Determinants of Motivation and Job Satisfaction of Information Technology Artisans in Lagos, Nigeria

Williams Ezinwa Nwagwu
Department of Data and Information Science
Faculty of Multidisciplinary Studies
University of Ibadan
Ibadan, Nigeria
willieezi@yahoo.com

Abstract

This study was designed to investigate how the Maslow's hierarchy of needs theory explains the rapid growth in IT artisanship in an IT cluster in Lagos Nigeria. Data was collected from 250 artisans in locations in Lagos in Nigeria using a questionnaire. The Maslow's variables predicted different motivation and job satisfaction variables differently just as do the demographic and social characteristics of the respondents. Despite the poor economic conditions in Nigeria, many IT artisans are located on basic needs, but majority are concentrated on safety need matters. Despite a further large number of respondents in the low socioeconomic threshold, self-esteem constructs predicted job satisfaction, except the wish to remain in the profession and perception about the future in the job; mastery of the job, a sense of achievement and a feeling of belonging to a high social class were related to adequacy of income. This study does not uphold Maslow's hierarchy of needs theory because the needs of the artisans do not manifest in any linear fashion –from the lowest to the highest as they would occur in Maslow's hierarchy of needs. The retention in the job and the satisfaction expressed by the artisans are definitely as a result of other factors, and not the conventional hierarchy of needs. This result shows that the IT clusters have great promises of committed and dedicated human resources whose labours would support emergence of an innovation hub.

Introduction

In the last five years, some studies have been carried out in Nigeria describing the emergence of information technology artisanship, and examining various aspects of their operations particularly in a popular technology cluster known as Otigba Computer Village in Lagos (Nwagwu and Ibeku 2016, Nwagwu 2018). These studies connect to formative studies on the Computer Village in Lagos Nigeria that focus mainly on the prospects of information technology businesses in the location as technology clusters or sites that hold the potential for information technology innovation progress in the country (Bamiro 2003, Oyelaran-Oyeyinka 2006, 2014). Earlier studies were optimistic about the opportunities the IT cluster present for information technology development in Nigeria, and dubbed the cluster Nigerian Silicon Valley, exactly as is the case in Cape Town and Nairobi IT clusters (Coban 2018). Generally, technologies represent and stimulate constellations of social and cultural values, as well as economic and other choices, and foster power geometries that are continuously evolving. Evidently, digital technologies conform to this shade; they are neither neutral nor are they hardwired and deterministic artefacts as they are bendable to respond to vagaries of local imperfections, eccentricities and practices. A major evidence of this reality is the sprawling of information technology artisans in Nigeria.

Artisans and artisanship are very popular service delivery strategies in many developing countries where professionals and expertise are constrained both in numbers and capacity. Basically, the IT artisans in Lagos have some knowledge about how to solve many IT problems, they can build personal computers from scratch, run some hardware and software tests and diagnoses, and provide some technical support. The IT artisans also provide services such as software programming, development of websites, and provision of Internet services. They have a variety of educational levels, from those that have formal education to those with no education at all. The IT artisans are generally characterised by having manual skills which they acquire through either formal or informal apprenticeship processes. The majority of them have a low threshold level of expertise, require minimal start-up capital, and have flexible working hours. They also have the choices of working at home and the freedom to manage their own businesses. The tasks of the IT artisans are sometimes complex and demanding – they face the challenge of keeping up with the complex and rapid changes in the field of information technology (Fang, Benamati and Lederer 2011). In conformity with what is known about artisanships businesses elsewhere (Kayanula and Quartey 2000; Smits and Stromback 2001), the artisans in Nigeria establish their offices and workshops in locations that vary from open spaces to temporary wooden structures, or at home, and they employ a few or in some cases no salaried workers, or they rely on family members and apprentices.

IT artisans constitute the major IT service providers in Nigeria (Oyelaran-Oyeyinka 2006, Nwagwu and Ibeku 2016). All over Nigeria, IT artisan businesses can be spotted in various locations – ranging from well-organised and established set-ups to shanty and roadside shops, providing services that cover mobile phones, computer hardware and software sales and services, and repairs and maintenance. A visit to Computer Village in Lagos shows that the business is dominated by males; females found in the locations provide daily needs services such as food and provisions while a few are involved in the sales of IT products. The IT artisan business is blossoming in major cities in Nigeria; they usually operate in clusters and they have a variety of social and other backgrounds.

Sites that have promise for science and technology innovation opportunities are often attractive to young people, the unemployed and the savvy. They also attract investors, foreign and local, and, governments. Typical example is the visit of the FaceBook proprietor, Mark Zuckerberg, to Nairobi startups in August 2016 to learn about M-Pesa and Ushahidi and other technologies. However, the tech savvy cluster in Lagos constantly engage between fulfilling the liberating feelings about new professional and work possibilities and the harsh and restrictive immediate and wider environment in which they work (Coban 2018). These engagements result to the reiterative processes of performing and producing in deûcient environments and the resultant futility to build technologies that have real social impact in Nigeria. Basically, major evidence of investment in the cluster is the importation of finished IT products as well as spare parts which serve the purpose of effecting repairs and refurbishing old and dysfunctional IT equipment. To this extent, Judith Butler's (2010) theory of performativity can be implored to argue that social entrepreneurship practices in the IT cluster in Lagos might be a mere attempt at reproduction of postcolonial imaginations. The artisans and the small scale outfits that drive the activities in the locations can be described as tech-deterministic, charitable and social-impact-driven agencies whose impact can only be measured by the capacity to meet basic needs, and a little bit more.

Literature on innovation sites in the Global South are scarce generally, and there is seldom any documented history of innovation. Existing studies conceptualise technology and innovation sites as a sort of countercultures because they are viewed as a mimic of the uppercase capitalist structures in the west (Sivek, 2011; Maxigas, 2012). As a result, majority of the literature on structure and function of innovation sites reûect the stories of the struggle in the Global South to practically embrace technology. Edgerton (2007) has referred to this struggle as consisting of "transfer, resistance, incompetence, lack of maintenance, and enforced dependence on rich-world technology" (p.4).

Bigelow (2012) conducted an employment survey of TechTarget employees in the United States and showed that at all levels; job satisfaction in the IT industry goes beyond dollars and cents, and that

stimulating work is the major reason why many IT workers stay in their jobs. Business aspects are side issues to the satisfaction of IT professionals in Bigelow's study; intellectual pursuits and technical growth opportunities are simply more interesting. According to the subjects he studied, *"Despite long hours, tight budgets and steep technology learning curves, our employment survey shows it's the work challenges that keep IT pros happy (pp8)"* might have said it all about job satisfaction of information technology professionals. He went further "IT folks want to solve problems, learn new technologies and then use those technologies to help the business succeed (pp9)." In another study, Lim (2008) showed that salary, a sense of belonging, faith in wanting to belong, a feeling of acceptance, job autonomy and promotion opportunities were related to job satisfaction of the library IT workers. The job environment also plays a huge role in IT job satisfaction and retention. Lim and Bigelow's studies focused on non-artisanship IT workers in the United States. How would artisanship IT workers in Nigeria weigh on a motivation and job satisfaction scale?

Besides, but emanating mainly from the perspectives of Maslow and others, many definitions about motivation exist (Whiseand and Rush 1988), but the recent definition by Saraswathi (2011) appears more informative: ¨ … the willingness to exert high levels of effort, toward organisational goals, conditioned by the effort's ability to satisfy some individual need. This definition aptly links motivation and job satisfaction¨ (p11). Job satisfaction results from the achievement of the goals that one expects through his or her job (Saleem, Mahmood and Mahmood, 2010). To a large extent, positive feelings signify job satisfaction while negative feelings suggest otherwise. Job satisfaction may be affective, that is, uni-dimensional and subjective occurring when it is necessary to represent an overall emotional feeling that individuals have about their job as a whole (Niehoff and Moorman 1993). It can also be cognitive in which case a more objective and logical evaluation of the various facets of a job is undertaken, and this is done over a spectrum of factors.

Statement of the Research Problem

There also exists empirical evidence that the artisans have low level of expectation, low achievement and low income (Nwagwu 2018). The Lagos IT business cluster has been described as a jungle (Gboneme 2012) where the good, the bad and the ugly obtain. Also, unlike Nairobi that is generally considered a technological innovation site (Coban 2018) that has nurtured two innovations that are internationally used namely Ushahidi, an open-source software with which everyone who has access to the Internet can map happenings, and M-Pesa, a mobile money application. Lagos cluster is mainly a hardware oriented type of cluster and no known software IT application has been associated with it yet. In a recent study by Nwagwu (2018), less than one fifth of the respondents reported that they would want to remain in the job, less than half reported being happy with their job. Only a few respondents have a feeling of dignity in their jobs, income was also reportedly very unsatisfactory, however, many considered their opportunity for growth as very high. One of the explanations is always the high level of unemployment in the country (Oyelaran-Oyeyinka 2006, World Bank 2013). The population of Nigeria is teaming, estimated at 200 million in 2013, with 46% poverty headcount ratio, and a poverty rate of 64.2% (National Bureau of Statistics 2013).

Most studies on the IT clusters in Lagos report blossoming business (Bamiro 2003; Oyelaran-Oyeyinka 2006, 2014). The large volume of old and new entrants, the expanding spread of the clusters, the increasing popularity of the trade, the capacity of the artisans to solve IT problems; among others, symbolise a profitable business expected in a learning and knowledge cluster. There is also the unsubstantiated myth that the business is highly profitable, a belief that constitutes a pull factor for young people. Besides these normative and intrinsic factors, there are the more socially situated factors such as IT profession being trendy and attractive to young people. The possible interdependency among the operators both on professional and daily sustenance matters could also act as attractive and stay-factors to young and early career practitioners.

Why have the low level of expectations such as exemplified by the low income earned by the practitioners not affected the influx of new entrants into the business? Why the do the artisans wish to retain and remain in the business that is not financially, and other, profitable? Abraham Maslow's theory of basic needs postulate that human beings endeavor

to meet their most basic needs, before they try to meet other needs which Maslow ranked higher in the his hierarchy of needs. This theory would favour a surmise that artisans in the IT cluster are people concentrated in the lowest level of Maslow's hierarchy of needs: food, shelter, sleep, clothes, health and homeostasis. Yet, adequate motional state of health, satisfaction with the outcome of the tasks undertaken, among others, are expected to be key to the resilience of the artisans in their professions.

The study focused on three broad research questions synthesised from the discussion so far to guide the study.

1. ***Research Question One:*** *Is there a significant relationship between the Maslow's motivation variables and retention, income and prospect among the artisans in Lagos Nigeria?*

2. ***Research Question Two:*** *Is there a significant relationship between the Maslow's motivation variables and perceived emotional feelings of the artisans towards their job?*

3. ***Research Question Three:*** *What is the relationship between the demographic characteristics of the artisans and the motivational variables?*

Addressing these questions will provide information to guide the government, policymakers and other stakeholders on how to support and develop the informal IT subsector to address the unemployment problem in Nigeria. The information will also be useful for ensuring that people engaged in informal IT services derive maximum satisfaction from their work. The decomposition of Maslow's hierarchy of needs variables as cognate variables groups that have non-linear relationship also makes this study theoretically relevant to researchers generally.

Theoretical Perspective

Maslow's Motivation and Extrinsic Job Satisfaction Perspectives: A Critique

Maslow's theory suggests that human beings are extrinsic in respect of motivation and satisfaction at work. Most studies on job satisfaction and motivation

utilise the perspectives/theories of Hierarchy of Needs approach of Maslow (1954), while others use later perspectives such as the Herzberg's Motivator-Hygiene theory and the Job Characteristics Model, Affective Event theory (Thompson and Phua 2001), Equity Theory (Walster, Berscheid and Walster 1973) and Job Characteristics Theory.

Maslow's Theory of Needs

In several research efforts, Maslow (1943a, 1943b, 1954a, 1954b, 1970) developed and elaborated on the popular model of hierarchy of needs which has tremendously contributed in guiding the understanding of human motivation and personal development for many years. Although Maslow himself has further adjusted his original model (Maslow 1996), all the Maslow perspectives generally posit that everyone has needs, and that these needs explain people's actions and reactions. In other words, human needs motivate their actions. Motivation could be described as a driving force that makes people to willingly want to put in their best in what they do (Saleem, Mahmood and Mahmood 2010). It can also be viewed as an inner force that drives individuals to attain personal and organizational goals (Tasnim 2006, Louca et al 2013). Knowledge and application of Maslow's hierarchy of needs is now ubiquitous; a summary of the original model that follows suffices for this study:

i. Basic needs– These needs consist of biological and physiological needs. These needs include food, water, shelter, air, warmth, sex, and sleep, etc.

ii. Safety needs – These include the need for protection, security, order, law, limits, and stability. Meeting these needs is expected to secure the future satisfaction of the fundamental needs.

iii. Belongingness and love needs– These are work group, family, affection, and relationships issues, among others. They are also known as social needs. At this level, individuals seek friendship and love relationships and tend to bring others within their own defense mechanisms.

iv. Esteem needs – These needs are made up of a person's level of self-esteem, achievement,

mastery, independence, status, dominance, prestige and managerial responsibility. Here, people want to be appreciated, and feel that they belong; they want to fit into a network of social relationships.

v.   Self-actualisation needs – which involve people realising their personal potential in life, attaining self-fulfillment, and seeking personal growth and peak experiences.

According to Maslow's original thought, one must satisfy each need in turn, starting with the most obvious or lower order needs for survival. After the lower order needs of physical and emotional wellbeing are satisfied, the individual expresses concerns for the higher order needs of influence and personal development. Conversely, if the satisfaction of lower order needs is not achieved, human beings may not be capable of addressing the maintenance of higher order needs.

Job Satisfaction

Job satisfaction results from the achievement of the goals that one expects through his contribution in the job (Saleem, Mahmood and Mahmood, 2010). Factors related to job satisfaction are relevant in the prevention of frustration and low job satisfaction or dissatisfaction because workers will be motivated to work harder and perform better if they are satisfied with their jobs (Bowen, Radhakrishna and Keyser 1994; Boltes, Lippke and Gregory 1995). Recognition is an essential factor that helps to increase confidence and self-esteem thus influencing job satisfaction (Ventrice 2010). Enjoyment at work and being comfortable with the people with whom we work are necessary factors that enhance one's job satisfaction (Perrewé and Gangster 2007, Hodson 2001). Some studies have revealed that there is a relationship between job satisfaction and work motivation – a person's satisfaction in a job acts as a motivation to work. Saleem, Mahmood and Mahmood (2010) stated that job satisfaction is dependent on work motivation. There can be no job satisfaction where there is no motivation (Das, 1999). In addition, Baschad and Piot (2005) showed that, adequate compensation raises one's performance and interest in the job. Louca et al. (2013) revealed that income is a good motivator that can influence job satisfaction. Walker and Sorce (2009) claimed that income, the opportunity to be creative, how challenging a job is and the feeling of personal gratification when performing a job contributes to the overall job satisfaction of an individual.

A Critique of Maslow's Motivation and Extrinsic Job Satisfaction Perspectives

Maslow's theory and other theories that favour extrinsic perspectives to human motivation have guided research on human needs for long, but Maslow's and other similar theories and perspectives have not been without criticism even very early their publication. One of the earliest critical opinions about Maslow was the work of Haire, Ghiselli and Porter (1966) in which managers in 14 different countries were asked to rate the importance of, and their satisfaction, with the fulfillment of a number of needs. They found that the country whose response fitted Maslow's need theory was the United States of America.

The work of Hofstede (1984) stands out in respect of empirical rebuttal of Maslow's model. Hofstede viewed quality of life from the perspective of quality of work life, averring that cultural factors are major influences to quality of work life. Based on a study that covered 53 countries, Hofstede found that it is fruitless to universalise the notion that meeting higher order needs will improve people's quality of life, because different cultures have different hierarchies of needs. He posited that there are societies which stress job challenge, achievement and job satisfaction of intrinsic needs and those in which primary loyalties are to family, relatives or clan. In this regard, job satisfaction depends on which society the individual is obliged to. According to him, job motivation and job satisfaction are matters that concern total quality of life, but they are culturally influenced because they are based on values.

In his PhD thesis, Reid-Cunningham (2008) supported the refutal of the directional hierarchy that Maslow proposed and rather suggested that there was no clear hierarchy or order in which needs appear to become predominant, but he supported the existence of lower and higher needs. Besides the ethnocentric attribution to Maslow's theory, Reid-Cunningham has shown that Maslow was reliving his personal experiences while growing up, citing

Maslow's biography by Hoffman (1988) very extensively. These opinions suggest that Maslow's hierarchy of needs appears so individualistic putting autonomy and self-actualisation as top priorities and neglecting values that are very dominant in collectivist societies such as family support and harmony.

Maslow is now generally believed to have been influenced by the mid twentieth century values and choices of the United States middle class (Hofstede 1984). It can be inferred from these researches that even if Maslow's needs are to be followed in modeling societies, Maslow's variables will cluster differently in different cultures. The implication of this observation is that improving people's quality of life would not necessarily be achieved by offering to people satisfactions that are higher in the hierarchy of needs, but rather in the understanding that people in different cultures and societies have different need hierarchies.

In a more recent book Pink (2011) has shown in a very graphical manner that human beings are motivated by factors different from the extrinsic explanations of Maslow. He showed that while extrinsic motivation would appear to motivate workers at first sight but that there are more socially situated factors that are often undermined. The consciousness of the significance of the likelihood that socially situated variables will explain job satisfaction has been growing. Just as the Newtonian first law of motion that an object in motion will stay in motion, and an object at rest will stay at rest, unless acted on by an outside force runs into problems at the subatomic level (Pink 2011), *carrots and sticks* can achieve precisely the opposite of their intended aims when baseline rewards are adequate and equitable. This observation is also related to Hofstede's cultural postulation of job satisfaction – job satisfaction is value laden and values are often mainly cultural. Earlier experiments and studies of Greene and Nisbett (1973; Deci, Ryan and Koestner 1999; Baard, Deci and Ryan 2004; Lepper and Reeve 2005, Green 2006; Chirkov, Ryan, Kim and Kaplan 2008) illustrate circumstances under which intrinsic factors explain job motivation.

There are many studies that have adopted Maslow's theory in Nigeria, with varying results. In his article, Ifedigbo (2012) and Akusoba (2014) suggest that the theory is still applicable in Nigeria, but Ifedili and Ifedili's (2012) study among university

workers did not uphold the theory. In a popular blog Morakinyo (2014) has observed that Maslow's theory can no longer be used to describe motivation in Nigeria. According to him,

> *Many hungry people are now on social networks (Facebook, Twitter, LinkedIn, Myspace, etc) seeking to make friends with well to do people who might be generous enough to help or employ them. Virtually all religious adults in Nigeria belong to one religious group or the other. Even when they have not eaten and are not fasting, they give offerings. Young people renew their blackberry subscriptions before they think of buying lunch (Morakinyo 2014 p11).*

It is therefore not clear how the Maslow's motivation variables will cluster in Nigeria in respect of job satisfaction, and there is no understanding of the other variables that may account for job satisfaction aside of Maslow's. Although there is strong indication from the studies of Hofstede, and, Haire *et al* (1966) that cultural factors will influence people's job satisfaction and quality of life, African countries were not included in the 53 countries in his studies.

Without being considered as a hierarchy in which one need must be met before another, Maslow's model could be a useful categorisation of human needs. The various stages in Maslow's model can be viewed as independent clusters of factors, and not necessarily in linear procedural sequence as originally suggested by Maslow. Although Maslow supplied elements to the various stages in his model, rapid development in the human society, for instance, information technology, is expected to render the elements in Maslow's original clusters as in-exhaustive, thus permitting some adjustments. Maslow himself envisaged this development when he suggested the possibility that majority of people would attain the basic needs and then turn massively to esteem and self-actualisation needs.

It should be recalled though that, in his theory, Maslow postulated the possibility of the inversion of the triangle, such that in the future it might be possible for human communities to develop to the extent that most people will not be concerned with the basic

needs; rather, the focus will be on the higher order needs. In most countries of the world, this expectation is yet to be achieved; but the situation is obviously worse in developing countries.

The study was based mainly on how demographic characteristics moderate the influence of the five constructs in Maslow's theory of needs to explain job satisfaction motivation of IT artisans in Nigeria. The approach adopted here is that the needs in Maslow's theory were not considered as hierarchical. Rather the study viewed the needs as clusters of needs and then sets out to examine which clusters the respondents belonged to, and not whether one need is met before another is. These categories are physiological needs, safety needs, belongingness needs, self-esteem needs, and self-actualisation needs. Safety needs have been defined to include income, financial security, employment security and stability. Belongingness needs include family, peer relationships and societal belongingness.
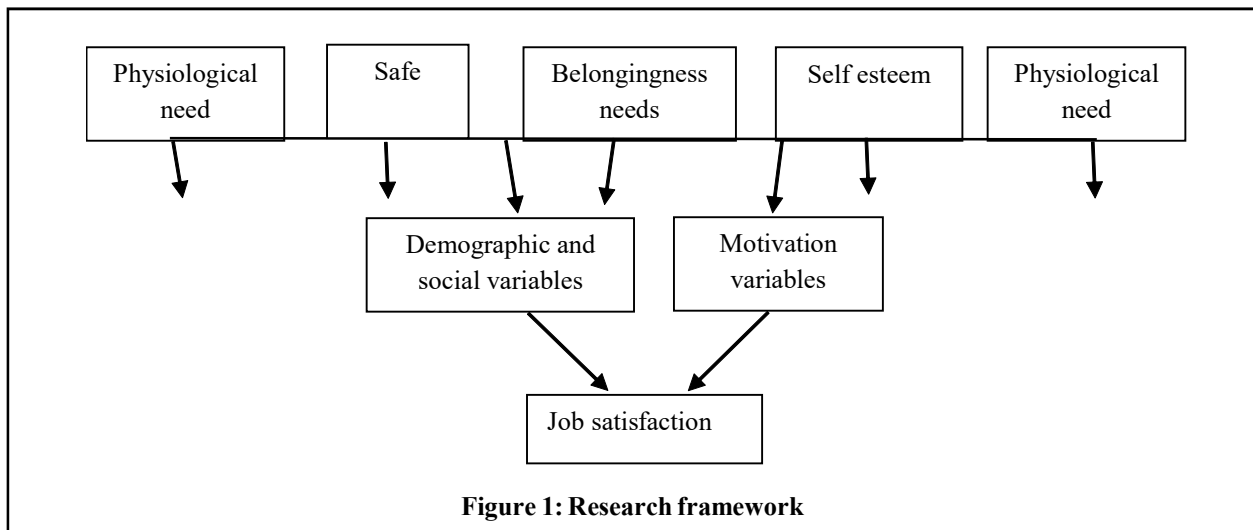
Self-actualisation encompasses sense of achievement, self-growth and development, and new experiences. Figure 1 shows that the relationship between job satisfaction and the Maslow's needs moderated by social and demographic characteristics of the respondents. The model also shows a further indication of how socio-demographic variables relate to the deconstructed elements in Maslow's hierarchy of needs.

Research Methodology

Carried out within the positivist paradigms, a sample survey design guided examination of the opinions of IT artisans in Lagos. Lagos is a large, and ancient business city in Nigeria, and they host a large number of IT artisan workers. However, there is no current statistical record that has information about the artisans, apart from the report in 2013 that Alaba International Market in Ojo has about 2,000 shops while the Computer Village in Ikeja has about 1,600, all in Lagos. A combination of the largeness of the number of the expected respondents and the vast areas they occupy means that the best research design therefore would be a sample survey. We opted to use a questionnaire to collect data from the artisans about the subject matter.

To construct the questionnaire, a list of motivation variables was made based on a synthesis from the literature and sent to 15 identified scholars in economics, management and information science in three universities in Nigeria who were willing to assist in face-validating the instrument. A short letter in which we briefly explained why we were carrying out the study was also appended. The assessors were asked to suggest questions that could be used to gauge the opinions of the artisans' opinions on subject matter. The responses from the assessors were compared and the final questionnaire was constructed based on them. The final questionnaire has the following variables:

(a) Demographic and social characteristics: age, gender, marital status, level of education, length

Figure 1: Research framework

of apprenticeship, age in the profession, income level and how the practitioners entered the profession.

(b)   Motivation variables

(i)   Physiological needs – The researchers measured this construct by asking questions about whether the respondents were on the job in order to find food, shelter and clothing.

(ii)   Safety needs – The researchers constructed safety needs around whether the respondents felt secured in their job.

(iii)   Belongingness needs – This section consists of three items focusing on whether the respondents actually love to be identified with the IT job, merely got influenced by friends to join the profession, and consider themselves to be sufficiently informed about IT.

(iv)   Self-esteem needs – This section was measured by asking respondents whether they feel achieved, have mastery of IT, have a sense of independence, and belong to a high social status in the society by virtue of their job.

(v)   Self-actualisation needs – This section consists of questions on whether the respondents feel fulfilled and are anticipating meeting their future expectations in life through their jobs.

(c)   Job satisfaction

Job satisfaction is usually measured in many different ways and with a variety of questions and wordings, depending on the choice of the researcher and the situation at hand. Single-item questions regarding respondents' general job satisfaction such as overall emotional feeling exist, but there is a relative consensus that multi-faceted questions are better and they can be as stand-alone questions or in addition to single-item questions (European Monitoring Centre on Change 2014).

All the Maslow's motivation variables were conceptualised as ordinal variables of five categories, measured on a five point Likert scale of strongly disagree (=1), disagree (=2), neutral (0), agree (=3) and strongly agree (=4). However, it is remarkable to point out that ordinal variables take the state of nominal variables if they are recoded; for instance,

in our case, to reflect those who agree (agree +strongly agree) and those who do not agree (disagree + strongly disagree). Zhu and Zhou (2002) made this point in their study on perceived characteristics, perceived needs, and perceived popularity of the Internet in China.

Also, we conceptualised job satisfaction with questions about (i) the respondents' intention to remain on the job and measured this with 'wish to stay', 'wish to leave' and 'anyhow' (ii) We also inquired whether the respondents considered themselves as having the opportunity for self-development - measured with 'great opportunity', 'slim opportunity' and 'no opportunity'. Furthermore, we examined the reported (iii) income measured with 'high', 'low' and 'manageable'. Finally, the respondents feeling about their job was measured as a binary variable with 'yes' or 'no'. We consciously measured job satisfaction using multiple approaches to increase the chances of gauging more adequately how much motivation contribute could contribute to job satisfaction. The nature of the variables and the way they were managed complemented the adoption of advanced statistical approaches, and the relative largeness of the sample size to ensure that sampling errors were minimised.

Due to the absence of a sampling frame, the researchers resorted to accidental sampling to survey only those artisans who were available, accessible and willing to complete the instrument. We approached the artisans in their shops and explained the mission of the research and solicited their cooperation; the questionnaire was administered to those who consented. It was deliberate to target 250 copies to enable the survey cover a wide range of the artisans; it is also large enough to permit inferential reasoning.

The questionnaire was administered during April to December 2016 by the two researchers and 10 assistants. The questionnaire was administered to the 250 respondents that were willing to participate in the study. The data collected with the questionnaire was analysed using the Statistical Package for Social Science (SPSS). For three of the four job satisfaction variables (i) retention intention on the job measured with wish to stay, wish to leave and anyhow; (ii) perception of income measured as high, low or manageable and (iii), multinomial logistic regression is used to predict a

categorical placement in or the probability of a category membership on a dependent variable based on multiple independent variables. Multinomial logistic regression is a simple extension of binary logistic regression that allows for more than two categories of the dependent or outcome variable. Multinomial logistic regression is often considered an attractive analysis because it does not assume normality, linearity or homoscedasticity. It would be sufficient to code the categories into binary forms to deploy binary logistic regression technique but the intent here is to reveal the situation with respect to each of the three categories.

The dependent variables are on nominal scale, justifying the use of multinomial logistic regression (MLR) for the analysis, MLR coefficients often represent the probability of an individual falling into one category versus the probability of belonging to the baseline category (i.e., wish to stay in the job). Hence, the normality of these measures could be considered sufficiently stretched to accommodate ordinal reasoning (Zhu and Zhou 2002). The language of ordinary least squares (OLS) was used to report and interpret the results for ease of comprehension by those who do not have deep statistical training.

Results

Socio-demographic Characteristics

The result shows that all the respondents were male (Table 1). The result also shows that respondents within the age bracket 27-32 years were the largest respondents with a frequency of 110 (40.9%) of the total respondents. Respondents within the age bracket 33-38 with a frequency of 80 (29.3%) followed. Respondents within the age bracket 21-26 constituted 15% while those within the age bracket 39-44 constituted 9.9%.

Table 1: Socio-demographic characteristics of Respondents

Demographic Characteristic	Frequency	Percentage
Sex (N=273)		
Male	273	100
Female	0	0
Age (years,N=273,Mean=3.505,S.D=1.0401)		
21-26	41	15.0
27-32	110	40.3
33-38	80	29.3
39-44	27	9.9
45-Above	15	5.5
Educational Qualification (N=273)		
Primary Education	13	4.8
Secondary Education	108	39.6
Technical Education	39	14.3
University Education	111	40.7
Professional Qualification	2	.7
Marital Status (N=272)		
Single	132	48.4
Married	140	51.3
Number of Employees (N=273,Mean=3.048, S.D=0.986)		
1-2	27	9.9
4-6	45	16.5
7-9	89	32.6
10 and Above	112	41.0

Type of Business (N=273)		
Maintenance/Repair	270	98.9
Computer Cloning	34	12.5
Installation	76	32.6
Membership of Association (N=273)		
Union membership	245	89.7
Professional body	6	2.2
Income Level per Week (Naira) (N=273, Mean=3.670,S.D=1.090)		
0-1000	7	2.6
1001-5000	37	13.6
5001-10000	62	22.7
10001-50000	92	33.7
Above 50000	75	27.5

Respondents within the age bracket of 45-above were the least (5.5%) in number. In terms of educational status, the largest number of respondents were those with university education (40.7%). Respondents with secondary education followed closely (39.6%) while those with technical education and primary education constituted 39 (14.3%) and 13 (4.8%) respectively. Only two or 0.7% reported any professional qualification. Majority of the respondents (51.3%) were married while 48.4% were single. The result also reveals that IT businesses with at least 10 employees constitute (41.1%), followed by those in the range 7-9 (32.6%), while the ranges 4-6 and 1-3 constituted 16.5% and 9.9% respectively.

Nearly all the respondents (98.9%) engaged in maintenance/repair services while 32.6% of the respondents were into software and hardware installation and 12.5% were into cloning. 89.7% of the respondents were members of the union while only 2.2% belonged to professional bodies. In respect of the income level, 33.7% of the respondents earned between 10,001-50,000 in Naira per week, 27.5% earned above 50,000 Naira, 22.7% earned 5,001-10,000, 1001-5000 Naira (13.6%) and 2.6% earned between 0-1000 Naira per week.

Addressing the Research Questions

Research Question One: *Is there a significant relationship between the motivation variables and retention, income and prospect among the artisans in Lagos Nigeria?*

Table 2 shows that physiological need of food has a significant relationship with the perception of income as high and opportunity for development being great, whereas shelter has significant relationship with retention and future development prospects. The significant impact of security as a basic need is expected: there is a significant relationship between wishing to stay, having high income and having high prospect for development on the job. Of the four belongingness variables, three namely loving to be identified, love to feel belonged and being considered informed about IT have significant relationship with intention to remain in the profession. However only being informed about IT relates significantly to both high income and great chances of development in the job. For esteem needs variables, feeling achieved, having mastery of the profession and feeling belonged to a high social class in the society predicted retention intention of the respondents. These variables also predicted high income; and except feeling achieved, predicted great expectation of development on the job.

Table 2: Multinomial Logistic Regression Coefficients Predicting Retention, Income and Prospect

	Retention	Income	Development
	Wish to stay Vs Wish to leave Vs Anyhow	**High Vs Low Manageable**	**Great Vs Slim Vs None**
Physiological needs			
Food	–2.029	0.137***	2.883***
Shelter	–0.663***	–0.322	–1.114 ***
Clothing	–0.501	–0.050	–0.060
Safety needs			
Security	0.649 ***	0.042***	0.144***
Belongingness needs			
Love to be identified	–0.137***	0.267	0.150***
Influenced by friends	–0.020	0.153	–0.154
Informed about IT	–0.604***	–0.104**	0.010 ***
Esteem needs			
Feel achieved	1.147	1.097***	2.071***
I have mastery	0.112***	-1.112***	0.715***
Feel belong to a high social class	0.629***	1.120***	0.609
Self-actualization needs			
Genuine interest in my job	0.186***	–1.078	0.002
Feel fulfilled in my job	–0.205	3.100	–0.015
Met my expectations	–0.108***	–2.138	1.184
Age (Others=ref category)	–0.325	0.786	–0.059
Marital status (Others=0)			
Married	–0.526	0.367	0.649
Single	0.060***	0.043***	0.0416***
Household size	-1.147***	-1.629***	1.007
Educational level (No formal education=0)			
No formal education	2.009	1.100** *	1.190***
Primary education	2.721	1.109	2.891
Secondary education	0.998	1.121	2.121
Tertiary education	0.198	0.008***	-0.118***
Length of Apprenticeship	1.190***	0.998	2.721
How long have you been on this job?	2.008***	3.118	0.091
Who introduced you into this job? (Others = 0)			
Friend	1.000	0.009***	0.110
Parent	0.010***	1.100	0.109
Sibling	1.200	3.011	2.111
No one	1.100***	1.101***	0.194***
Spouse	0.867	0.108	0.138
Income per annum	3.154***	-1.067***	2.004***
Intercept	5.688***	2.830***	4.006***
McFadden pseudo R^2	0.562		
Number of cases	250		

Note: * = significant at 0.05 level of significance**

Self-actualisation needs variables present a different result altogether. Genuine interest in the job and the job meeting the expectations of the respondents were significant predictors of the respondents wishing to remain on the job, attaining expected heights in life predicted income; the other relationships are not significant. Then come the sociodemographic variables. Those who are married wish not to remain on the job, as the slope of the relationship is significant but negative. But both those who are married and those who are single would wish to have higher income than they are getting now, while only those who are single reported a significant relationship with positive future prospect in the job. Age did not predict any of the dependent variables. With positive slopes for all the three categories of dependent variables, the larger the household size the more the respondents would want to retain in the job and wish to have higher income; the relationship with high prospect in the job is not significant.

Is there any significant relationship between educational status of the respondents and the categories of the dependent variables? Table 2 shows that tertiary, secondary and other forms of education did not predict respondents' intention to remain on their jobs; secondary education positively predicted income and prospects in the job. Other category of educational status only predicted income. Also, table 3 has implication that the longer the respondents spent to acquire the skill of IT artisanship, the more the likelihood that such respondents would remain in the job. This is the result of the positive and significant relationship between length of apprenticeship and retention in the job. Length of apprenticeship did not predict whether or not the respondents would be satisfied with the income or have a prospective future in the job.

Research Question Two: *Is there a significant relationship between the motivation variables and perceived satisfaction with the job among the artisans in Lagos Nigeria?*

A single question in the questionnaire inquired from the respondents whether they considered themselves satisfied with their jobs or not. Since this variables was measured as yes (=1) or no (=0) responses, binary logistic regression was considered very suitable in addressing the relationship between the demographic characteristics and this variable. The direct binary logistic regression shows that the physiological needs of food positively predicted job satisfaction, but shelter and clothing did not. Safety needs did predict job satisfaction. In respect of belongingness needs, a major element in the job satisfaction of the respondents is their love to be identified with the profession, which this significantly and positively predicted the dependent variable. Being informed about IT also predicted job satisfaction positively although the slope is fractional.

Table 3: Binary Logistic Regression Predicting Job Satisfaction

	B	SE β	Wald χ2	P	e^β(odds ratio)	95%
Physiological needs						
Food	0.450	0.181	0.444	0.031	0.110	(0.348,9.214)
Shelter	1.009	1.080	0.201	0.309	0.007	(1.002,7.910)
Clothing	0.003	0.023	0.211	0.701	1.801	(0.001,0.079)
Safety needs						
Secured	-0.200	0.030	3.041	0.013	1.090	(3.09, 7.990)
Belongingness needs						
Love to be identified	1.109	0.436	4.091	0.004	0.026	(0.007,1.390)
Influenced by friends	0.222	0.131	0.001	0. 170	0.120	(0.011,1.911)
Informed about IT	0.000	0.461	0.098	0. 001	0.011	(0.000,0.002)
Everyone was doing it	-0.002	0.030	0.101	0.304	0.001	(0.001,0.110)
Have latest info on IT	-0.119	0.501	0.111	0.400	0.233	(0.107,1.002)
Esteem needs						
Feel achieved	0.115	1.088	0.401	0.041	2.110	(0.000, 8.01)
Have mastery	0.304	0.710	1.440	0.000	1.011	(0.190,3.251)
Feel belonged	0.249	0.281	1.050	0.000	0.973	(0.000, 8.01)
Self-actualization needs						
Genuine interest	0.021	0.030	0.004	0.413	1.911	(0.091,1.333)
Feel fulfilled in my job	0.720	0.440	2.444	0.000	1.001	(0.000,1.099)
Met my expectations	-0.111	1.010	0.007	0.001	1.074	(0.091,1.810)
Opportunity for growth	0.222	0.073	2.489	0.131	1.501	(0.091,3.009)
Age	-0.109	0.026	5.91	0.024	0.160	(0.011, 1.88)
Marital status (Others=0)						
Married	-0.119	0.611	0.001	0.042	0.301	(0.091,1.430)
Single	0.004	0.111	0.100	0.060	0.211	(0.000,1.009)
Household size	-0.160	0.400	3.001	0.041	2.191	(1.233,2.679)
Education (Others=0)						
No formal education	0.300	0.600	0.940	0.007	2.72	(0.013,6.531)
Primary education	0.119	0.120	0.051	0.027	1.01	(0.041,6.202)
Secondary education	0.103	0.600	1.925	0.002	2.20	(0.320,4.022)
Tertiary education	-0.109	0.120	0.090	0.022	1.10	(0.450,3.009)
Length of apprenticeship	0.205	0.811	0.14	0.041	0.10	(0.011,9.210)
How long practicing this job?	-0.112	0.900	0.411	0.031	1.913	(0.009,1.099)
Who introduced you into this job? (others=0)						
Friend	0.511	0.901	0.115	0.300	0.175	(0.011,2.101)
Parents	0.100	0.138	0.300	0.119	0.101	(0.100,1.602)
Siblings	0.111	0	0.119	0.010	0.109	(0.009,2.082)
No one	0.101	0.170	0.103	0.099	0.183	(0.005,2.005)
Spouse	-0.109	0.008	-0.109	0.029	-0.179	(0.010,0.109)
		-0.010				
Income per Annum	-0.222	0.004	4.240	0.031	1.099	(0.090,3.019)

The esteem needs performed better than the rest motivation variables going by the number of categories that successfully predicted job satisfaction. Feeling achieved, having mastery of the IT task and the feeling that one belongs to a respectable profession all predicted job satisfaction of the respondents. Genuine interest in the profession and feeling of having attained in life were the self-actualisation categories that predicted job satisfaction, but not so the case with meeting expectations and opportunity for growth.

Age is not a predictor of job satisfaction among the artisans; but there is a negative but significant relationship between being married and job satisfaction in relation to those respondents with other than single marital status. This might be associated with why single did not also predict job satisfaction compared with those respondents who have other statuses. Educational status presents a very interesting picture: lower educational statuses, namely non formal education, primary education and secondary education predicted job satisfaction positively and significantly, but tertiary education predicted job satisfaction negative but significantly. Another interesting result is that the longer the respondents reported spending in apprenticeship the more likely that they will report to be satisfied with their jobs. The same result does not apply to length of time spent in the professional; although the relationship is significant, the negative slope suggests that the longer the stay in the job, the less the job satisfaction derived. Finally, those respondents who joined the profession from their own choice reported being satisfied with the job in comparison with those who reported joining the profession through other persuasion.

Determinants of Physiological needs (PN), Safety Need (SN), Belongingness Needs (BN), Self-Esteem Needs (SEN) Self-Actualisation Needs (SAN)

Both the title of this study and the theoretical model adopted demand investigation of the role of demographic and socioeconomic characteristics of individuals on the motivation constructs. The relationship between demographic variables and the motivation variables are tested here using OLS. It is informative that this analysis pertains only to those respondents who reported agreed and strongly agreed to the questions on the motivation variables.

Research Question Three: *What is the relationship between the demographic characteristics of the artisans and the motivational variables?*

Table 3 shows how demographic characteristics of the artisans relate to their motivation needs.

Table 4: Ordinal least squares regression coefficients predicting the motivation variables

	Physiological needs (PN)	Safety need (SN	Belongingness needs (BN)	Self-esteem needs (SEN)	Self-actualisation needs (SAN)
Age	2.561	0.460***	-12.271***	0.462***	-1.740
Marital status (Others=0)					
Married	0.419***	-0.111***	0.460	0.326	0.460***
Single	-0.510	2.56***	-0.510***	-0.201***	-0.121***
Household size	0.411***	-0.511***	0.336	0.901	0.756
Education (others =0)					
No formal	1.513***	-1.56	0.786	-0.121***	-0.121***
Primary	-12.272***	2.11	-0.911	0.006	0.006
Secondary	-20.742	0.46	2.56	0.46	0.46
Tertiary	1.727	-0.351	0.246***	-0.151	-0.151
Length of apprenticeship	0.400	0.051***	0.310***	1.110***	0.912
How long on the job?	1.056	2.090	-2.271***	0.740	1.703***
Who introduced you? (others=0)					
Friend	-1.501	.356	0.006***	0.116	0.106***
Parents	0.356	-0.171***	-0.511	-0.231	-0.211
Siblings	0.416	0.126	1.264	0.230	0.506
No one	-0.151	0.309	0.164***	0.143***	0.304
Spouse	0.442***	-0.119	-0.251	-0.412	-0.105
Income/Annum	2.522***	0.146***	12.271***	20.741***	1.712***

Age significantly and positively relates with safety needs and self-esteem needs, and significantly but negatively with belongingness needs. Married status relates with physiological, safety and self-actualization needs, whereas single status has significant relationship with all the motivation needs; however, the relationship with all, except safety needs, is negative. With a positive slope, household size predicts physiological and safety needs. Education variables present a more interesting result – no formal education predicts only physiological needs while secondary did not predict any of the motivation needs at all.

The results also suggest that those who have tertiary education are more focused towards pursuing higher order needs of belongingness, self-esteem and self-actualisation needs. Length of apprenticeship has a positive and non-fractional relationship with all except physiological needs; length of stay in the job predicts belongingness and self-esteem. On how the respondents got into the business, friends have a significant relationship with belongingness and self-esteem, parents only predict belongingness needs, self predicts belongingness needs and self-esteem while spouse predicts physiological needs and self-actualisation needs. Income presents an interesting result – it predicted all the needs.

Discussion of Findings

If the basis for assessing job satisfaction variables of income and development prospects would be food, then the respondents would want to remain in the job. This is not a contradiction to the result obtained during the diagnostics in Table 2; rather it supports the observation that the respondents are able to find food to eat and maintain their lives and those of their dependents. As would be expected, although the respondents appeared not to be on the job primarily to get shelter, shelter constitutes an important component in whether the respondent would want to remain in the job and whether the respondents would consider their prospects in the job as great. Jiboye (2011) and Oyelaran-Oyeyinka (2014) have shown that even low cost shelter that affords privacy

and protection against the elements in the environment is still beyond the reach of most people living in Lagos. Furthermore, whether the respondents would feel willing to stay on the job, consider their income as high or consider prospects as promising would be strongly determined by whether the respondents felt some sense of security on the job. Several factors could make this factor important in the mind of the artisans – in a study on artisans in South Africa, Jordan and Barry (2009) have shown that job security among artisans could be affected by income and prospects for future development.

Although majority of the respondents joined the profession through their friends, influence from friends and belongingness are not determinants of whether the respondents would stay in the job, perceive their income as good or develop a positive perception about the future of the job. Rather, the significance of identification and personal assessment of being very knowledgeable with the IT industry are very strong determinants of wishing to remain in the job. Identification could mean that an individual's skill is recognised among peers even if the individual had not made a financial breakthrough; it could also mean that the individual is ranked high in his ability in the profession. This idea should relate very strongly with self-appreciation of one's knowledge level about IT which clearly determines all the dependent variables. By inference, individuals would stay on the job, make or perceive their income as high and expect that the future would be bright in the profession if their assessment of their level of knowledge about IT is very high. This result is supported by Pink (2011) that there are factors outside Maslow's variables that motivate job choices and job satisfaction.

Self-esteem constructs determined most of the constructs of job satisfaction in this study, except the wish to remain in the profession and perception about the future in the job. Significantly, the income of the respondents is low but they have self-esteem, a result upholds the positions of Pink (2011) and Hofstede (1984). Mastery of the job, a sense of achievement and feeling belonged to a high social class relate with evaluation when income is assessed adequate. The likelihood is that those who have mastery over the IT artisanship business might also consider their income as sufficient for the labour.

Those who feel belonged to the society by virtue of the job would wish to remain on the job and consider their income as sufficient even if they are not sure of their future in the profession.

Self-actualisation exhibited a different characteristic; only two of its constructs namely having genuine interest on the job and meeting expectations predicted wishing to remain in the profession, the later predicting the dependent variable negatively. It could be recalled that self-actualisation had the least weight among other motivational constructs, after basic needs. Those who are not married are most likely to be younger, and have less family challenges compared with those who are. Hence, they are optimistic about the future, even if things are not working out well now. This may be the reason why single positively predicted all the dependent variables. The reverse is the case with household size; larger household sizes would require better income, such persons are the most to desire change of jobs, and consider their income as low.

Those who have no formal education are more satisfied with the job than those who have, as they reported hope for a better future and income. Although it is not clear whether those with tertiary educational qualification wish to remain in the job or not, they are happier with their income; they did not report a prospective future. Evidently, those who spent a long time learning the trade were associated with low level of education while those who have been in the trade for a long time reported wishing to remain in the profession. Self-introduction into the job relates to all the dependent variables; these people seem to know what they want and have decided to patiently pursue their dreams. Those who joined the profession through their friends are in the business to make money, but might wish to change jobs if the opportunity arises while those introduced by their parents wish to stay on the job. As expected, those who make high income would want to stay on the job; they did report their income as high or sufficient although they have hope for better future in the job.

The study has provided evidence for the impact of various needs of the artisans on their job satisfaction. Basically, the study has highlighted the specific elements in the Maslow's needs constructs that command the most influence in respect of job satisfaction of the artisans, and not on whether the needs are in hierarchy. On a scale of yes or no, food

and shelter, love to be identified and being informed about IT, love to belong, feeling fulfilled and meeting expectations, are the major elements in the five-level hierarchy of needs that describe the job satisfaction of the artisans. A curious point would be the need to seek to establish whether these predictors integrate to a new constructs which may be used to understand further and improve the level of job satisfaction among the artisans. This suggestion is important in view of the observation that factors that explain job satisfaction among the artisans are unevenly distributed in the motivation needs. The variables also predict job satisfaction differently when job satisfaction is measured differently. But it is informative however that some of the constructs, for instance, food, predicted job satisfaction irrespective whether job satisfaction was viewed as single constructs or as consisting of other constructs.

The foregoing synthesis also applies to the impact of demographic characteristics on job satisfaction. While age, for instance did not explain any of the components of job satisfaction, it explained job satisfaction when considered as a single construct. In consonance with Zhou and Zhu (2002), this result suggests that achieving job satisfaction among the artisans would require a deconstruction of the concept in achieve a more efficient result.

Human needs are behavioural. They influence other behaviours and can also be influenced by other variables (Anholt, Mackay and Trudy 2010). The ordinal regression result suggests that the older the artisans get, the more likely the artisan is to be concerned with safety, belongingness and self-esteem needs, but not self-actualisation. It is a natural expectation that older persons are more likely to have high number of dependents, and confront more challenges such as achieving personal goals in life than younger persons. Also, older persons may be considered to have lesser time for personal development and to pursue new careers compared with younger persons. Education remains one of the most important variables in human development; it is vital in determining how well people prepare, develop and confront the future in their respective endeavours (World Bank 2007).Those who hold lower and no formal educational statuses appear to be satisfied meeting physiological needs while those that hold tertiary education al qualifications seek to be focusing on belongingness and self-actualisation needs.

Conclusions and Recommendations

This study evidently questions the adequacy of Maslow's *carrots and sticks* extrinsic theory which achieves precisely the opposite of its intended aims when baseline rewards are adequately and equitably defined. Those who are engaged in the IT artisanship jobs did so not for extrinsic purposes of meeting their personal needs of physiology, safety, belongingness, self- esteem, or self-actualisation. They were people who had passion for the IT profession aside of what the profession could enable them either get or become. They were people who were hopeful that their resilience in the profession would someday yield them benefits beyond their present experiences. The result of this study has some very vital implications.

At all levels, job satisfaction in the IT cluster in Lagos Nigeria is low; but this is beyond income and other attractions. Rather, stimulating work experience, the pride of being involved in a modern and trendy profession and the potentials they expect from their labours are the major reasons many IT artisans remain in their jobs. Issues related to whether they are successful or in their businesses currently are practically side issues to their job satisfaction. The artisans consider intellectual pursuits and technical growth opportunities as simply more interesting than other benefits. Despite the length of time they put into the work, the low profits they make and the steep technology learning curves, it is the work challenges that keep IT artisans going. The artisans want to solve IT problems, and learn new technologies and then use the technologies to help the business to succeed. The artisans want to be identified as people engaged in a profession that is critical to development and their sense of belonging is moored to this consciousness. The artisans want to have a sense of security in their professions.

The result points to the potentials in the IT sector for job creation and mitigation of unemployment in Nigeria. IT operators and professionals are available and willing to participate in deploying IT for personal, public, and corporate developmental purposes not moored to extrinsic benefits. Also, the result has implications for the importance of apprenticeship in the IT artisanship profession as a strategy for skill acquisition. Those that have lower education and who spent longer time in apprenticeship are more likely to be seeking to

meet safety needs, belongingness needs and self-esteem needs, just as those who have spent a long time in the job have tendency to be seeking for belongingness and self-actualisation needs. They probably have an expanded customership base, have better control of the business and may be older in age to seek for new careers. Crucially, income is a predictor of all the needs; increased income could create access to meeting other needs. It must be reiterated here that this study was not designed to fit the Maslow's hierarchy of needs model; rather the study was concerned with how the variables in the model could perform in a study on motivation and job satisfaction. The key recommendation coming out of this study is that the private and public sector investors should capitalise on the evidence that the IT sector is attractive to youth and an encouragement for addressing the development of the sector, to position the sector as a springboard for national development.

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Williams E. Nwagwu is an Associate Professor of Information Science in the Department of Data and Information Science of the University of Ibadan Nigeria. He is also a Research and Academic Associate in the Department of Information Science University of South Africa Pretoria, South Africa. Until March 2019, he was the Head of Knowledge Management at the Council for the Development of Social Science Research in Africa (CODESRIA).