

Effect of Techno-Stress on the Performance of Accountants and Other Managers in Nigerian Banking and Brewery Industries

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Abstract

In this study, the effect of techno-stress on accountants and managers in select critical economic sectors in Nigeria is x-rayed. This is motivated by the devastating consequences of this problem to organizations in many parts of the world. The objectives sought included to determine the effect of techno-stress on the performance and health of majority of middle-level and senior managers in the Nigerian banking and brewery sectors. Opinion survey techniques were employed in gathering data, which were analyzed with 5-points Likert's scale. Area of study was Enugu metropolis and the 9th Mile corner of Enugu State of Nigeria. Results indicate that techno-stress has not significantly affected the performance of majority of middle-level and senior managers negatively in the Nigerian banking and brewery sectors. It has not also significantly increased the rate of ill-health of majority of managers in the Nigerian banking and brewery industries. However, mindful of the devastating effect of the problem, it is recommended that organizations should occasionally contract clinical psychologists and occupational therapists to organize health lectures for their staff on techno-stress, send them on frequent computer-trainings, reduce their work-loads and allow them more leisure and holidays.

Keywords: Techno-Stress, Nigerian Banking, Brewery Industries

1.0 INTRODUCTION

While the public relations school of thought contend that information and communication technologies (ICTs) have reduced the workload for managers and significantly improved their operational performance, the medical school of thought insists that it has also increased executive-stress syndrome amongst the managers through the introduction of what is now known as techno-stress. It is an existential reality that companies in Nigeria, nowadays, operate in a rapidly changing and turbulent business environment and they need to keep racing in the direction where the public wants them to go in order to survive (Ayantuji, 2004). It is, therefore, not surprising that today's successful organizations are those that key into this fact. This has resulted into a lot of managerial and structural adjustment of which information and communication technology is a major critical factor for success. The influence of information and communication technology cuts across the entire organizational framework. The technological revolution in banking and manufacturing industries alike has undoubtedly brought along many changes in the workplace today. Some maintain that it has allowed work to be carried out faster and in a more efficient manner, while others argue that many employees are not comfortable with the implementation of technology as it involves change and uncertainty (Ungku, Salmiah and Wan-Khairuzzamam, 2009), which may amount to a kind of stress referred to as techno-stress.

There is no doubt that the worst hit in these new survival strategies in banks and the brewery industries in Nigeria are accountants and other managers handling information-dominant sensitive positions. Professional Accountants by the nature of their disciplined profession whether in public practice or in industry or commerce, are people on whom society has entrusted the task of managing money: therefore, they manage all, (Ifebunandu, 1999). It is imperative for an Accountant to acclimatize himself/herself to the peculiar characteristics of his/her environment with a view to providing relevant information, bearing in mind that for an information to be relevant, it has to be useful to the user and to be useful to the user, it should take cognizance of the user's peculiar features and aim at satisfying the user's peculiar needs (Ola, 1993).

It is obvious that for an Accountant in a bank or brewery company to be able to effectively and efficiently discharge the duties of his/her portfolio, he/she must exhibit the attributes that would guarantee both customers' satisfaction and the employers' needs. These will address the challenges of their positions as financial controllers

in banks and the breweries saddled with the onerous task of financial record keepings. Hence, they must be abreast of the new information and technological environment of the day.

The Accountant's life would have been less challenging if these technological diversity were easy to cope with. The problem lies with the interaction between the user of technology and the technology itself (Davis-Millis, 1998) and that is the beginning of some Accountants' and other managers' resistance, fear, apprehension, dissatisfaction, physical complaints and frustration with the new information and communication technologies, exhibited through a symptom called techno-stress. To what extent does these arguments remain valid and what has the experience been in our own local environment? Finding answers to these is the major thrust of this study, with special searchlight on two commercial banks (First Bank Nigeria Plc, an old generation bank in the Nigerian context, and Zenith Bank Plc, a new generation bank), and a manufacturing firm (the Nigerian Breweries Plc) in their Enugu operational bases. By old generation bank, we mean those banks established in Nigeria in the colonial years which are more conservative in their operations and managerial styles, while the new generation banks are indigenous banks that sprang up from the 1980s upwards with much more radical approaches in operations.

2.0 Statement of Problem

Resistance to change is an innate human problem, whether the change is for good or bad. This is because human habits die hard, hence, when people are used to certain practices over a long period, changing to a new and better practices sometimes pose some challenges. This has been the case with the introduction of information and communication technologies in the Nigerian financial and manufacturing sector. The replacement of manual works and heavy paper works, some claim, has thus worsened what we know before as executive stress, by bringing in another variant of it called techno-stress (Reynolds and Smith, 2006). How far has this problem affected the performance of majority of managers in the Nigerian banking and brewing industries? This study tried to find answers to that.

3.0 Objectives of the Study

This study has two objectives, which are:

- (i) To ascertain if techno-stress has negatively and significantly affected the performance of middle-level and senior managers negatively in Nigeria banking and brewery industry; and
- (ii) To assess whether techno stress has significantly increased the rate of ill-health amongst staff in Nigerian banking and brewery industries.

4.0 Review of Literature

The theoretical framework for this study is founded on the Diffusion of Innovations theory developed by Rogers (1983:112). The theory explains the collective human behaviour and responsiveness of members of a community, over time, when new ideas, technologies, attitudes, behaviours, policies, programmes, etc, are introduced to them. Rogers (1983), states that the adoption of an innovation is a process in which eventual adopters pass through five stages:

1. Awareness of the innovation
2. Interest in it
3. Trying it out
4. Making a decision to accept or reject it
5. Adopting or adapting the innovation to one's daily life.

The theory also provides an insight into the factors that influence the decision to adopt a new idea or practice amongst any people. These include:

1. **Relative Advantage** of the new idea over existing ones that it aims to replace.
2. **Complexity**: How simple or difficult is the new behaviour or technology to understand, act on and adopt? How many sub-steps or actions are necessary to complete the behaviour?
3. **Compatibility**: How compatible is the desired behaviour with existing practices, values and cultural norms of the intended audience?
4. **Triability**: How much can the desired behaviour be tried out before making a commitment to act on or adopt it?
5. **Observability**: How visible are the results and outcomes of the desired behaviour to the intended audience or target publics.

Obviously, the more complex the behaviour being advocated, the longer it takes to be accepted, and the more inconsistent to current practices, beliefs and norms, the longer it will take for acceptance. The more,

individuals can practise or try out a new behaviour, and then see the visible effects or benefits of their action, the more likely they are to adopt the new idea or behaviour-change being campaigned to them.

Kotler (2006) reviewed the diffusion of innovation's research and its application to social marketing programs. One of the first points he made in his discussion is that there are different types of adopters in every target audience arising from hundreds of different studies. These are usually represented in certain five adopter segments and motives as follows:

- Innovator (2.5%): need for novelty and need to be different
- Early Adopter (13.5%): recognize the value of adoption from contact with innovators
- Early Majority (34%): need to imitate or match up with others with a certain amount of deliberateness
- Late Majority (34%): need to join the bandwagon when they see that the early majority has legitimated the change
- Laggard (16%): need to respect traditions

A second group of diffusion of innovation concepts centers on the determinants of diffusion's speed and extent (Oldenburg, et. al.; 2007). Some of these attributes include:

- Relative Advantage: Is the new behavior better, easier, simpler than what they currently do?
- Compatibility: Does the new behavior fit into the audience's lifestyle, cultural/ethnic beliefs and practices, self-image?
- Trialability: Can the behavior be tried before making a final commitment?
- Communicability: Can the behavior be understood clearly and easily?
- Risk: Can the behavior be adopted with minimal risk and uncertainty?

Rothman, et. al. (2003) also agree that diffusion research influenced the development of a social marketing campaign directed at community mental health workers. All these facts, therefore, need to be accommodated in the introduction of computer technology to older managers, for a continued optimal output in their service deliveries in banks and other organizations in Nigeria.

Techno-Stress Concept and Human Health

Techno-stress is a new term comprising technology and stress. It represents the psychological disorder experienced by human beings in the period of office automation. In this information and global era of change and challenges (Odoh, 2011), researchers and managers have long agreed that stress in the workplace can disrupt the work environment, decrease job performances, increase job dissatisfaction, lower self esteem and induce illness. This is because little is known about the impact of the relationship between the amount of time individuals spend in interacting with computer and the anxiety level of these individuals resulting from this increased interaction (Ader, 2012). Thus, technology has only served to further complicate the management of stress factors in the work place (Kwajafa, 2012).

According to Brod (1984) who coined this term, "techno stress" is a modern disease of adaptation caused by inability to cope with the new computer technologies in a healthy manner which is made manifest by human attitude to acceptance, rejection or association with computer. Qiang-Tu, Kanliang and Qin-Shu, (2005:2) defined techno stress as any negative effect on human attitude, thought, behaviours and psychology that directly or indirectly result from technology. However Clark and Kalin (1996) opined that technology is not the problem but human adverse nature to new innovations. They therefore viewed techno stress as human resistance to change. They pointed out that stress is the outcome of human negative reaction to the technology without considering that most commercial organizations require their employees to really use these new computer skills and knowledge to improve their products and services deliveries to customers (Maimunah, Roshidi and Roslani, 2011).

Rapid advancements in technology are responsible for inducing stress into many peoples' lives (Ibrahim, et. Al., 2007). Reuters Business Information Services conducted a study of 1300 managers throughout United States, England, Australia, Hong Kong and Singapore, and found out that 33% reported ill-health as a result of information overload and 66% reported increased tension with work colleagues and diminished job satisfaction caused by information overload. Thus, while new technologies may offer many benefits, they may also contribute to increased job stress and strain (Raja and Raja, 1999). Information overloads and multitasking, both associated with ICT may create stress by contributing to work overload (Reynolds and Smith, 2006). The adoption, rapid diffusion and evolution of ICT have introduced a number of new demands into workplace that leads to job stress. Technology stress (Techno Stress) can be defined as a modern disease of adaptation caused by an inability to cope with new computer technologies by man (Raja and Ibrahim; 2007).

Berg, et. al. (1996) observe that little is known about the causes of health complaints associated with work with video display units (VDUs). The symptoms are to a large degree similar to those of multiple chemical sensitivity. While Arnetz (1996) say that there is a void in studies concerning occupational health aspects from working with the most advanced forms of information technologies. These techniques such as are found in some of the world-renowned telecommunication systems development laboratories do not say much. Ibrahim, et. al. (2007) maintain that rapid advancements in technology are responsible for inducing stress into our lives. But Takamura et al (2007), insist that the effects of techno-stress through VDT use on physical or mental distress are still controversial. Accountants, especially, by the nature of their work, are expected to perform unique services and maintain the highest standard of ethical conduct through accurate financial record keepings. Beside working more than eight hours in the office, he is expected to work more than seven hours from home using information and communication technology equipments: putting finishing touches to unfinished reports and sending online reports via internet, tracking e-transact reports, attending to all top management calls and attention, checking e-mails, browsing through the computer and phones. In some cases, the accountant may not cope with these workloads, thus resulting to techno-stress in his life.

Techno-Stress Creators

Ungku, Salmiah and Wan-Khairuzzamam (2009) identified five issues that induce the symptoms of techno stress which may manifest in the managers and accountants attitude to work and general disposition to life. These include:

- 1) **Techno-Overload:** This is a situation where accountants are forced by prevailing circumstances to work faster and longer in order to meet a schedule which may affect his well-being because of pressure.
- 2) **Techno-Inversion:** This may be termed transparency or open door policy where the accountant or manager because of technology can be reached any time or constantly, which breaks the barrier of work related official time and personal privacy. Most accountants and managers in sensitive positions cannot switch off their phone(s) any time any day, in or out of office. This induces stress in some cases into their lives.
- 3) **Techno-Complexity:** This is the circumstantial push on managers and accountants by virtue of their training to keep learning. In any case of merger or acquisition new application software emerges and Accountants force themselves to update their inadequate skills which will force them to spend more time and efforts to learn in order to adapt.
- 4) **Techno-Insecurity:** These are natural threats that follow commercial bank merger and acquisition. Most accountants fear job loss especially those whose computer anxiety, technophobia and computer stress are high. In commercial banks, merger or acquisition develop fear in some managers that another ICT competent officer may take his/her position.
- 5) **Techno-Uncertainty:** This is a situation where Accountants feel uncertain and unsettled since ICT is continuously changing and need upgrading which will continually put pressure on them to engage in continuous course updating.

5.0 Methodology

Opinion survey technique was employed in gathering data for this study. While Likert's scale of responses was also employed for data gathering and subsequent analysis, including measures of central tendency. Area of study was Enugu metropolis (capital of Enugu State of Nigeria), noted for heavy banking presence and the 9th Mile Corner noted for heavy industrial activities. The study was limited in scope to officers from supervisory levels upwards in the selected banks and brewery organizations. The population of study therefore came to 406 staff. Employing Taro Yamane (1964) formula for known populations, the sample size was thus determined:

$$n = \frac{N}{1 + N(e)^2}$$
$$n = \frac{406}{1 + 406(0.05)^2}$$
$$n = \frac{406}{1.0175} = 399.01$$
$$n = 399.$$

Instrument for data collection was structured questionnaire which was validated through higher authority vetting and test-retest formats.

6.0 Data Analysis:

(i) Respondents' Demographic Data

Table 1 below gives us a picture of the respondents' demographic make-up.

(i) Table 1: Respondents' Demographic Data

OPTIONS	FREQUENCY	PERCENTAGE
SEX:		
Male:	254	63.65%
Female	145	36.34%
Age:		
21 – 30 years	135	33.84%
31-40 years	125	31.33%
41 – 50 years	100	25.06%
50 years Or Above	39	9.77%
Education:		
O'Levels/Equivalent	50	12.53%
OND/NCE	50	12.53%
HND/BA/B.Sc	200	50.13%
MBA/M.Sc/PhD	99	24.81%
Marital Status:		
Married	245	61.40%
Single	154	38.60%
TOTAL	399	100%

Source: Field Survey, 2012.

From table 1 above, the respondents demographic data show that: 245 (63.65%) were males while 145 (36.34%) were females; 135 (33.84%) were in the age bracket of 21 to 30 years, another 125 (31.33%) in the age range of 31 to 40 years, 100 (21.06%) were aged between 41 to 50 years, while the remaining 39 (9.77%) were either 50 years or above. 50 respondents or 12.53% had only O'Levels, another 50 respondents or 12.53% had either OND or NCE, 200 respondents or 50.13% had First Degrees, while the remaining 99 respondents or 24.81% had either Masters Degrees or PhDs. 245 respondents or 61.40% were married, while the remaining 154 or 38.60% were still single as at the time of this survey.

(ii) Table 2: Analysis of Objectives 1: To ascertain if techno-stress has significantly affected the performance of middle-level and senior managers negatively in Nigeria banking and brewery industry.

TABLE 2: Effect of techno-stress on the performance managers

Questions	Strongly Agree(5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)	Mean	Decision
Many officers in my bank prefer manual paper works to computers (E-banking)	12 (60)	18 (72)	22 (66)	147 (294)	200 (200)	1.734	No
The introduction of computers increased the work load on my table	23 (115)	27 (108)	33 (99)	160 (320)	156 (156)	2	No
The introduction of computers brought more stress than relief to my job	26 (130)	33 (132)	22 (132)	158 (316)	160 (160)	2.015	No
Grand Mean = 1.916							

Source: Field survey, 2012.

Interpretations: 12 officers weighting 60 points strongly agreed that many officers in their banks prefer manual paper work to the computers. 18 staff weighting 72 points also agreed to that, 22 officers weighted 66 points were undecided; 147 officers weighted 294 disagreed, while 200 officers weighting 200 points on the Likert's scale strongly disagreed. All these resulted in a Mean of 1.734, showing disagreement with the proposition ($1.734 < 3.50$).

On whether the introduction of computers increased the workload on the officers' tables, 23 staff weighted 115 points strongly agreed, 27 staff weighted 108 points agreed, 33 staff weighted 99 points were undecided, 160 staff weighted 320 points disagreed, while 156 staff weighted 156 strongly disagreed. All these gave a Mean of 2, indicating another disagreement with the proposition ($2 < 3.50$).

On whether the introduction of computers brought more stress than relief to their jobs, 26 staff weighted 130 points strongly agreed, 33 staff weighted 132 points agreed, 22 staff weighted 66 points were undecided, 158 staff weighted 516 points disagreed, while 160 staff weighted 160 points strongly disagreed. These, gave a Mean of 2.015, which indicates a disagreement with the proposition ($2.015 < 3.5$).

RESULT

With a final Grand Mean of $1.916 < 3.50$, the result show that techno-stress has not significantly affected the performance of majority of middle-level and senior managers negatively in the Nigerian banking and brewery sectors.

Analysis of Objective 2: To determine if techno stress has significantly increased the rate of ill-health amongst staff in Nigerian banking and brewery industries.

Table 3: Effect of techno-stress on the health of staff of the banks and breweries

Questions	Strongly Agree(5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree(1)	Mean	Decision
I do fall sick more often since the introduction of computers in my organization	28 (140)	23 (92)	31 (93)	118 (376)	199 (199)	2.26	Didn't Agree
Other staff in my organization have also reported they fall sick more often since the introduction of computers	31 (155)	32 (128)	31 (93)	195 (390)	110 (110)	2.20	Didn't Agree
The introduction of computers in my organization has not significantly improved the quality of my life	23 (115)	25 (100)	27 (81)	199 (398)	125 (125)	2.05	Didn't Agree
Grand Mean = 2.17							

Source: Field Survey 2012.

Interpretations: The question on whether the selected banks and breweries' staff do fall sick more frequently since the introduction of computers in their operations, produced a Mean of 2.26, which indicates a disagreement with the proposition.

On whether other staff in their organizations have reported sick more often since the introduction of computers, a Mean of 2.20 was got, again reflecting a disagreement to the assertion.

On whether the introduction of computers in their organizations has not significantly improved their quality of lives, a Mean of 2.05 was obtained, again showing a disagreement to the stand.

Result: Since Grand Mean $2.17 < 3.50$, the result indicates that techno-stress has not significantly increased the rate of ill-health of majority of staff in the Nigerian banking and brewery industries.

7.0 Summary of Results and their Implications

Following our analysis, the following results were obtained:

- (i) That techno-stress has not significantly affected the performance of majority of middle-level and senior managers negatively in the Nigerian banking and brewery sectors.
- (ii) That techno-stress has not significantly increased the rate of ill-health of majority of staff in the Nigerian banking and brewery industries.

Though result number one shows that techno-stress has not significantly affected negatively the performance of managers in Nigeria, we must observe here that the percentage of them negatively affected is still high enough to pull down any organization, especially if those involved are handling very critical positions like the Accountants, who keep records of money coming in and going out. Hence, something drastic still needs to be done to redress the problem here.

Again, it is true that result number two shows that techno-stress has not significantly increased the rate of ill-health's of majority of staff in the Nigerian banking and brewery industries, but supposing the few whose ill-health's are negatively affected are those occupying very sensitive positions, don't you think the organization(s) will still be adversely affected, too. So, there is need for serious caution in addressing this matter.

8.0 Conclusion and Recommendations

The advent of computers and other information technology gadgets into business and industry has indeed brought with it great innovations improvements in services delivery and products' qualities. But its hazards should not also be overlooked, if the benefits are to be optionally reaped. One of such hazards is techno-stress which added to the executive-stress syndrome. Accountants and managers are direct victims because of their strategic position and the critical roles they play in their organisations. This can be solved through attitudinal change and improved living standards in relation to work and home environment to ensure job satisfaction and improved job performance in the new global banking and industrial culture of our time.

The following measures are hereby recommended to accountants and other managers for coping with techno-stress:

- (i) **Health Lectures:** Clinical psychologists and occupational therapists should be consulted from time to time to deliver lectures that would enable the accountants and managers overcome the fear, illness, job complication and increased workload which stimulate resistance to change towards the dictates of information and communication technology.
- ii) **Training:** Managers and Accountants should continually engage in ICT training in a proactive manner to be abreast with the current trend globally, so as to reduce unnecessary anxiety associated with techno-stress.
- iii) **Positive Attitude:** They should develop as much as possible some level of positive attitude to change and challenges associated with global ICT revolution, complication, complexity and occupational strain in the workplace by accepting and believing that more transformation should be expected.
- iv) **Infrastructure Improvement:** They should use computers that have friendly interface, ensure data safety, work in a conducive environment and seek ICT expert assistants when in doubt.
- v) **Respect Resistance:** Identify areas of resistance and work hard to improve on it and attack stress by improving the conditions that cause it.
- vi) **Human Relations:** Take care of yourself, take care of others, delegate functions and monitor effectively.
- vii) Take a break, eliminate low-priority function, hang out, laugh, relax, switch off your mobile phone and catch fun through your computer (Davis-Millis, 1998).

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