

Technostress Management and Employee Performance in Deposit Money Banks in Enugu Metropolis, Nigeria

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Abstract

Individuals experience stress as a cognitive response when they anticipate their inability to respond adequately to the perceived demands of a given situation, accompanied by an anticipation of substantial negative consequences due to inadequate response. The study examined technostress management and employee related outcomes of job security, job satisfaction and employee productivity in deposit money banks in Enugu metropolis. This paper sought to determine the effect of techno-insecurity on employee job security, ascertain the effect of techno-complexity on employee productivity as well as assess the effect of techno-uncertainty on employee job satisfaction. The study adopted the survey research design. The target population was 408 staff of financial service entities, out of which a sample size of 181 respondents was realized. Data in form of self-reports were collected through a structured questionnaire and the data were analysed using logistic regression. Findings from the study demonstrated that techno-insecurity did not positively affect employee job security. Techno-complexity did not positively affect employee productivity. Techno-uncertainty did not positively affect employee job satisfaction. Consequently, it was concluded that techno-stress does not positively affect job satisfaction, organizational commitment, and employee outcomes. Organizations should send their employees on information technology training, so as to acquire the necessary knowledge of ICT which offsets stress and ensures job security.

INTRODUCTION

Technology has become a part of peoples' lives. Technology has made work more efficient and increased productivity in the past decades. It has helped in terms of reduced operational costs, greater process efficiencies, new strategic alternatives and possibilities for innovation (Don Santos & Sussman, 2000). The stress problem associated with technology usage and peoples' love for ICTs is blind and they devote long hours on it at work and play without seeing the possible consequences of its usage (Brod, 1984).

Wang, Shu, and Tu (2008) posit that the use of technology causes technostress which led to health-related problems such as cardiac arrest, migraine headaches and hypertension.

Technostress shows these symptoms: mental fatigue, depression, anxiety, persistent negative thinking, momentary confusion, inability to concentrate, poor judgment, distorted ideas, irritability and impatience.

Technology is an innovation or intervention that has undoubtedly brought about efficiency and effectiveness in human and organisational activities. The users are expected to benefit from fast, better, reliable and easy ways of accomplishing tasks with less cost to the organization (Krubu and Osawaru, 2011). Therefore, individuals and organisations enthusiastically embraced its applications and have made it increasingly indispensable to carry out their activities (Tarafdar, Tu, Ragu-Nathan and Ragu-Nathan 2007).

Kajogbola (2004) asserts that higher technostress was experienced among the professionals due to inadequacy of communication and network infrastructures, problems associated with technical and management supports in the organizations and obsolescence of available technology. Adegoke (2014) states that lack of interest and supports from the part of government worsens technostress in Nigeria.

The workplace today is getting increasingly competitive and this demands high work pressure from employees. Office hours have gone beyond the boundaries, making work more challenging for the employees in this fast-paced changing environment. In order to remain competitive, businesses are constantly focusing on innovation and new product development. They have to focus on cost reduction and allow flexibility for adjusting with the changing environments. The increasing work demands and changing traditional work processes to a dynamic workplace subjects the employees to more stress. It seems that some organizations do not have any set hours of work or job description for the employees to follow. Moreover, the introduction of technology at the work place for increasing productivity through enhanced communication via email, telephone, video conferencing etc, has added more to the stress level of employees (Krubu and Osawaru, 2011).

Computers have become part of people's daily life, especially work life (Hoffman, Novak, & Venkatesh, 2004). Computers and related information technology are being used in all areas of life. Companies are trying to increase productivity using information and communication Technologies (Millard, 1999). Individuals experience stress as a cognitive response when they anticipate their inability to respond adequately to the perceived demands of a given situation, accompanied by an anticipation of substantial negative consequences due to inadequate response (Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan, 2007). A response to an imbalance between a person and the demands of the environment can be called stress (Cooper, Dewe, & O'Driscoll, 2001), and stress is created in situations an individual perceived as presenting requirements that threaten to exceed his or her capabilities and resources (McGrath, 1976). The consequences of stress include low productivity, dissatisfaction at work, and poor job performance (Jackson & Schuler, 1985).

Many people are seen being overwhelmed by work and being burnt out. Although, expectations of employers are rising on efficiency and productivity of the employees, humans, biologically are not used to technology yet. (Sellberg & Susi, 2013). The consequences of these demands are technostress and ensuing illnesses (Wang, Shu, & Tu, 2008). The complex nature of technology

which professionals use has changed their work system significantly and also created a multitasking situation on them, which in turn, has created tension and induced stress. At work, amnesia or loss of memory can occur due to technostress and this in turn, results to increasing absenteeism, lack of motivation, low productivity and loss of professional effectiveness. This paper investigates the effect of techno- insecurity on employee job security, assess the effect of techno-complexity on employee productivity and ascertain the effect of techno-uncertainty on employee job satisfaction.

Literature Review

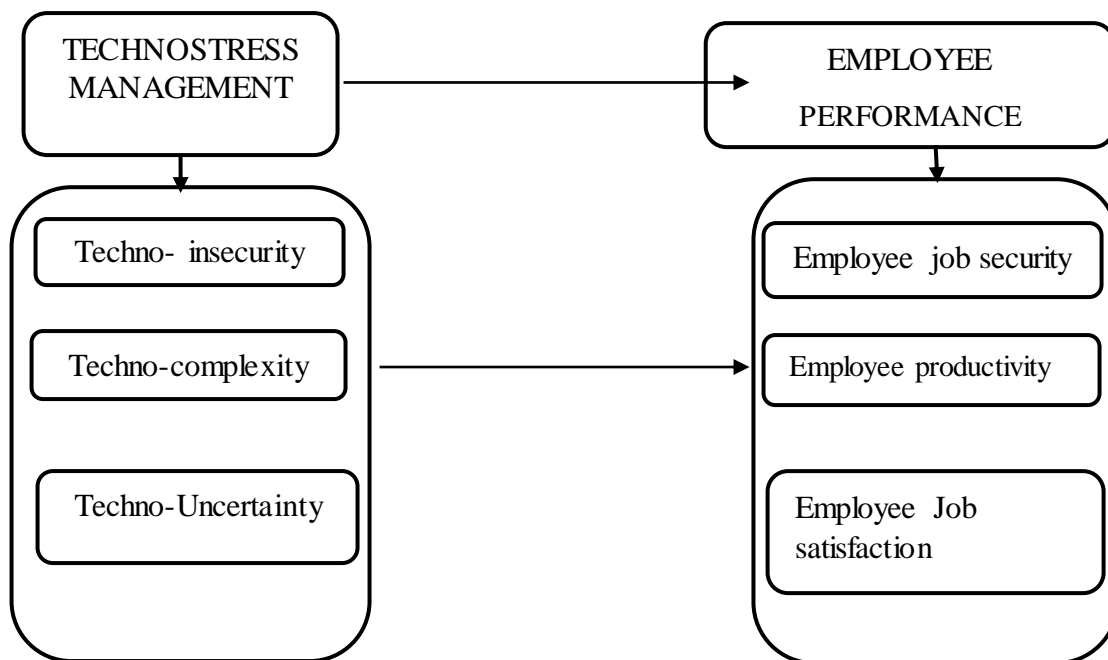


Fig 2.1 Conceptual Model of Technostress and Performance

Source: The Researchers, 2022

Techno-insecurity and Employee Job Security

Techno-insecurity describes situations, where the information and communication technologies become more advanced; individuals begin to believe that they do not have adequate skills, knowledge or abilities to use them effectively (Ragu-Nathan et al., 2002). Through techno-insecurity, individuals might feel jobs are threatened due to lack of control of what work-related technology imposes in their working environment (Chilton et al., 2005; Tarafdar et al., 2007). The perception of the inadequate knowledge and skills may develop a feeling of uneasiness (Ayyagari et al., 2011). The uneasiness may lead to the perception of job insecurity (Weil & Rosen, 1997). When individuals feel threatened by their colleagues who are believed to be more

knowledgeable, skillful or experienced, they might experience the uneasiness and job insecurity (Sharma & Chandra 2013).

Sweet (2006) states that job insecurity is a condition in which employees feel a lack of assurance on their work to remain stable from day to day, week to week and year to year. Job insecurity refers not only to the workers uncertainty of his continuation of work but also other dimensions such as opportunity of getting a promotion or the possibility of getting a temporary termination (Greenhalgh & Rosenblatt, 1984). Job insecurity occurs only in the case of loss of employment without consent. Job insecurity exists when an employee perceives his future career will become unstable and at risks. Job insecurity can be termed as worries over permanent job losses (Larco et al., 2012).

However, job security can be defined as a persistent certainty about jobs and income of an employee. Meltz (1989) defines job security as individuals who keep working with the same organization without weakening the aspect of seniority rights, wages, retirement, etc. Herzberg (1968) posits that job security is a condition in which the organization provides stable employment to workers.

Techno-complexity and Employee Productivity

Techno-complexity describes situations where the professionals have to spend more time and energy in learning and mastering the required knowledge and skills to deal with the technical issues (Tarafdar, Tu & Ragu-Nathan, 2011). Individuals might be overwhelmed and stressed due to the gap between their perceived abilities and the perceived working demands (Ayyagari et al., 2011). Due to the rapid change and development, the complexity of the information and communication technologies would be continuously increased over the time (Mawhinney, 2014). Individuals would experience exhaustion or burnout which might potentially damage their overall job performance and job satisfaction. Individuals who voluntarily confronted the technical problems may not negatively view the technology-related complexity (Ayyagari et al., 2011). If individuals hold a positive attitude of the technological changes and challenges (Bateman & Crant, 1993) techno-complexity may not pose a threat to job satisfaction.

Productivity may be measured on the output of an employee in a specific period of time. Thus, the productivity of a worker is assessed on the average output of employees doing similar work. It can also be assessed on the amount of units of a product or service which is handled by an employee in a defined time frame (Piana, 2001). Employee productivity has become an important objective for businesses since the success of an organization lies on the productivity of its employees (Sharma & Sharma, 2014).

Cato and Gordon (2009) affirm that the alignment of the strategic vision to employee productivity is a key contributor to the success of an organization. By this alignment, employees would be inspired and motivated to be more creative, and this, eventually, improves their performance effectiveness to accomplish organizational goals and objectives. Thus, higher productivity increases competitive advantage through reduction of costs and improvement in

quality of outputs.

Techno-uncertainty and Employee Job Satisfaction

Techno-uncertainty describes the situations where the constant changes and the rapid updates for devices are causing stress as individuals feel overwhelmed by the increased pace of change (Tarafdar et al., 2011). The perception of reduced ability and the perceived uncertainty in the work demands may lead to job uncertainty which could explain techno-uncertainty. Another dimension that could help understand the construct is the uncertainty that was induced by the unreliability feature of technology. Unreliability refers to the degree to which the features and capabilities of technologies become unpredictable and unreliable (e.g., computer system failure, computer programme/system broke-down, the bugs and errors in technological applications) (Ayyagari et al., 2011). Uncertainty due to the technological unreliability may lead to frustration, panicking and irritation (Weil & Rosen, 1997). Another contributor of techno-uncertainty could be the interruptions which were enabled by the information and communication technology (Ayyagari et al., 2011).

Job satisfaction is seen in the extent to which employees gain enjoyment from their efforts in their workplace (Brunetto and Wharton, 2002). Job satisfaction refers to feelings and attitudes of people about their work. Positive and favourable attitudes to the job reveal job satisfaction. But negative and unfavourable attitudes to the job reveal job dissatisfaction. The following factors affect the level of job satisfaction: social relationships with work group, intrinsic and extrinsic motivating factors, the quality of supervision, and the degree to which individuals succeed or fail in their work (Armstrong, 2003). Job satisfaction describes the level of contentment an individual has in his or her job. The happier people are within their job, the more satisfied they are said to be. Job satisfaction refers to a pleasurable emotional state resulting from the appraisal of one's job; an effective reaction to one's job, and a feeling towards one's job (Ezigbo, 2011). The raw materials which cumulate to form the effective element of job satisfaction are mood and emotions. It was found that suppression of unpleasant emotions decreases job satisfaction while amplification of pleasant emotions increases job satisfaction (Ezigbo, 2011).

Theoretical Review

Self-Efficacy Theory

Bandura's self-efficacy theory states that increase of technological growth in the workplace is necessary for self-directed learning. Professionals should be educated to aid in refining new skills for enhancement of quality of life (Bandura, 1995).

According to Bandura, there is a need for people to obtain certain cognitive abilities as well as maintain self-regulating behavior so as to appraise and release the desired strategies for handling dynamic conditions such as those involved with technological self-efficacy. Bandura posits that logistics managers conduct strategic logistical planning and system development efficiently when they lower the level of technostress and increase job satisfaction.

Empirical Review

Samuel, Julius and Isaac (2016) did a study on understanding the effect of techno-stress on performance of employees in Nigeria deposit money banks. The specific objective was to determine the effect of techno-complexity on employee performance. A survey research design was adopted. Thus, 400 copies of the questionnaire were administered to the staff of deposit money banks. The finding revealed that techno-complexity had negative effect on employee performance. It was recommended that commercial banks should provide a good work environment and adequate training for their staff, so as to overcome technostress.

Tagurum, Okonoda, Miner, Bello and Tagurum (2017) did a study on effect of technostress on job performance among academic staff of University of Jos, Nigeria. The objective was to determine the effect of techno-uncertainty on employee job performance. The study adopted the survey research design. Thus, 144 academic staff was purposely selected from the 12 faculties of the University of Jos. The study found that techno- uncertainty negatively affected employee job performance. The study recommended that stress management and technology related training should be organized for the staff of the university.

Methodology

The study adopted the survey design. Primary data were obtained through questionnaire while secondary data were obtained through books, journals, and the internet. The target population of the study consists of senior and junior staff of the selected deposit money banks in Enugu metropolis. The population was 408, from which the sample size of 181 was determined using Cochran's statistical formula. The instrument for data collection was structured questionnaire which was designed on five point likert scale format. The test- retest method of reliability was done and tested by spearman order rank correlation. The result gave a reliability coefficient of 0.871, indicating a high degree of items consistency. One hundred and eighty one (181) copies of the questionnaire were distributed and one hundred and forty six (146) copies were returned, while thirty five copies (35) were not returned. Hypotheses 1, 2 and 3 were tested with ordinal logistic regression using special package for social science (SPSS Version 20.00).

Table 1: Responses on Techno-insecurity

S/N	Options	SA	A	U	D	SD	Total
1	Employees feel that advanced technology can cause them lose their jobs	90	46	-	7	3	146
2	Techno-insecurity negatively affects organisational activities.	104	32	-	5	5	146
3	Rapid pace of change could be responsible for techno-insecurity	81	55	-	8	2	146

4	Inadequate knowledge can lead to perception of job insecurity	99	30	-	10	7	146
	Total	537(91.95%)			47(8.05%)		584

Source: Field Survey, 2022

The responses obtained from the options provided on techno- insecurity show that 537 (91.95%) of the respondents agree. Thus, 47 (8.05%) of the respondents disagree while none of the respondents is undecided.

Table 2: Responses on Techno-complexity

S/N	Options	SA	A	U	D	SD	Total
1	Technical issues that exist in technology negatively affect productivity	100	24	-	8	14	146
2	Techno-complexity pose a threat to job satisfaction	69	68	-	4	5	146
3	Techno complexity might potentially damage the overall job performance	52	86	-	5	3	146
4	Job output can be reduced due to techno complexity	85	51	-	7	3	146
	Total	535(91.61)			49(8.39)		584

Source: Field Survey, 2022

The responses obtained from the options provided on techno- complexity show that 535 (91.61%) of the respondents agree. Thus, 49 (8.39%) of the respondents disagree while none of the respondents is undecided.

Table 3: Responses on Techno-uncertainty

S/N	Options	SA	A	U	D	SD	Total
1	Techno-uncertainty negativity affects job performance	40	100	-	2	4	146
2	Changes in technology in the workplace affect employee performance.	95	40	-	6	5	146
3	High job demands lead to techno uncertainty which affects job satisfaction	125	13	-	5	3	146
4	Technological unreliability may lead to frustration which affects job satisfaction	78	61	-	4	3	146

Total	552 (94.52%)	32(5.48%)	584
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Source: Field Survey, 2022

The responses obtained from the options provided on techno- uncertainty show that 552 (94.52%) of the respondents agree. Thus, 32 (5.48%) of the respondents disagree while none of the respondents is undecided.

Table 4: Responses on Employee Job Security

S/N	Options	SA	A	U	D	SD	Total
1	Employee job security enhances commitment to the organisation	77	57	-	8	4	146
2	Employees with job security, also have job satisfaction	107	30	-	4	5	146
3	Employees commit to learning new technology to ensure job security.	68	71	-	4	3	146
4	Organisations send their employees on training for job security	74	62	-	7	3	146
	Total	546 (93.49%)			38(6.51%)		584

Source: Field Survey, 2022

The responses obtained from the options provided on employee job security show that 546 (93.49%) of the respondents agree. Thus, 38 (6.51%) of the respondents disagree while none of the respondents is undecided.

Table 5: Responses on Employee Productivity

S/N	Options	SA	A	U	D	SD	Total
1	The productivity of a given worker will be assessed relative to an average output of employees doing similar work.	100	34	-	8	4	146
2	Organisational output can be reduced due to techno-complexity on the employees.	48	89	-	4	5	146
3	Success of an organization relies mainly on the productivity of its employees,	42	96	-	5	3	146
4	The amount of time an employee spent on carrying out his job	107	32	-	4	3	146

	determines productivity.						
	Total	548(93.84)			36(6.16)		584

Source: Field Survey, 2022

The responses obtained from the options provided on employee productivity show that 548 (93.84%) of the respondents agree. Thus, 36 (6.16%) of the respondents disagree while none of the respondents is undecided.

Table 6: Responses on Employee Job Satisfaction

S/N	Options	SA	A	U	D	SD	Total
1	Employees' job satisfaction exist when employees have a positive feeling about their job	100	36	-	6	4	146
2	Good working environment encourages job satisfaction	50	87	-	4	5	146
3	Attractive reward system promotes job satisfaction	105	33	-	5	3	146
4	Employees can be satisfied when their organisation send them on training and development programme	71	65	-	7	3	146
	Total	547(93.66%)			37(6.34%)		584

Source: Field Survey, 2022

The responses obtained from the options provided on employee job satisfaction show that 547 (93.66%) of the respondents agree. Thus, 37 (6.34%) of the respondents disagree while none of the respondents is undecided.

Hypothesis One

Ho: Techno- insecurity does not positively affect employee job security

Hi: Techno- insecurity positively affects employee job security

Table 7: Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound

Threshold	[Employee job security = 172]	56.018	5.203	62.837	1	.024	56.018	60.567
Location	[Techno-insecurity = 429]	69.171	22.650	74.010	1	.007	69.171	72.909

Link function: Logit.

Interpretation of Result

The result reveals that Techno-insecurity negatively affects employee job security. With an increase in the probability of increased employee job security at an odds ratio of 69.171 (95% CI, 69.171 to 72.909), Wald $\chi^2(1) = 74.010$, $p = 0.007 < 0.05$. Therefore, the null hypothesis which states that Techno-insecurity does not positively affect employee job security is hereby accepted.

Hypothesis Two

Ho: Techno-complexity does not positively affect employee productivity

Hi: Techno-complexity positively affects employee productivity

Table 8: Parameter Estimates

		Estimate	Std. Error	Wald	Df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Employee productivity = 17]	66.413	15.531	17.113	1	.000	18.291	66.139
Location	[Techno-complexity = 10]	17.168	5.757	8.893	1	.000	5.884	28.451

Link function: Logit.

Interpretation of Result

Table 8 reveals that Techno-complexity has significant negative effect on employee productivity. With an increase in the employee productivity at an odds ratio of 66.413(95% cl, 18.291 to 66.139), Wald $\chi^2 (1) = 17.168$, $p = 0.000 < 0.05$. Therefore, the null hypothesis which states that techno-complexity does not positively affect employee productivity was accepted

Hypothesis Three

Ho: Techno-uncertainty does not positively affect employee job satisfaction

Hi: Techno-uncertainty positively affects employee job satisfaction

Table 9: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Upper Bound	Lower Bound
Threshold	[Employee job satisfaction = 15]	53.851	29.633	26.661	1	.006	53.851	55.609
	[Techno-uncertainty =21]	181.206	11.102	38.070	1	.000	181.206	184.880
Link function: Logit.								

increase in the odds (probability) of employee job satisfaction at an odds ratio of 181.206 (95% CI, 181.206 to 184.880), Wald $\chi^2 (1) = 38.070$ $p < 0.05$ ($p = 0.000$). Therefore, the null hypothesis which states that techno-uncertainty does not positively affect employee job satisfaction is hereby accepted and the alternate hypothesis rejected.

Discussion of Results

Hypothesis one was tested with Ordinal Logistic Regression to determine the effect of techno-insecurity on employee job security. However, the result revealed that techno-insecurity did not positively affect employee job security ($\beta = 69.171$, $p = 0.007 < 0.05$). Cory (2005) established that Techno-insecurity negatively affected productivity and performance.

Hypothesis two was tested with Ordinal Logistic Regression, to assess the effect of techno-complexity on employee productivity. The result revealed that techno-complexity did not positively affect employee productivity ($\beta = .17.168$, $p = 0.000 < 0.05$). Tsai (2002) established that techno-complexity negatively affected employee performance.

Hypothesis three was tested using Ordinal Logistic Regression to ascertain the effect of techno-uncertainty on employee job satisfaction. The finding revealed that techno-uncertainty did not positively affect employee job satisfaction ($\beta = 181.206$, $p = 0.000 < 0.05$). Sergio, (2003) established that techno-uncertainty negatively affected customer satisfaction.

Conclusion

The study concludes that technostress is an inability to cope with new computer technologies which affect mental health in a manner which manifests as a struggle to accept computer technology. The continuous and rapid development of technology which resulted in higher effectiveness and efficiency in most organizations, also contributes to higher levels of technostress in the workplace.

However technostress creates techno-invasions (constant connectivity that invades life), techno-overload (simultaneous, different streams of information that increase the pace and volume of work), techno-uncertainty (change or upgrade to hardware, software, or applications, ambiguity around expectations related to changes), techno-insecurity (employees feel threatened by job loss to technology or to other people with more ICT understanding), and techno-complexity (the inherent complexity of ICT that users find difficult to understand, which leads to feelings of incompetence).

Recommendations

The study proffers the following recommendations:

- i. Employees should always upgrade their knowledge on technology applications, so as to remain relevant in this era of technological breakthrough.
- ii. Organizations should send their employees on information technology training, so as to acquire the necessary knowledge of ICT which offsets stress and ensures job security.
- iii. Managers should ensure that the technology adopted in their organizations are the ones that gives self-direction, which boosts organizational productivity.

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