Promoting Economic Security through Information Technology

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Abstract

The problem of economic insecurity is a global threat to national security. In Nigeria today, we have witness a lot of national security issues that risks the continued existence of the country as one indivisible political entity with many calling for disintegration. Hitherto, many terrorist networks have sprang up in many parts of the country such as , MEND, Boko Haram and MASSOB as well as kidnapping for ransom crime to mention but a few.[1]. These national security challenges are as a result of economic insecurity or lack of economic security such as Income security, Employment security, Job security, Representation security, Labour market Security, Work security, Skill reproduction security. The researchers adopted descriptive method in the analysis of the data using tables and simple percentages and chi-square. The primary source of data was from respondents of the administered questionnaire of a sample size of 80. We discovered that ICT awareness is high but underutilized due to various factors including lack of government commitment to providing and usage of ICT tools. This conclusion was drawn from the result derived from the computed value of chi-square (x2) of 21.35, at the critical value at 5% significance level and a degree of freedom(df) of 3. The computed value 7.815 which was deployed in the test of the hypothesis..

Key Words: Economic Security, Micro-Enterprise

1.0 Introduction

1.1 Background of the Study

The world today is built around and shaped by the advancement in the field of Information and Communication Technology (ICT). The presence and importance of Information Technology (IT) tools and gadgets to the development of individuals, organizations, nations and the entire world cannot be dismissed with a wave of hand. Many countries have come to

realize the fact that no modern economy can be sustained without employment of ICT tools [2].

The economic contributions of information technology (IT) are not in question. Put simply, IT is the enabling technology of the 21st century. The effective use of IT is now recognized as a major component of economic growth and innovation in other areas of society and the economy. As the President's Council of Advisors on Science and Technology acknowledged in its 2007 assessment of the federal networking and IT research and development (R&D) program: IT leadership is essential to U.S. economic prosperity, security, and quality of life…. It is difficult to overstate the contribution of networking and information technology to America's security, economy, and quality of life, The cumulative effect of these technologies on life in the United States and around the world has been profound and beneficial [3].Since 1995, the networking and information technology industries have accounted for 25 percent of U.S. economic growth, measured as real change in gross domestic product (GDP).

Economic security is composed of basic social security, defined by access to basic needs infrastructure pertaining to health, education, dwelling, information, and social protection, as well as work-related security [4]. By a way of definition, economic security or financial security is the condition of having stable income or other resources to support a standard of living now and in the foreseeable future [5].

The level of economic insecurity is very high. It is a national threat globally, not only to the developing countries but including the developed nations. Economic security is a major element of national security, even as borders are less important than ever. No matter how we look at national security, there can be no question of the need to include the economic viability of our nation. Without capital, there is no business; without business, there is no profit; without profit, there are no jobs. And without jobs, there are no taxes, and there is no military capability [6]**.**

1.2 Objective of the Study

The objectives of this research work include the following:

i. To investigate if ICT can be used to promote economic security.
ii. To assess the different approach to economic security.
iii. To highlight some of the areas that Information Technology can be employed to promote Economic Security.

1.3 Statement of the Problem

The problem of economic insecurity is a global threat to national security. In Nigeria hitherto, we have witnessed a lot of national security issues that has lead Nigerians to doubt the continued existence of the country as one indivisible entity with many calling for disintegration. Many terrorist networks have sprang up in many parts of the country such as MEND, Boko Haram and MASSOB to mention just but a few, have been unleashing terror on the Nigerian public. The government is extremely concerned with curtailing the activities of these extremist groups as well as other crime perpetrators ranging from mobile phone theft, cult activities, drug trafficking, gang related offences, fraud, kidnapping for ransom, organized crime and others [1]. These national security challenges are as a result of economic insecurity or lack of economic

security: Income security, Employment security, Job security, Representation security, Labour market Security, Work security, and Skill reproduction security.

1.4 Motivation for the Research

Economic Security is very important both to the individual citizen and to the nation as a whole. The nation needs to be protected from regional or global tie manipulation that would endanger her economic growth and development for continued and substantial existence. The standard of living of its citizens needs to be improved and sustained. The entire security of a nation state is threatened if conscious efforts are not made to sustain the economic security of the state.

1.5 Research Questions and Hypothesis

Has the advent of Information Technology helped in promoting and sustaining the economic security?

Hypothesis H0: Information Technology cannot promote Economic Security

Hypothesis H1: Information Technology Promotes Economic Security

1.6 Scope of Study

In this research work, we shall concentrate on the use of information technology tools and gadgets for the promotion of economic security in Nigeria.

1.7 Definition of Technical Terms

Economic Security: the economic well-being of people to stay above or at the margin of poverty level to meet immediate need and save for the future.

Micro-Enterprise: According to [18], Micro-enterprise is "very small-scale business that is normally owner-operated with few employees"[19]. **Theoretical framework**

The problem of economic security is a global threat to national security. In Nigeria hitherto, we have witnessed a lot of national security issues that is even doubting the continued existence of the country as one indivisible entity with many calling for disintegration. In Nigeria today, many terrorist networks have sprang up in many parts of the country such as MEND, Boko Haram and MASSOB to mention just but a few, have been unleashing terror to the Nigerian public. The government is extremely concerned in curtailing the activities of these extremist as well as other crime perpetrators ranging from mobile phone theft, cult activities, drug trafficking, gang related offences, fraud, kidnapping for ransom, organized crime and others [1].

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The Role of Information Technology in Combating Security Challenges in Nigeria

The importance of a secured environment in any society cannot be overemphasized because you cannot talk

about economic security if the people themselves are not first secured. And no national economic development can be sustained or stabilized in the midst of security challenges. As already noted by [1], the various security challenges facing the country [7], Information technology (IT) will play a critical role in strengthening Nigeria's National security against potential future attacks. Specifically, IT will help enable the nation to identify potential threats, share information more readily, provide mechanisms to protect the Nation, and develop response capabilities. The use of Emergency Communication Systems, GPS-enabled devices, Social Networking Tools, emergency operation centers (EOCs), Intelligent Monitoring systems, Data Mining and Database Tracking systems and Information Sharing will greatly improve the ability of the security agencies to combat security challenges in Nigeria. From the foregoing discussion, it is obvious that IT can be employed to enhance national security which is pivotal to promotion of economic security.

IT as a gentleman but effective alternative to rifles and mortar fire to combat Terrorism

According to the Nigeria Computer Society (NCS) president, Sir Demola Aladekomo, the government's response to the deployment of IT to combat terrorism is not encouraging. "Crime detection and elimination should not always come down to the use of rifles and mortar fire. There should be a more intelligent way of bringing about peace," he said. In foreign countries, crime is prevented and detected through the use of Information Communication Technology (ICT) gadgets, such as Closed Circuit Televison (CCTV). The perpetrators of the Boston bombings in the United States (US) last April were caught by a CCTV footage. Also, those behind the Woolwich killing in the United Kingdom (UK) were captured on CCTV which made the identification of the suspects easier. These are simple technological tools [8].

Information Technology an Overview

Information technology (IT), as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." [9].

[10] avers that Information and communication technology (ICT) is the use of technology in managing and processing information with the use of electronic computer system and computer software to convert, store, protect, process, transmit and retrieve information .

IT deals with the use of electronic computers and computer software to convert, store, protect process, transmit, and securely retrieve information. Today, the term information has ballooned to encompass many aspects of computing and technology, and the term has become very recognizable.

IT professionals perform a variety of duties that range from installing applications to designing complex computer networks and information databases. A few of the duties that IT professionals perform may include data management, networking, engineering computer hardware, database and software design, as well as the management and administration of entire systems [7].

According to [11], ICT refers to several forms of information exchange between two or more computers through any of the several methods of interconnection. These Technologies provide speedy, inexpensive and convenient means of communication. The adoption of these technologies in many countries by different sectors of the economy have been found to have direct positive impact on the organizations' efficiency and have led to more rapid acceleration of development in these countries.

ICT Integration to Agriculture

According to [12], over the years, deliberate, though ineffective efforts have been made by donors and African countries to bring about agricultural development without much to show for it. Much of the failure is attributed to non-integration of agricultural information with other development programmes to address the numerous related problems that face farmers. Information is an essential ingredient in agricultural development programmes, but Nigerian farmers seldom feel the impact of agricultural innovations either because they have no access to such vital information or it is poorly disseminated. The integration of ICT in agriculture can be utilized for providing accurate, timely, relevant information and services to the farmers, thereby facilitating environment for more remunerative agriculture.

With ICT facilities, farmers can be update on temperature, humidity and rainfall with additional parameters such as atmospheric pressure, solar radiation, wind speed and soil moisture. In India, Ingen technologies provide this information to farmers. Ingen Technologies also use predictions and analytical software to predict demand for beverages of a major software drink company. The use of ICT portal or agricultural website helps in dissemination of vital agriculture information such as online detailed contents, crops, crop management techniques, fertilizers and pesticides, and many other agriculture related materials. Most of the small scale farmers sell their products to middlemen who now determine the prices to the detriment of the farmers. But with the provision of commodity prices and market information on real time basis available on the internet, the farming community can be provided with choices they lack today. This will ensure better price realization and stimulate a drive towards better productivity. Again with e-commerce farmers can sell their products online. In this regard the farmer can sell his product right inside his farm. What the farmer needs do is to register his location and products, to ensure that products ordered online can be traced to a particular farmer [13]. This has widened the market for farmers.

With ICT, one can get information on market potential of some agricultural products. For instance, instead of selling unprocessed groundnuts you could further add value to it by further processing the nuts into peanut, butter and cooking oil.

Prompt ICT information on weather pests and diseases can prevent calamity experienced in agriculture in recent times, due to vagaries of weather and attack of pest and diseases. Still in India, "aQUA technology" is applied to assist farmers. "aQUA" technology stands for "almost all Questions Answered". It is a farmer–expert question and answer data base supporting Indian languages. It is an online multilingual multimedia

informatics lab that answers farmers' queries, based on location, season, crop and other information provided by farmers [14]. ICT is capable of lifting Nigeria's agricultural practice to the next level. It is a change agent we cannot ignore. Nigeria as a developing nation cannot be isolated from the wind of globalization. Application of ICT in agriculture has worked well in Korea, Japan, India and China, countries once regarded as undeveloped, but has now been lifted by ICT into leading positions in the comity of nations [15].

Developing Nigeria's ICT Sector for Economic Growth

The economic survival of any country in the information age of the 21st Century civilization is somewhat contingent on its access to ICT and information networks. According to Mr. Osaze Omoragbon, a consultant on ICT, stressed that access to relevant information and technologies would surely provoke the transformation of industries, formal and informal sectors, defence, education and financial services, among others, in a country. "The economies of developed countries are underpinned by ICT, even as it takes the front row in the development agenda of emerging market economies such as Brazil, Russia, India, China and South Africa. "These countries have built their economic development models around ICT,'' he said. [16].

Ways Technology Can Help the Economy [17].

At a time of slowed growth and continued volatility, many countries are looking for policies that will stimulate growth and create new jobs. Information communications technology (ICT) is not only one of the fastest growing industries – directly creating millions of jobs – but it is also an important enabler of innovation and development. The number of mobile subscriptions (6.8 billion) is approaching global population figures, with 40% of people in the world already online. In this new environment, the competitiveness of economies depends on their ability to leverage new technologies. Here are the five common economic effects of ICT[17].

Direct Job Creation

The ICT sector is, and is expected to remain, one of the largest employers. In the US alone, computer and information technology jobs are expected to grow by 22% up to 2020, creating 758,800 new jobs. In Australia, building and running the new super-fast National Broadband Network will support 25,000 jobs annually. Naturally, the growth in different segments is uneven. In the US, for each job in the high-tech industry, five additional jobs, on average, are created in other sectors. In 2013, the global tech market grew by 8%, creating jobs, salaries and a widening range of services and products.

Contribution to GDP growth

Findings from various countries confirm the positive effect of ICT on growth. For example, a 10% increase in broadband penetration is associated with a 1.4% increase in GDP growth in emerging markets. In China, this number can reach 2.5%. The doubling of mobile data use caused by the increase in 3G connections boosts GDP per capita growth rate by 0.5% globally. The Internet accounts for 3.4% of overall GDP in some economies. Most of this effect is driven by e-commerce – people advertising and selling goods online.

Emergence of New Services and Industries

Numerous public services have become available online and through mobile phones. The transition to cloud computing is one of the key trends for modernization. The government of Moldova is one of the first countries in Eastern Europe and Central Asia to shift its government IT infrastructure into the cloud and launch mobile and e-services for citizens and businesses. ICT has enabled the emergence of a completely new sector: the App industry Research shows that Facebook apps alone created over 182,000 jobs in 2011, and that the aggregate value of the Facebook app economy exceeds $12 billion.

Workforce Transformation

New "microwork" platforms, developed by companies like oDesk, Amazon and Samasource, help to divide tasks into small components that can then be outsourced to contract workers. The contractors are often based in emerging economies. Microwork platforms allow entrepreneurs to significantly cut costs and get access to qualified workers. In 2012, oDesk alone had over 3 million registered contractors who performed 1.5 million tasks. This trend had spillover effects on other industries, such as online payment systems. ICT has also contributed to the rise of entrepreneurship, making it much easier for self-starters to access best practices, legal and regulatory information, and marketing and investment resources.

Business Innovation

In OECD countries, more than 95% of businesses have an online presence. The Internet provides them with new ways of reaching out to customers and competing for market share. Over the past few years, social media has established itself as a powerful marketing tool. ICT tools employed within companies help to streamline business processes and improve efficiency. The unprecedented explosion of connected devices throughout the world has created new ways for businesses to serve their customers.

Presentation and Analysis Of Data

Table 4.2.1 Respondents by IT on security of life and properties

Response	Frequency	Percentage (%)
Agreed	35	43.75
Strongly Agreed	30	37.5
Disagreed	10	12.5
Strongly Disagreed	5	6.25
Total	**80**	**100**

Table 4.2.2 Respondents by IT on family economic security index

Response	Frequency	Percentage (%)
Agreed	30	37.5
Strongly Agreed	20	25
Disagreed	15	18.75
Strongly Disagreed	15	18.75
Total	**80**	**100**

Table 4.2.3 Respondents by IT on economic crime and corruption

Response	Frequency	Percentage (%)
Agreed	36	45
Strongly Agreed	40	50
Disagreed	4	5
Strongly Disagreed	0	0
Total	**80**	**100**

Table 4.2.4 Respondents by IT on job and employment security

Response	Frequency	Percentage (%)
Agreed	40	50
Strongly Agreed	30	37.5
Disagreed	8	10
Strongly Disagreed	2	2.5
Total	**80**	**100**

Table 4.2.5 Respondents by IT on poverty reduction and economic well being

Response	Frequency	Percentage (%)
Agreed	20	25
Strongly Agreed	58	72.5
Disagreed	1	1.25
Strongly Disagreed	1	1.25
Total	**80**	**100**

Table 4.2.6 Respondents by IT gadgets and National security

Response	Frequency	Percentage (%)
Agreed	38	47.5
Strongly Agreed	42	52.5
Disagreed	0	0
Strongly Disagreed	0	0
Total	**80**	**100**

Table 4.2.7 Respondents by IT on Business propriety and trade secrets management

Response	Frequency	Percentage (%)
Agreed	25	31.25
Strongly Agreed	25	31.25
Disagreed	20	25
Strongly Disagreed	10	12.5
Total	**80**	**100**

Table 4.2.8 Respondents by IT on Oil and Gas production and distribution

Response	Frequency	Percentage (%)
Agreed	28	35
Strongly Agreed	50	62.5
Disagreed	2	2.5
Strongly Disagreed	0	0
Total	**80**	**100**

Table 4.2.9 Respondents by IT on Agricultural Productivity

Response	Frequency	Percentage (%)
Agreed	26	32.5
Strongly Agreed	46	57.5
Disagreed	5	6.25
Strongly Disagreed	3	3.75
Total	**80**	**100**

Table 4.2.10 Respondents by IT on Education Sector

Response	Frequency	Percentage (%)
Agreed	30	37.5
Strongly Agreed	50	62.5
Disagreed	0	0
Strongly Disagreed	0	0
Total	**80**	**100**

4.2 Analysis of Data

Sixty per cent (60%) of the respondents belong to the male sex category while 40% are females. All the responses to the questions cutting across all facets of the economy and national security, it is observed that the ICT role of information technology in promoting economic security is very high but the usage is still very low. Table 4.2.12 shows that 37.5% agreed and 62.5% strongly agreed that IT can play a vital role in the education sector which is linked to the economic development and economic security of the nation because nobody would want to employ a half baked graduate to work and mess up his business.

4.3 Testing of Hypotheses

Hypothesis H0:
Information Technology cannot promote Economic Security

Hypothesis H1: Information Technology Promotes Economic Security

Table 4.2.4 and table 4.2.5 will be used to test the impact of Information technology in promoting economic security

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Table 4.2.13 Observed frequency

RESPONSE	TABLE 4.2.4	TABLE 4.2.5	TOTAL
Agreed	40	20	60
Strongly Agreed	30	58	88
Disagreed	8	1	9
Strongly Disagreed	2	1	3
TOTAL	**80**	**80**	**160**

Source: Table 4.2.4 and table 4.2.5

Computation of expected frequency (Fe)

Fe = (r X k)/n (1)

Where: r = Row total (60,88,9,3), k = column total(80,80), n = grand total(160),

Fe = expected frequency, Fo = observed frequecy

S/no	FO	FE	FO-FE	(FO-FE)^2	(FO-FE)^2/FE
1	40	30	10	100	3.333333333
2	30	44	-14	196	4.454545455
3	8	4.5	3.5	12.25	2.722222222
4	2	1.5	0.5	0.25	0.166666667
5	20	30	-10	100	3.333333333
6	58	44	14	196	4.454545455
7	1	4.5	-3.5	12.25	2.722222222
8	1	1.5	-0.5	0.25	0.166666667
Total	160	160	0	617	X2=**21.35353535**

X2(chi-square) = (fo-fe)2/fe = 21.35
Degree of freedom (df) = (c-1)(r-1),where c= no of columns = 2 , r = no of rows = 4
chi-square = 21.4

degrees of freedom = 3
probability = 0.000

The computed value of chi-square (x2) is 21.35, while the critical value at 5% significane level and a degree of freedom(df) of 3 is 7.815. According to the decision rule,if the computed value of x2 is greater than the critical value, we reject the null hypothesis(H0) and accept the alternative hypothesis(Ha). If otherwise, then accept the null hypothesis(H0) and reject the alternative hypothesis(Ha). Decisions: we therefore reject Ho and accept Ha since the computed value of chi-square is greater than the critical value at 5% significance level at the degree of freedom = 3, i.e. 21.35 > 7.82.

5.0 Summary, conclusions and recommendations

5.1 Discussion on the Findings

We now highlight some of the findings at the course and the end of this research work, they are summarized below:

i. The researchers have been able to find out that the role of Information Technology is pivotal to the national economic growth and development – this is the secret of most developed countries of the world like USA, Japan, Indian, China etc

ii. That Information Technology infrastructure when effectively deployed and managed can enhance the national security on which socio-economic security index can be based and measured. IT gadgets like Closed Circuit Television (CCTV) can be very effective in curtailing terrorism, armed robbery, kidnapping and like crimes. There is no economic security if the people themselves are not secured and no foreign investors will be attracted in an insecure environment.

iii. That Information technology can be used to promote economic security by:

   a. Combating economic crimes which is a major problem in Nigeria

   b. Protection of financial and economic sites which enhances trade secrets and proprietary business model protection and continuity in economic growth of an individual, cooperate or nation as a whole. This also is important for accurate auditing, data non-repudiation and confidentiality of economic and financial records.

   c. Money exchange and their methods of protection will go a long way in minimizing losses due to inflation, deflation issues and currency value and exchange rate in any international transactions, and.

   d. Predicting dangers threatening national economy

iv. That Information Technology can create jobs and guaranteed employment security and reduction of poverty level in Nigeria and the world over.

v. We also found out that IT can be employed to boost and revive

the agricultural sector in Nigeria by providing up-to-date information on modern methods of agricultural practices which in turn promotes economic security.

vi. Furthermore, the researchers found out that IT can be employed in the oil and gas sector for effective management of production, distribution and revenue utilization.

vii. Having noted that information technology can be deployed to promote economic security in all facets of the economy, including the education sector as well as the government system for accountability and good governance, we found out also these benefits that ICT offers are still under utilized in Nigeria.

5.2 Conclusion

This research work on promoting Economic Security through Information Technology is a very interesting area of study for the economic wellbeing of citizens. Security is fundamental to life, properties and well-being.

ICT has come to stay and promotes economic security. All hands must be on desk to embrace and employ ICT in all facets of the economy for growth and development as well as secure environment. Economic Security can greatly reduce crime and criminal activities through information technology.

5.3 Recommendation

Based on the findings made in this study, the researchers recommend that the following measures be put in place to promote economic security through information technology:

i. That the Nigerian government should show more commitment to promote ICT.

ii. The national security should be enhanced through the deployment of Information technology gadgets like CCTV to ensure a conductive and secure economic environment and attract foreign investors

iii. We recommend that information technology should be employed in all sectors of the economy to promote economic security.

iv. That all government operations should be automated and the use of manual operations should be discouraged. IT promotes transparency in governance.

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