

Digitization, Optimization and Sustainable Info-Tech Investments in Nigerian Organizations

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Abstract

The global wind of change has caught up significantly with the logistic and dialectics of institutional investors in many African countries, including the Nigerian economy. Against this back-drop, executive information management poise and pedigree are critically being redirected towards digitization and optimization. As corporate operational horizon broadens, coordination of diverse constituencies become very imperative, to the end that functionaries and their formations cannot but digitally brace up or tactically break down with their real institutional investments. The Nigerians strategic constituencies selected for diagnosis in this study have to do with education, food/beverage, and oil/gas. Requisite data were collected using questionnaire and subsequently analyzed using statistical critical mean benchmark under a modified Likert frame. The analytical revelations indicate that info-tech investment (ITI) synergy is associated with efficient management of technical, operational, material, and environmental risks, under multi-economics targeted corporate digitization and optimization regime.

Keywords: Digital synergy, Optimization strategy, Real investments.

1.0 Introduction

Information and communication technology (ICT) revolution has continued to drive the wide use of computers and other info-tech infrastructure which accelerate data processing and transmission in compliant organizations. Paradoxically, digital resources are as vital as the conventional/traditional corporate compliments comprising men, money, materials, and machines (the 4Ms). Sensitive investors therefore endeavour to commit funds towards the provision of functional management information system (MIS), coordinated by state-of-the art digital work stations. The emphasis in recent times is on accentuating top-quality preparation, preservation and presentation of information relating to the organizations. On account of this, information managers monitor operational processes, ensuring that inefficient modes are identified and substituted by more cost effective modes that would optimize info-tech investments (ITIs).

Institutions/organizations in education, food/beverage and oil/gas industrial constituencies of the Nigerian economy equally face challenges of growth and operational sophistication that necessitate digital intervention. This has been quite noticeable in the recent corporate efforts to comprehensively reinvent corporate governance in the organizations (Osaghae, Umagbai & Osaghae, 2009). Their counterparts which still hold unto flaky and faulty analogue modes have no part in the much-desired ITI economies. For instance, the ensuring information sharing possibilities help to reduce uncertainty/suspicion as stakeholders are better sensitized to embrace and support digital organizational change in the contemporary world of work (Abdulsalam & Ezekiel, 2009). Furthermore, meaningful turnaround of dysfunctional ITIs would check organizational systems' crack and crash for more purposeful management, ensuring operational units do not prevail as disparate constituencies but constructively unified into one organic whole. The outcomes of the various operative fragments may at best manifest as unhealthy infractions and improper corporate fractions. The manifestation of ITI digitization and optimization is also expected in relation to organizational product development, customer relations enhancement, and synergistic corporate fulfillment (Juma, 2009, Besanko, Dranove, Shanley & Schaefer, 2007, Heller & Hindle, 1998). Concerning the selected Nigerian organizations and in the light of the fore-going, the analytical perspective set out for consideration in this study are:

1. assessment of ITI economies by focal corporate operatives
2. assessment of ITI economies by focal corporate executive and
3. assessment of ITI economies by digital connectivity management

An information society is knowledge-driven, requiring the heavy use and reliance on ICT. Corporate governance, therefore, is not shielded from the challenges associated with digitization. These are peculiar

organizational internalities and national externalities that shape the operational environment of going and growing concerns (Ukowitz & Tafamel, 2010; Marcus, 2008; Ajadi, 2006). More specifically, the gray areas of corporate governance in relation to digitization border on:

- a. Expression mismatch, relative to corporate executives say and what they think they have said. This also extends to the difference between how they think have treated the operatives and how they think the operatives have treated them. If any significant discrepancy lingers, it may aggravate to structural degeneracy
- b. Function misinterpretation, relative to faulty systems, which usually breed self-centric interest and eventually undermine executive – operative relations
- c. Information mistreat, relative to filtering and distortions. From the sender's perspective, it generally conveys unwarranted compliments rather than constructive submissions. At the receiving end, it fails to recognize and satisfactorily attend to fundamental message expectations. And
- d. Signal mistake, relative to information system crisis as corporate executives handle different things in different ways requiring different results.

All these tend to precipitate digital allergies, heightened by corporate governance framework frailty. Furthermore, where executive antics and semantics are introduced, many operatives become informatively deformed, though not uniformed. Consequently, the latter would not facilitate the realization of the much desired info-synergy which translates to better organizational enrichment and orchestrate far-reaching potential critical investor attraction. However, where focal executives and operatives strategize and synergize through meaningful digital engagement, plausible ITI, economies are made possible. With regards to these allergy/synergy realities, contemporary analysts make reference to the experiences of the African economies of Kenya, Gambia, and Nigeria.

In a study conducted on the Kenyan economy, Osoro (2011) submitted that the connection of banks of World Markets clearly causes significant country vulnerability to current global crisis, even if the country appears healthy by normal measures. The ITI contagion from international capital markets suggests that preventive measures taken by most economies in this regard do not yet suffice. In fact, conventional guidelines to financial market actors merely aim at maintaining integrity of the financial system. The scope needs to be expanded to include non-governmental organizations (NGOs) and other strategic players in the economy. Apart from government monopoly of enforcing laws, the introduction of new legislations/regulations, prosecutions, licensing and complaint investigations, has equally become imperative for the optimization of digitization, particularly for meaningful corporate governance. Furthermore, world markets have been galvanized by increasing globalization, intensified international capital flows and investment, faster information transfer, harmonization of international regulations, increasing trade flows and alignment of economic policy.

In the Gambia, a study by Baharui (2006) rather focused on the intrigues of gender affirmative advocacy. The associated strategies policy initiatives are to be facilitated by ITI, critically underscoring:

- productive capacity of the poor by promoting labour-saving devices for women, providing access to credit, and reorganizing agricultural research and development (R&D), so as to encourage labour intensive agriculture and development of small ruminants
- access to social services and improving their performance by expanding access to basic social services in rural areas; delivering responsive social programmes to the poor, and enhancing the quality of social services for sustainability
- local level capacity political/legislative framework for decentralization, and empowerment of local government authorities to assume decentralized responsibilities and
- participatory communication process beyond mere consultation, addressing gender issues at national and local levels, and institutionalizing dialogue between government, civil society organization (CSOs) and donors

Currently, many digital barriers to information accessibility still exist, especially on account of increasing commercial and industrial exploitation. These, according to Igwela-Okanu and Agundu (2008), include:

1. cost/financial implication
2. cultural/traditional implication
3. political/governmental implication
4. technological/techno-structural implication and
5. educational/transformational implication.

Furthermore, resource utilization and digital optimization of new ideas are expected to holistically transform organizations in the Nigerian setting in line with the dictates of the competitive global economy (Ekanem, 2011; Boulton, Libert & Samek, 2000; Davis & Meyer, 1998; Naisbitt, 1994). Thus, introduction of new ways of doing things, with improved speed and accuracy, is the essence of ITI. The economies of ITI, thus, ultimately translate to:

- a. organization-wide commitment to excellence
- b. general understanding of creativity
- c. strategic use of innovation teams
- d. constant monitoring of other sources of new ideas
- e. institutionalized collaborations and
- f. conducive environments for higher creativity.

For effective monitoring, a cross-sector feedback mechanism is equally required, which should involve real time whistle-blowing (RTWB). For this to be truly potent, Massoud (2005) recommends a pragmatic adoption of Bowie's six ideals, such as:

- RTWB that stems from appropriate moral motives
- RTWB that involves use of all available internal procedures
- RTWB that has reasonable persuading evidence
- RTWB that facilitates perception/detection of serious danger
- RTWB that proceeds responsibly and avoids/exposes moral violations and
- RTWB that shows high success probability.

With digital administrative diversity, the dynamics of information chain are strategically managed to enhance accessibility. Holistically, a profile provided by Mohammed (2010), in this regard, encapsulates information development, book policies, book development, book importation and exportation, educational materials sourcing, literary promotion, legal depository maintenance, as well as publishing and printing. Operationally, the strategic segments of interest in the Nigerian economy include:

1. Federal and State Ministries of Education, Culture and Tourism, Information and National Orientation, Commerce and Industry, Finance and National Planning, etc.
2. Government Agencies and Parastatals such as Nigerian Customs Services, National Educational Research and Development Council (NERDC), Universal Basic Education Commission, Agency for Mass Literacy, Commission for Nomadic Education, Petroleum Trust Fund (PTF), etc.
3. Professional Associations such as the Association of Nigerian Authors, Association of West Africa Young Writers, Women Writers of Nigeria, Nigeria Guild of Editors, Nigeria Library Association, etc.
4. Publishers' Association such as Nigerian Publishers Association (NPA), Scholarly Publishers Association of Nigeria, Association of African Book Editors, etc.
5. Booksellers' Associations such as the Nigerian Booksellers Association
6. Printers' Associations such as the Association of Nigerian Printers
7. Book Publishers such as the Textbook Publishers, Academic/Research Publishers and General/Trade Publishers
8. Booksellers and Distributors such as Chain Booksellers, Retail Bookshops, Book Wholesalers and Importers
9. The Libraries and Information Centres such as National and Public Libraries, Academic Libraries, School Libraries, Ministry Libraries, Institution/Organization Libraries, and Privation Libraries
10. Media agencies such as the Print and Electronic Media houses owned by government and private individuals
11. government and private educational institutions at the primary, secondary and tertiary and
12. Non-Governmental Organization (NGOs) and Community Based Organizations (CBOs) engaged in socio-economic, political and cultural empowerment of the people such as the Nigerian Book Foundation

From the educational perspective, distant learning programmes in education and allied services are positively connected with ITI economies. However, Odili (2008) contends that corporate digital systems and digitization process should be characterized by:

- a. core curriculum centrality
- b. technical contract/host site responsibility
- c. admission, counselling and registration policies/procedures acceptability
- d. remote support services availability
- e. curriculum/course packaging adaptability
- f. faculty development, training and incentives sustainability and
- g. evaluation possibility

This current research endeavour seeks to underscore ITI synergy beyond educational services, as other strategic sectors are well considered.

2.0 Methods

Respondents in this study were drawn from education sector organization (ESOs), food/beverage sector organization (FBSOs); and oil/gas sector organizations (OGSOs). Effectively, a sample of 200(66.67%) respondents was drawn out of an accessible population of 300 key executive and operative human resources. These were administered with research questionnaire having two sections:

- Segment A; for personal/positional data of respondents and
- Segment B; for core perspectives of the study, under a four-point modified Likert scale comprising the options – Strongly Agree (SA) = 4 points; Agree (A) = 3 points; Disagree (D) = 2 points; and Strongly Disagree (SD) = 1 point

Primary data harnessed through the research questionnaire, therefore, constituted the basis of statistical analysis. Specifically, out of the 200 copies of research questionnaire administered on respondents in the executive and operative cadres of the selected organizations (ESOs, FBSOs, and OGSOs), 175 (89.5%) copies were retrieved and considered appropriate for statistical analysis, as presented in Table 1. Subsequently, a Mean Benchmark (MB) of 2.50 was stipulated and adopted for comparison/consideration of various response frequencies, as presented in Tables 2, 3 and 4:

Table 1: Questionnaire distribution and retrieval

	Operatives		Executives		Total
	Total	Percentage	Total	Percentage	
Copies Administered	100	100	100	100	200
Copies Retrieved	90	90	95	95	185
Copies set off (even)	5	5	5	5	10
Copies utilized	85	85	90	90	175

Source: Research Data (2012).

Table 2: ITI Economies as profiled by corporate operatives

S/N	Perspective	Operatives		
		Total Score	Mean Score	MB
1	ITI will dispel workplace fear/distrust	520	2.97	>2.50 Aff.
2	ITI will minimize sense of job insecurity	511	2.92	>2.50 Aff.
3	ITI will boost access to job-related information	462	2.64	>2.50 Aff.
4	ITI will promote peaceful teamwork life	508	2.90	>2.50 Aff.
5.	ITI will increase task sensitivity	422	2.41	<2.50 N/Aff.
6.	ITI will enhance policy acceptability	429	2.45	<2.50 N/Aff.

Key: H/Aff. = Highly Affirmative (3.00 and above); Aff. = Affirmative (2.50-2.99); N/Aff. = Non-Affirmative (Below 2.00 – 2.50); and HN/Aff.= Highly Non-Affirmative (Below 2.00).

Source: Research Data (2012).

Table 3: ITI Economies as profiled by focal executives

S/N	Perspective	Executives		
		Total Score	Mean Score	MB
1	ITI will accelerate information dissemination	462	2.64	>2.50 Aff.
2	ITI will aid objective financial disclosure	338	1.93	<2.50 N/Aff.
3	ITI will foster managerial capacity building	606	3.45	>2.50 H/Aff.

Key: H/Aff. = Highly Affirmative (3.00 and above); Aff. = Affirmative (2.50-2.99); N/Aff. = Non-Affirmative (Below 2.00 – 2.50); and HN/Aff.= Highly Non-Affirmative (Below 2.00).

Source: Research Data (2012).

Table 4: ITI Economies as profiled by corporate strategy and connectivity

S/N	Perspective	Operatives		
		Total Score	Mean Score	MB
1	ITI will accentuate strategic information utilization	462	2.64	>2.50 Aff.
2	ITI will bridge strategic expectation gap	508	2.90	>2.50 Aff.
3	ITI will create strategic networks synergy	529	3.02	>2.50 H/Aff.
4	ITI will sustain resource dynamism and relevance	683	3.90	>2.50 H/Aff.

Key: H/Aff. = Highly Affirmative (3.00 and above); Aff. = Affirmative (2.50-2.99); N/Aff. = Non-Affirmative (Below 2.00 – 2.50); and HN/Aff.= Highly Non-Affirmative (Below 2.00).

Source: Research Data (2012).

3.0 Discussion

The outcomes anchored on affirmative/highly affirmative CMBs clearly illuminate the economies of ITIs in the focal sectors. Essentially, strategic institutional digitization will create robust corporate intra/inter-connectivity which, if efficiently and effectively managed, promises to:

1. dispel workplace fear/distrust
2. minimize sense of job-related insecurity
3. boost access to job-related information
4. promote peaceful teamwork life
5. accelerate functional information dissemination
6. foster managerial capacity building
7. accentuate strategic information utilization
8. bridge strategic information gap
9. create strategic network synergy and
10. sustain resource dynamism and relevance

In the light of the fore-going profiles of ITI economies, it is most expedient for stakeholders of strategic institutions to continuously invest in digital expansion, reengineering and redefinition, as it constitutes modern day quintessential mode for greater industrial capacity building and corporate competitive edge. ICT compliance and ITI economies largely accounts for quantum leap progress and success of many organizations, especially in the advanced and emerging economies of the world today. These super-fortunes are still far beyond the reach of many less developed countries (LDCs), especially as closed management information system (CMIS) characteristically prevails. The former blocs are rather characterized by open management information system (OMIS). Vividly, in the latter bloc, the associated poor access to critical information gravitates work processes to systemic demobilization, investment sub-optimization and eventual institutional degeneracy (Chiwari, 2012; Monye & Oshio, 2011; Igwela-Okanu & Agundu, 2008). On account of these, the over-riding recommendation is for corporate executives and operatives to fully brace up with productive digitization and simplify institutional tasks to harness cutting-edge innovative economies to ITI on a strategically sustainable basis.

4.0 Conclusion

In the face of numerous challenges to ICT installation, adaptation and utilization in strategic institutions, it is vitally critical to deepen executive commitment towards motivating the operative constituencies to embrace change and support to digitization drive. ITI and other new technologies should be explored to make institutional tasks easier, leveraging on core skills and peculiar auspicious competencies ahead of competition (Ekanem, 2011; Haksever, Render, Russell & Murdick, 2000). Where the digital grid takes after the open book management approach (OBMA), which is equally synonymous with OMIS, then information sharing among operatives would be auspicious, ultimately translating to higher individual/collective productivity. Furthermore, the practice of sharing relevant information with operatives at various industrial levels of activity relatively makes for greater responsibility, accountability, objectivity and productivity. Nonetheless, it is imperative to provide a template which clearly stipulates performance targets in measurable terms. With such commercial/industrial framework, executive and operative functionaries would better understand how their individual/collective inputs actually contribute and aggregate to holistic progress and success of the organization. For sustainable ITI optimization, the imperatives also border to risk identification, administration and management (Danjuma, 2011; Crouhy, Galai & Mark, 2006; Agundu, 2006; Ebenezer, 2004).

The criticality of risk management in the administration of business operations and sundry corporate investments cannot be over-emphasized. The four broad areas of risk management emphasis are:

- a. technical volatility, which requires adoption of strategic acquisition and conformance management principles
- b. operational volatility, which requires adoption of strategic human development and responsibility management principles
- c. system volatility, which requires adoption of monitoring and evaluation management principles and
- d. environmental volatility, which requires adoption of strategic market planning, targeting and performance management principles

In Nigeria's monolithic petro-dollar denominated economy, opportunities for strategic holistic innovation are replete, particularly in the education, food/beverage, and oil/gas sectors; represented in this study by the ESOs, FBSOs and OGSOs. Sustainable corporate efficiency and efficacy in relation to ITI over time should significantly transform institutional practices, synergize functional change processes and bequeath competitive cutting edge technologies which ITIs represent.

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