailing rates yet unable to find one (Onah, 2001). The most disturbing part of the nature of unemployment in Nigeria is that it is very high among young school leavers and graduates from Universities, Polytechnics and Colleges of Education. This amounts to colossal wastage of economically active proportion of the Nation's labour force. The negative effects of unemployment on the Nigerian cannot be over emphasized. It results in non-utilisation of resources leading to low productivity. It is also a major cause of rural-urban drift which has led to congestion problems in the urban centres with its attendant problems such as urban unemployment, destitution and high rate of criminal activities like armed robbery, ritual murders, increased rate of child abandoning and advanced fee fraud.

Moreover, unemployment generates unbalanced mental state which often results into frustration, suicides, alcoholism, drug abuse, thuggery and the likes. In the light of the above, the Nigerian governments have made several attempts to solve this social menace. An example is the National Directorate of Employment with its various components which include National Youth Employment

and Vocational Skill Development Programmes, Small-Scale Industries and Graduate Employment Programme, the agricultural sector employment programme and the special public works. Others include the Agricultural Development Programme (ADP) and the Accelerated Development Area (ADA), River Basin Development Authorities and National Economic Empowerment and Development Strategy (NEEDs).

Despite these efforts, the problem of unemployment has remained largely unabated. However, some levels of respite came with the deregulation of the telecommunication sector. As a matter of fact, the introduction of the Global System of Mobile Communication (GSM) completely changed the tempo of the Nigerian business environment in that many employment outlets for small and medium enterprises were created. This study is designed to examine the influence of the GSM business on unemployment, the profitability of the GSM business and the influence of respondents' selected socio-economic variables on the GSM business.

Literature review: Unemployment has been described as one of the most widely feared concept in micro economics. This is because it has persistently defiled almost all public policies to stem its increase in most countries. Different researchers have attempted the definition of unemployment. Everyman Dictionary of Economics defined it as the involuntary idleness of a person willing to research at the prevailing wage rate but unable to find it. In the same vein, the International Labour Organisation (ILO, 1982) defined the unemployed workers as those who are currently not working but are willing and able to work for pay currently available to research and have actively searched for work.

The Eurostat on the other hand defined the unemployed as those persons between age 15-74 years who are not working have looked for work in the last 4 weeks and ready to start work within two weeks, which conform to ILO standards. According to Paul Samuelson, the unemployed are those without jobs looking for work. Summarily, unemployment is a situation in which people who are willing and able to research but can not find any gainful employment. One noticeable fact about these definitions is that unemployment only relates to those within the labour force. Others such as involuntary retirees who are still strong and the physically challenged are not considered.

Unemployment could be of various types depending on the causes. According to Malinvalud (1977), the type of unemployment depends on the situation at the goods market. If the goods market is a buyers market i.e., sales restricted by demand, then Keynesian unemployment occurs. On the other hand, if sales is limited by supply then classical unemployment occurs. Given this background, the following types of unemployment exists.

Frictional unemployment: This occurs when a worker moves from one job to another, while he searches for job, he is experiencing frictional unemployment. Frictional unemployment occurs because of lack of information on where jobs are available.

Classical unemployment: This occurs when real wages for a job are set above the market level. This may be as a result of government intervention in form of minimum wages or labour unions agitation for increases in wages. Also according to Murrary, it may be due to social taboos that prevent wages from falling to the market clearing level.

Structural unemployment: Structural unemployment is caused by mismatch between jobs offered and potential workers. This could be caused by reasons such as geographical location, skills and technological advancement.

Cyclical or keynesian unemployment: This is a type of unemployment caused by deficiency in demand. It is caused by a business cycle recession.

Seasonal unemployment: This is a type of unemployment that occurs when a skill or occupation is not in demand at certain seasons.

In most Less Developed Countries, the high rate of unemployment has been the result of structural imbalance which makes it difficult to match the demand for employment with supply especially in the urban modern sector. In Nigeria, the problem of high urban unemployment dated back to the 1960s when urban unemployment ranged between 10-18%. According to FOS records, the early 1970s witnessed urban unemployment rate of 0.4 and 19.3% for Sokoto and Lagos metropolis, while it ranged between 10-13% for cities such as Ibadan, Benin, Enugu, Port-Harcourt and Calabar.
However by the turn of the 80s, there was an upsurge in the rate of unemployment especially among young school leaves who out of the quest for white collar job thronged the urban cities. Presently Nigeria is witnessing graduate and youth unemployment. According to Adebayo (1999), this covers what can be referred to as school leavers unemployment (among people with primary and secondary education) and educated unemployment which is found among graduates of tertiary institutions. This high unemployment among youth is a terrible threat to

sustainable development. According to Adebayo (1999), unemployment could be caused by factors that are related to supply or demand in the labour market. The supply factors include growth in urban labour force arising from rural-urban migration, rapid population growth rate, inadequate school curriculum and lack of employable skills.

On the demand side, the most important factor is the low level of aggregate demand arising from low income, low investment and low productivity. Since the demand for labour is a derived demand, a decrease in the demand for the goods and services produced by labour will definitely result into unemployment. Anyawu (1996), Englama (2001) and Otaki (2003) identified the structural adjustment programme, negative International Trade Policies, misguided monetary and fiscal policies and faulty plans of the government as the crucial factors behind unemployment in Nigeria.

MATERIALS AND METHODS

The study area: The city of Lagos includes the Federal Territory of Lagos (Lagos, Island, Ikoyi, Victoria Island, Ebute Meta, Yaba, Surulere and Apapa) and part of the former Western region (Somolu, Ikeja, Ilupeju, Mushin and Agege). The city lies on low land with about 17,500 ha of built-up area. The environment is characterized with coastal wetlands, Sandy barrier Islands, beaches low lying tidal flats and estuaries. The average temperature in Lagos is about 27°C with an average annual rainfall of 1532 mm.

The city of Lagos takes about 37% of the total land area of Lagos State and houses about 90% of its population. Lagos, though no more the Federal capital is the centre of Nigerian industrial, commercial and financial activities. According to United Nations' report in 1995, Lagos house, 60, 90 and 80% of the nation's industrial and commercial establishments, foreign trade and imports, respectively. The major occupation of the people includes fishing and farming. The secondary occupation includes transport services, petit trading and handicraft.

Data collection: Data for the study was derived from both primary and secondary sources. Primary data was obtained with the aid of well structured questionnaires administered on operators of GSM business. Secondary data was obtained from learned journals, textbooks, Central Bank Publications and the internet. Data collected were ages of operators measured in years, income measured in naira, educational status measured by the number of years spent in schools and years of experience among others. Multi-stage sampling method was employed in selecting 80 operators of GSM business. Out of the 20 local government areas, two were selected i.e., Oshodi-Isolo and Mushin Local Government Area. Furthermore, four towns namely Isolo, Mafoluku, Olosha and Plam Avenue were randomly selected from the study area. Twenty respondents were selected from each town.

Method of data analysis: Descriptive and quantitative methods were used to analyse the data collected. The descriptive method includes the use of frequency tables, percentages, means and mode. The quantitative methods used were Gross margin and Net Returns analysis and multiple regression analysis to evaluate the influence of respondents' socio-economic variables on GSM business. The t-statistic, standard error and standard deviation were used to ascertain the statistical significance of the variables in the specified model.

Model specification

Gross margin and net returns analysis:

$$GM = TR = TVC \quad (1)$$

$$NR = TR - TC \quad (2)$$

Where:

GM = Gross Margin
NR = Net Returns
TR = Total Revenue
TC = Total Cost
TVC = Total Variable Cost

$$Y = \beta_0 + \beta_1 \text{Log}X_1 + \beta_0 \text{Log}X_2 + \beta_3 \text{Log}X_3 + \beta_0 \text{Log}X_4 + \beta_5 \text{Log}X_5 + \beta_6 \text{Log}X_6 + u \quad (3)$$

Where:

X_1-X_6 = Age, level of education, years of experience, cost of establishment, amount of loans obtained and manday
β_1-β_6 = Parameters to be estimated
U = Error term

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

Age: Results shown in Table 1 shows that 38.6% of total respondents was within age bracket 25-29 years. Study shows that most operators of GSM business in the study area are youth below age 40 years which is about 93.6%. The mean age was about 29 years. This is an indication that the introduction of GSM business has in no small

Table 1: Age distribution of respondents

Age brackets (years)	Frequency	Percentage
<20	1	1.25
20-24	15	18.75
25-29	31	38.75
30-34	21	26.25
35-39	7	8.75
40 and above	5	6.25
Total	80	100.00

Table 2: Occupational distribution of respondents

Occupation	Frequency	Percentage
Farming	2	2.50
Civil service	21	26.25
Unemployed	57	71.25
Total	80	100.00

Table 3: Educational status of respondents

Educational status	Frequency	Percentage
No formal education	1	1.25
Primary education	4	5.00
Secondary education	15	18.75
OND/NCE	32	40.00
HND/B.SC.	28	35.00
Total	80	100.00

Table 4: Areas of GSM operation

Area of operation	Frequency	Percentage
Phone call only	33	41.25
Phone call and sale of accessories	33	41.25
Phone repair	7	8.75
All of the above	7	8.75
Total	80	100.00

way helped to reduce urban youth unemployment. This could further be buttressed by the occupational distribution shown in Table 2, where about 71% of total respondents had no job before the introduction of GSM business.

Educational status: Results show in Table 3 that 75% of total respondents had more than secondary school education. This shows that the level of literacy among operators in the study area is very high. This could afford efficient management of the business, all things being equal.

Area of GSM operation: The various areas of GSM business in the study areas are phone calls only sale of GSM accessories and phone repairs. Findings show that 41.3% of total respondents were engaged in phone calls only, while 41.3% combined phone calls and the sale of phone accessories. On the other hand, 8.7% engaged in only phone repairs, while 8.7% combined phone calls, sale of accessories and phone repairs (Table 4).

Sources of loans: The major source of finance was personal savings i.e., self finance as reported by 28.8% of total respondents. However, 23.8 had access to microcredit, while 17.4, 20 and 10% sourced their finance from cooperative societies, friends and relatives and formal financial institution, respectively. This implies that 90% of total respondents sourced for finance outside the formal financial markets (Table 5).

Table 5: Distribution of respondents by sources of finance

Sources of finance	Frequency	Percentage
Formal financial institution	8	10.00
Micro-credit	19	23.75
Cooperative society	14	17.50
Friends/relatives	16	20.00
Self finance	23	28.75
Total	80	100.00

Table 6: Gross margin and net returns

Variables	Mean	SD	Minimum	Maximum
	----------(N)----------			
TR	83,905.00	39,591.200	24,000.00	190,000.00
TFC	36,837.50	29,555.700	5,000.00	138,000.00
TC	47,278.00	31,753.900	10,000.00	152,600.00
TVC	10,453.00	6,015.670	2,000.00	25,000.00
GM	73,452.00	35,985.000	20,000.00	173,600.00
NR	36,627.00	21,528.700	3,800.00	112,200.00

Table 7: Descriptive statistics

Variables	Mean	SE	N
Income (N)	86,105.00	46.698	80
Age (years)	28.88	5.660	80
Years of experience	2.71	1.350	80
Education (years)	14.13	3.390	80
Cost (N)	47,278.00	31.753	80
Loans obtained (₦)	16,875.00	8,861.500	80
Man-day (h day^{-1})	10.82	2.550	80

Profitability analysis: Table 6 shows that GSM business was profitable both in the short and long runs in the study area. The mean gross margin and mean net returns were N73,452 and 36,627 per month, respectively since the figures are positive, GSM business could therefore be adjudged to be profitable in the study areas, all things being equal.

Results and interpretation of regression analysis: The descriptive statistics are shown in Table 7. Results showed a mean income of N86,105 showing that GSM operation is profitable. The mean education years of 14 years within the four walls of school shows that majority obtained tertiary education. On the average, setting up the business will cost N21,733, while the operator works for an average of 10 h day^{-1}.

Regression analysis: Table 8 shows the results of the linearised multiple regression. Results show that all explanatory variables except educational status positively influenced income generated from GSM business. The negative sign borne by level of education violates 'a priori' expectation in that education is expected to

Table 8: Results of regression analysis

Variables	Parameters	Coefficient	SE	t-statistics
Constant	β_0	-33.780	22.170	-1.505
Age	β_1	0.939	0.684	1.372
Years of experience	β_2	0.964	0.326	2.960
Education	β_3	-0.174	0.107	-0.160
Cost	β_4	0.487	0.197	2.470
Loans	β_5	0.104	0.197	5.300
Man-day (h day^{-1})	β_6	0.375	0.129	2.910

Table 9: Test of statistical significance

Parameters	Calculated t-statistic	Tabular t-statistic	Decision
β_0	-1.505	1.980	Insignificant
β_1	1.372	1.980	Insignificant
β_2	2.960	1.980	Significant
β_3	-0.163	1.980	Insignificant
β_4	2.474	1.980	Significant
β_5	5.299	1.980	Significant
β_6	2.905	1.980	Significant

Table 10: Input elasticities and returns to scale

Parameters	Coefficient elasticities
Age	0.939
Year of experience	0.964
Education	-0.174
Cost	0.487
Loans	0.104
Man-day (h day^{-1})	0.375
RTS	2.700

improve efficiency of labour. However, the negative sign may be due to the fact that the operation of GSM business does not require any special education. The computed t-statistic (Table 9) shows that years of experience, cost of operation, amount of loan obtained and man-day had statistical influence on the income generated by GSM operators. The R^2 of 0.65 showed that 65% of total variations in income could be explained by the variations in the explanatory variables. The F* of 22.67 showed that the independent variables have the ability to explain the variations in the dependent variable. The computed D.W. statistics shows the absence of auto correlation.

Elasticities and Return to Scale (RTS): Table 10 shows the elasticities of the variables and the return to scale. Findings show that the explanatory variables except education exhibit decreasing positive returns to scale since their values are <1 and are positive. Hence, the GSM business is in stage II of the production function and the inputs are efficiently allocated.

The computed RTS of 2.70 (Table 10) shows that the GSM business exhibits increasing returns to scale i.e., it is in stage I of production surface. The implication is that the GSM operators can make use of economies of large scale to raise the scale of operation i.e., more human and non-human resources can be employed to raise the scale of operation.

General perception of GSM business in the study area: The GSM business was generally perceived as a principal contributory factor in reducing urban unemployment in the study area. However, the business is not without some limiting factor as outlined by the respondents. The major problems are as follows:

- Poor and epileptic service delivery by GSM service providers
- High cost of call tariff
- Inaccessibility to micro finance
- Inadequate orientation about the business

The respondents were of the opinion that improvement in service delivery, easy accessibility to finance and reduction in cost tariff among other things will increase profitability and efficiency of the GSM service.

CONCLUSION

The study examined employment generation through the deregulated telecommunication sector. The study considered some socio-economic variables of respondents, profitability of GSM business and the influence of some selected socio-economic variables in income generated from GSM business. Data used for the study was collected from both primary and secondary sources. The study made use of well structured questionnaire administered in 80 respondents randomly selected from four towns in Lagos metropolis. The data collected was analysed with aid of descriptive and quantitative methods. The descriptive methods used included frequency distribution, percentages, means and mode, while the quantitative methods included the gross margin and net returns analysis and the production function analysis.

Results showed that GSM operators were majorly educated youth with a mean age of about 29 years. The business was dominated by male operators accounting for 56.25% of total respondents. It was also revealed that 71.3% of total respondents had no job before the introduction of the GSM business. This shows that the deregulation of the telecommunication sector has indeed reduced urban unemployment among the youth in the study area. The profitability analysis showed that GSM business was profitable both in the short and long runs with a gross margin of N73,452, net returns of N36,627 and a mean income of N86,105. Findings also showed that the business was majorly self finance. Moreover, the

regression analysis showed that years of experience, cost of operation, amount of loan obtained and manday had significant statistical influence on the operation of GSM business. However, contrary to 'a priori' expectation, education was negatively related to income from GSM business.

The Return to Scale (RTS) of 2.70 shows that GSM business is experiencing increasing return to scale indicating that resources are inefficiently allocated. Hence, the scale of operation should be increased as there are greater opportunities to increase the level of profitability. The general perception is that the GSM business has increased employment opportunities in the study area.

RECOMMENDATIONS

In the light of the findings, the government should encourage greater participation of educated but jobless youth in the GSM business by giving them greater access to micro credit facilities, encourage service providers to reduce call cost and also improve their network services.

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