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Understanding Techno stress: Where Now and Where to Be?

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Abstract- **Interaction with technology is not only restricted to technology professional and IT personnel but it extends to all the organisations which use Information Communication Technology to perform day- to-day work. Technology enables the organisations to distribute information much faster than ever before and it also facilitates the employees to do more tasks within a short period. However, to attain maximum efficiency, proper implementation of knowledge and skills is necessary. There is a delicate balance between the challenges and threats appraised by the users of technology at work place. Whenever there is a misfit/gap between the organisational demands and the individual's ability due to pervasiveness if ICT, "technostress" is induced. Technostress has both positive and negative consequences on the individual and the organisation. The aim of this article is to identify the technology characteristics which induce technostress and to analyse the individual's perception and appraisal on various aspects of technostress. It also provides future implications for the organisations to gain a better understanding on technostress thereby creating new work structure for its employees.**

Keywords: Technostress, Information Communication Technology, technology characteristics, challenge appraisal, threat appraisal.

INTRODUCTION:

Technostress has both positive and negative outcomes. The positive relationship between usage of information and communication technologies(ICT's) and work as well as other positive outcomes has been supported by various studies. High quality studies by Ayyagiri et al.(2011); Ragu-Nathan et al.(2008); Tarafdar et al.(2007; 2010), provided invaluable knowledge on technostress, causes of technostress, inhibitors of technostress, negative outcomes of technostress and practical implications to prevent and tolerate the effects of technostress.

The Phenomenon of Technostress

Technostress is defined as the state of mental or physiological stimulation caused by the ICT usage for work purpose, which is usually attributed to increasing work overload, accelerated tempo, and erosion of personal time, among others (Arnetz & Wikholm, 1997; Bradley, 2000; Thomee et al.2007). Craig Brod defines technostress as "a modern disease of adaptation caused by an inability to cope with new computer technologies in a healthy manner" which assumes that technostress is negative in nature(McGuigan, 1999).

Components of Technostress:

Technostress has five components, namely, techno-overload, techno-invasion, techno-uncertainty, techno-insecurity and techno-complexity.(Ragu-Nathan, 2008)

Techno-overload refer to situations where the employees are forced to work more and work faster i.e more work in less time resulting in tension and anxiety. Techno-invasion describes situations where employees are constantly connected and communicated anywhere at any time extending their work day into family hours including vacations causing frustration and stress. Techno-uncertainty refers to conditions where continuous requirements for refreshing and updating the acquired knowledge cause frustration and anxiety among the users. Techno-insecurity emerges in situations where users feel threatened about losing their jobs to younger recruits who are equipped with a higher comfort level during ICT usage. Techno-complexity refers to situations where the users have to spend more time and effort in learning and understanding variety of applications and functions of technology.

A study by Ayyagiri et al.(2011), on technostress includes work overload, work-home conflict, invasion of privacy, role-ambiguity and job insecurity caused by ICT usage for work purpose which are similar to techno-overload, techno-invasion and techno-insecurity.

LITERATURE REVIEW AND ANALYSIS:

Empirical and theoretical evidence shows that all technostress types are not identical and their outcomes are not the same. People tend to appraise different stress type differently (LePine et al, 2004; 2005). Hung et al.(2011) found that technostress positively affected the employee work performance. Tu et al.(2005) also found that techno-overload was positively related to employee work performance and failed to find support for the negative relationship between techno-uncertainty and employee work performance and techno-complexity and employee work performance. Ayyagiri et al (2011), proposed that all technostress types would lead to a higher level of strain. Ragu-Nathan et al (2008), proposed that all technostress types lead to reduce job satisfaction. Traditional Technostress literature concentrates mostly on the negative effects only. Shifting the focus from negative outcomes will open opportunities and produce desirable outcomes.

Transactional Theory Perspective on Technostress:

According to the transactional theory of stress (TTS), stress could lead to both positive and negative outcomes, depending on how the focal person appraises the stress (Lazarus et al.,1985; Webster et al.,2011).

Transactional Theory of Stress (TTS), states that adaptation outcomes of stress are determined by cognitive stress appraisal (CSA), which is the process of appraising a stress experienced by a person. When an individual faces a stressful situation he exhibits two CSA processes, namely, primary and secondary appraisals (Folkman & Lazarus 1985; 1988). During CSA stress can be appraised as a challenge appraisal or threat appraisal. Since technostress is a form of stress caused by usage of ICT for work purpose, the ICT users undergo the cognitive technostress appraisal process (CTA) and it can become a technostress challenge appraisal or technostress threat appraisal.

Technostress challenge appraisal emerges when the ICT user perceives the technostress as challenging and surmountable and considers that overcoming those challenges would be rewarding though the stresses are demanding and strain-provoking. This will motivate the ICT users to work harder to gain rewards such as higher performance or recognition from supervisors and it will trigger their positive emotions such as excitement and enthusiasm. Hence they would exhibit better work performance and job satisfaction during ICT usage.

Technostress threat appraisal emerges when the ICT user perceives the technostress as threats, obstacles or constraints and considers that overcoming them would not be beneficial. Such expectations would decrease the motivation to work hard thereby stimulating negative emotion which in turn will lead to lower level of work performance and less job satisfaction due to ICT usage.

Present Scenario and Expected Future Appraisal on Components of Technostress:

Generally technostress caused due to techno-overload is treated as a threat since it would erode the user's resources to deal with other demands. But overcoming high level of work pressure and higher workload can lead to a sense of achievement and it also can be treated as an opportunity to demonstrate their capabilities to the organisation.

Similarly, technostress associated with psychological work-family interference by techno-invasion can very well mitigated by applying boundary theory. Park and Jex's (2011) boundary theory suggests that by constructing physical, temporal boundaries between work and family, people may segment and integrate the two domains developing their own rules or strategies. Segmentation refers to separating aspects of work and family from each other whereas integration refers to merging and blending the aspects of the two domains.

Technostress caused by techno-complexity implies the inability of the user to handle ICT problems like software updating, system crashes and intimidating technical jargons which diminishes user's time and resources for handling other tasks. But such complexity has to be accepted as such, since it is neither created by organisational settings nor due to unclear job responsibilities.

Techno-insecurity will lead to technostress among ICT users when they feel helplessness and low self-confidence in ICT use compared to their juniors who may be more exposed to the latest technology due to frequent usage. Such experience could be overcome by increasing their work effort and conducting impression management leading to better work performance and less stress (Huang et al, 2013).

Techno-uncertainty i.e. deployment of latest technology and upgradation of one cycle of ICT to the next in very short period results in unsuccessful application of old solutions to new technology causing less productivity and more technostress. This could be handled by creating a team of experts who are willing to accept innovative tasks and they may undergo the process of learning, unlearning and relearning and their expertise may be utilised by the common ICT users. Skill discrepancy caused by techno-uncertainity can be managed by the organisations in this manner.

Inhibitors of Technostress:

Some of the mechanisms that inhibit the influence of technostress on strain are literacy support i.e sharing of Knowledge among employees within organisation, provision

of technical support – availability of technically skilled professionals to support employees, innovation support – mechanisms that allow employees to explore and exploit IT facilities and technology involvement facilitation i.e the mechanisms that engage employees in new IT adoption and development. Empirical evidences confirm that these mechanisms influence psychological and behavioural strain significantly (Tarafdar et al., 2011).

Technostress Intervention and Coping Strategies:

Interventions are defined as "actions with a coherent objective to bring about change or produce identifiable outcomes" (Rychatnik et al.,2002). In cases where stressors were beyond the users' control the situations may be handled by modifying their reactions to stressors or focus on long term reduction of stressor by modifying technology features.

1. Stressor toleration:

Emotional-focused coping strategy regulates emotions which occur in response to the stressor (Lazarus and Folkman 1984) aiming to change the emotions towards the perceived threat without changing the realities of the situation. The phenomenon involved in this intervention is processing of emotions and escape avoidance. Here the personal reaction on the individual due to technostressor is modified by himself since he learns to handle the emotions triggered by stressor.

2. Stressor reduction:

By Problem-focused coping strategy the organisation itself can resolve the problems caused during stressful situations in the following manner:

Modification of IT features: The attributes of technology that are perceived stressful may be eliminated and by inducing ways of usage of technology stress may be decreased.

Modification of IT use routines: Pressure to perform increases user performance but it also poses a challenge for users when the pressure causes a certain threshold. So usage of technology without excess pressure may reduce stress.

Practical Implications:

The implications of the study to the organisations is that they can maximize the positive effects and minimize the negative effects of technostress. The organisations while establishing strategies and policies may prioritise situations that lead to high level of challenge appraisal. This can be done by analysing how technostress is appraised by employees and assisting them to conduct challenge appraisal instead of threat appraisal which will make them understand that technostress due to ICT usage is surmountable and overcoming that would lead to achievement.

The organisations should not only focus on the development of the technical system, but also consider the emotional states of its employees. When a technology is used privately, individuals can develop switching intentions and change providers or technologies, whereas when a technology is used for work purposes, individuals cannot decide on their own whether to change providers or technologies (Xu et al. 2014). So the organisations can also collaborate with the system designers who can help ICT users by selecting characteristics that can be appraised as a challenge and eliminating characteristics that are appraised as a threat while designing ICT devices.

What is stressful for one person may not be stressful for another person. Hence individual differences with regard to age, gender, experience as well as users' personality which determine the perception of techno-stressors should also be analysed by the organisation.

CONCLUSION:

Technostress is an exemplary, multidisciplinary topic and it is already a domain for frequent collaboration among researchers from varying disciplines. Based on that exploratory study need to be conducted by the HR/R & D wings of organisations to bridge the gap between the organisational requirements and individuals appraisal on available resources. Organisational interventions would create a better understanding on the double-edged sword nature of technostress among the employees and the knowledge thus obtained may be used to conceptualise the individual's perception on the technology characteristics.

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