Technostress and Coping Mechanism

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New technologies and products are constantly being introduced by companies every day in each segment and market. Upgraded technology makes newer products attractive for customers but becomes more complicated internally. This on one end creates feeling of excitement and uncertainty among individuals while, on other end, creates pressure on companies to regularly innovate and develop new models. Driven by faster pace of new technology adoption, rising competition, and growing expectations of customers; companies are forced to reengineer themselves continuously and embrace process changes frequently.

Change can bring both uncertainty and discomfort into one's lives (Burton, 1992). It might provoke strong emotional reactions in people confusion, fear, and stress (Cooper, 1998) often associated with loss and bereavement. This constant change also makes employees more resistant to technology with the feeling of job insecurity, obsolescence, fear of new learning, etc. It results in technology induced stress among individuals, which is known as "technostress". The term technostress was first coined by Craig Brod

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in 1984. He defined it as “a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner”. Weil and Rosen (1997) defined technostress as “any negative impact on attitudes, thoughts, behaviour or psychology caused directly or indirectly by technology”.

Technostress and its Determinants

Contemporary technologies such as emails, smartphones, laptops, social media, and other collaborative software have enhanced individuals’ engagement with technology but have also led to higher technostress among technology users. Excessive use of information and communication technologies (ICT) has resulted in information overload for individuals; it has also blurred the boundaries between work and family (Fisher and Wesolkowski, 1999; Sharma and Gill, 2015).

Research done in the area of technostress has identified factors having impact on technostress. For example, age as a factor has been studied by Rosen, Sears, and Weil, 1987; Todman and Lawrenson, 1992; Tu, Wang, Shu, 2005; Ragu-Nathan, Tarafdar, and Ragu-Nathan, 2008; Sharma and Gill, 2015 etc. These studies found a mixed result. Todman and Lawrenson (1992) and Tu, Wang, and Shu, (2005) found that older employees experienced higher technostress while study of Ragu-Nathan, Tarafdar, and Ragu-Nathan (2008) found that older students had lesser computer anxiety because of their maturity to handle stress.

Impact of gender on technostress has also been studied by researchers. Male academicians were found to have higher technostress than female counterparts (Gefen and Straub, 2000). Among social network users, female users exhibited higher technostress (Coklar and Sahin, 2010). Tarafdar et. al. (2011) did not find any relationship between gender and technostress. Literature also indicated that individuals with more computer experience had less computer anxiety (Howard and Smith, 1986; Farina et. al., 1991; Weil and Rosen, 1997; Gaudron and Vignoli, 2002; Tarafdar, 2011) as they had more confidence in their ability to handle the changes and pressures arising from technology (Jena and Mahanti, 2014).

MIS students whose usage of computers was relatively more compared to students of other specializations experienced high technostress (Rosen, Sears, and Weil, 1987; Towell and Lauer, 2001). Intensity of stress also depends on individuals’ characteristics. For example, people who were pessimistic experienced high anxiety related with computer (Farina et. al.,

1991). Some personality traits such as neuroticism,[1] extraversion,[2] and openness to experience[3] were related with technostress (Anthony et. al., 2000; Zywica and Danowski, 2008; Ross et al., 2009). People with low self-esteem found social media as more appealing venue for self-disclosure (Forest and Wood, 2012). Persons with high self-efficacy with computer (those capable of performing task on computers) experienced less technostress (Compeau and Higgins, 1995 Fagan, Neil, and Wooldridge, 2003).

Extreme use of social media such as constant updation of status and photos on Facebook and WhatsApp, professional networking on LinkedIn, tweets on twitter, hike messages, etc has taken away the time which earlier was set aside for family and self (Srivastave, 2005; Boyd and Elison, 2007; Kaplan and Haenlein, 2010). Users have also become anxious if they do not receive reply or likes for their messages or post (Lu et. al., 2011).

Some organizational characteristic also have an association with technostress. A study by Wang et. al. (2008) indicated that employees of organizations with low centralization and low innovation experienced less technostress compared to employees with high centralization and high innovation focus. Besides that, task-technology fit and organizational tenure also had a relationship with technostress (Ayyagari, 2012; Jena and Mahanti, 2014).

Other factors are also creators of strains (physiological, behavioural, and psychological) among people. These include work pressure, job dissatisfaction, reduced productivity (Love, Simpson, and Walker, 1989; Corbett et. al., 1989; Tarafdar, Ragu-Nathan, and Ragu-Nathan, 2007; Ragu-Nathan et. al., 2008). Some of the physiological symptoms witnessed were headache, fatigue, eye strains, back pain, etc. Psychological symptoms were in form of feeling drained, depression, negative self-evaluation, and over-identity with technology (Harper, 2000; Bachiller, 2001; Laspinas, 2015). These antecedents (age, gender, computer experience, personalities, technology engagement, organizational characteristics) and consequences or strains necessitate individuals and organizations to develop some coping strategies or mechanism to deal with them.

Coping Mechanism

Coping mechanism is defined as "cognitive and behavioural efforts to manage specific external and/or internal demand that are appraised as taxing or exceeding the resources of

[1]Neuroticism is a fundamental personality trait in the study of psychology characterized by anxiety, fear, moodiness, worry, envy, frustration, jealousy, and loneliness

[2]Extraversion is a personality dimension describing someone who is sociable, gregarious and assertive (Robbins, 2013: pg. 143)

[3]Openness to experience is a personality dimension that characterizes someone in terms of imagination, sensitivity and curiosity (Robbins, 2013: pg. 143)

the person" (Lazarus and Folkman, 1984). Technostress emerging from excessive use of ICT and other technologies in the organization is a multidimensional problem that cannot be resolved in isolation but requires a comprehensive and integrated perspective involving various stakeholders. Lazarus and Folkman (1984) identified eight coping mechanism strategies as shown in Table 1.

Table-1: Coping Mechanism Strategies

Coping Mechanism	Description
Confrontive	Aggressive efforts to alter the situation with hostility and risk-taking
Distancing	Cognitive efforts to detach oneself from problem
Self-controlling	Behaviour modification by efforts to regulate one's feelings and actions
Seeking social support	Informational support, tangible support and emotional support from others
Accepting responsibility	Accepting responsibility for everything that happens
Escape-avoidance	Wishful thinking and behavioural efforts to escape or avoid
Planful problem-solving	Deliberate efforts to alter the situation
Positive reappraisal	An effort to create positive meaning by focusing on personal growth

COPING STRATEGIES TO DEAL WITH TECHNOSTRESS

Stress occurs to people when they are unable to handle the new situation with their available resources and ability. Unfamiliarity with technology or complexity in use of technology causes conflict which stimulates anxiety and stress. These anxieties and stress elicit psychological and behavioural responses and prompt individual to adopt coping strategies (Mick and Fournier, 1998).

Coping strategies consist of cognitive and behavioural efforts to manage stress. Under stressful or threatening situations, people may enact certain coping strategies and their choice of coping strategy may vary because of their personalities and cognitive assessment of the situation (Lazarus and Folkman, 1984; Carver, Scheier, and Weinstraub, 1989; Folkman, 1992; Stone, Kennedy-Moore, Newman, Greenberg, and Neale, 1992; Lazarus, 1993). The ways in which people cope depend upon the resources (financial, material, physical, psychological, cognitive and social) that are available to them (Lazarus and Folkman, 1984)

Coping strategies in dealing with stress and uncertainty directly affect people's choice, behaviour or decisions (Creyer and Kozup, 2003; Kozup and Creyer, 2006; Luce, Payne, and Bettman, 2000). Coping strategies reflect individuals' experiences and personal strategies of stress management, which play an important role in predicting the adoption of new technology. Individuals evaluate the potential consequences of an event, its personal importance, and relevance (Beaudry and Pinsonneault, 2010). They choose the coping strategies that promise greater chance of success and restoration of a sense of well-being (Begley, 1998). Various coping strategies used by individuals and firms are discussed in the following sections.

LEADERSHIP

Leadership is considered to be one of the most important dimensions in employees' coping strategy with technostress. Lewis, Agarwal, and Sambamurthy, (2003) studied 161 faculty and instructors of public universities of USA. They found that top management's commitment and support for technology was found to positively influence users' beliefs about the usefulness and ease of use of technology. The organizational and groups' subjective norms associated with technology acceptance and use as well as the culture of an organization were also likely to shape user appraisal (Vekantesh et. al., 2003). Supervisors offered some useful and practical insights to protect their employees from negative outcomes, which might result from the use of ICT in their daily work. Supervisors were expected to influence employees' use of ICT, to alleviate perceived technostress and work exhaustion (Fieseler et. al., 2014). Effective management skills reduced technostress. For example, managers could reduce technostress by citing positive examples Managers need to understand that coping with stress was highly individual matter; different people react to stress in different ways and, therefore, the techniques to reduce stress will be individualized (Okebaram and Moses, 2013).

Clute (1998) studied that the majority of advice on coping with technostress was directed at management in organization. The actions of management typically had a great impact on how technostress impacts an organization. Good practices include setting clear goals, reasonable priorities, fostering a culture that values cooperation, involving employees in the planned change, etc. (Okebaram and Moses, 2013). If staff could be involved in the planning stage, they could develop a more positive attitude toward change without feeling threatened (Barlett, 1995).

Change should be introduced by directors and managers (Byerly, 1990), because employees

who found that their managers were using the new technology, would develop confidence for using the technology (Lally, 1997). Brod (1982) suggested to have network mentors. These mentors were given additional training in problem-solving methods, technostress, and leadership skills. Avlonities and Panagopoulos (2005) showed that supervisors influenced higher salespersons' acceptance of the CRM system. Organizations should develop methodologies for educating the groups-in-charge in order to introduce new technology, technology functioning works and its impact on different groups (Fisher and Wesolkowski, 1999).

TRAINING

Implementation of new technology or automation requires the development of additional skills and knowledge that can be attained by customized training programmes. Training is considered to be one of the most effective methods of managing the start-to-end introduction/ enhancement process for a specific technology. These trainings usually focus on technology features without taking individual difference into consideration. Trainings are generally a blend of classroom and on-the-job training.

Brod (1982) stated that training should be implemented in three phases: educational, rehearsal, and network training. Training appeared to affect perception of technological change and attitude to ICT (Craghill, Neale, and Wilson, 1989; Gilmore, 1998; Jones et. al., 1999). Training helped to relieve technostress for library staff of London Public University by reducing their anxiety. Training was used to build staff morale, cure technostress, and reassure employees about their ability to do the job (Jones et. al.,1999). Automation skill training was designed to show new employees how to use technology and how important technology was to both libraries and users. The assessment of the series has been overwhelmingly positive among library employees (Clark and Kalin, 1996). The training of job skill improved Chinese employees' capability and self-confidence (Xu, 1999). Small (2001) noted that library staff preferred training which included self-learning with support within specific framework. Woodhouse and Baigent (2002) in their study of evaluation of the success of ICT training for public library staff noted that training had increased enthusiasm and confidence. Training and learning provided by enterprises for employees decreased the complexity of new technology and reduced computer-related technostress of corporation managers in China (Tu, Wang, and Shu, 2005).

Newsletters related to new technology and its use is required to be published by training committee to reduce technology related stress of employees (Heaton and Brown, 1995). Call

(1986) found that individualized and hands-on training as well as involvement of employees in future planning process of organization would reduce technostress. Daniel (1995) stated that, for non-professional staff of library, communication and training were found to be key elements to cope with new automation.

Goldsborough (1997) has suggested training beginning from basics such as playing games which makes employees familiar with the mouse and the keyboard. He has suggested hand-holding of employees in the first week of training followed by comprehensive ongoing training. Along with that, he suggested rewarding the successful completion of training programme by offering days off or even financial assistance for a home computer (Bichteler, 1986; Lally, 1997). Training should not be given for the sake of training (Williamson, 1993) and should provide the necessary skills andbe of right proportion. It should combat fears as well as promote understanding and confidence in using ICT (Williams and Channaveeraiah, 2008).

HELP DESK, TECHNICAL SUPPORT CENTRES

Keeping a help desk or technological support centre reduces the stress. Lally (1997) proposed that onsite help desk was required to address technological problems. When enterprises introduce new technology, a technology support centre would be helpful to allay fears associated new technology and enhance employees' confidence. It will reduce the complexity of new technology and also decrease the insecurity associated with new technology. Technical support centres have alleviated computer-related technostress of corporation managers of China (Tu, Wang, and Shu, 2005). Weil and Rosen (1997) found that 50-60 per cent people were willing to use technology as long as they were provided with proper assistance; 30-40 per cent people needed extensive support in order to use technology effectively.

RE-EVALUATE THE VALUE SYSTEM

Champion (1988) found that in the library profession, it was necessary to accept the challenge of technostress as computers were a part of their profession. Gluckman (1991) mentioned that individuals need to re-evaluate their value systems. It must be co-evolve with technology. Positive attitude is assumed to be fundamental in the acceptance, implementation and success of new technology (Spacey, Goulding, and Murray. 2003). Some researchers found that attitude exerted influence on the behavioural intention to use technology (Morris and Dillon, 1997). The very first step is to understand that the person

concerned is not alone in his/ her fear. It is also imperative for managers to accept and forgive mistakes of employees as the learning of technology is generally slow(Goldsborough, 1997). It is necessary to implement the automation process painlessly. Patience is required and should always be focus on positive progress (Byerly, 1990).

Dobb (1990) has suggested to be positive to forget past difference and work together towards a smooth recovery. Self-learning is also used by many organizations, when introducing new technology (Fisher and Wesolkowski, 1999).Cognitive efforts such as acceptance, distancing, and escaping aim at reducing technostress by looking at the event from different perspectives. The behavioural efforts, which include activities such as seeking additional information and evidence and confronting individuals, aim at altering the situation to deal with technostress (Folkman and Lazarus, 1985; Lazarus and Folkman, 1984).

Several coping strategies are based on human behaviour and the degree of perception towards things (Monat and Lazzarus, 1991). Technostress is pervasive and pernicious and it could possibly be cured by spiritual practices. Bauwens (1995) and Saxena and Indoliya, (2015) define this as "techno-spirituality". Bauwens (1995) stated that "One of the fundamental aims of spiritual practices has been to extend human identities to overcome feelings of separateness with the rest of mankind, nature and the cosmos." Some of the techniques of spiritual practices could be used to arrive at a more holistic view of technology. In that sense, the merging of man with technology could be seen as part of larger mystical task within the context of universe. It is about incorporating certain habits in life style such as making yoga an integral part of life, having a right mental attitude to view things, and autosuggestion theory to tone up the mind for day to day activities. Autosuggestion is a process by which an individual trains the subconscious mind to believe something (Saxena and Indoliya, 2015). Techno-spirituality might be the best option for survival in the next millennium (Okebaram and Moses, 2013)

Strategies focused on emotion have changed one's perception of the situation, but have not altered the situation itself. The main focus should be on regulating personal emotions, tensions, restoring or maintaining a sense of stability and reducing emotional distress (Lazarus and Folkman, 1984). These strategies focus on one's self and include minimizing the consequences of threats, positive comparison, situation redefinition and passive acceptance, avoidance, denial, selective attention, venting anger, and seeking psychological or emotional support (Folkman et al., 1986; Stone et al., 1992).

In line with these techno-coping strategies, Tarafdar et al. (2011) have identified four kinds

of mechanism to offset technostress by studying around 233 IS (Information System) users of government organizations in US. These mechanisms were literacy facilitation, technical support provision, technology involvement facilitation, and innovation support. Literacy facilitation means to share IS related knowledge. Under this, IS professionals can provide training and documentation on applications and systems to the functional users. Technical support provision is to provide assistance and technical support to professionals for the use of IS. A responsive and easily reachable help desk is also the part of it. Technology involvement facilitation is to keep professionals involved in IS adoption and execution. Innovation support describes mechanisms that encourage professionals to experiment and learn.

IMPLICATIONS OF THE STUDY

Technology skills are an important part of most managerial roles. Because of fast pace of technological obsolescence, coping with new technology is not easy. In addition, human beings have an inherent resistance towards changes. This requires continuous organizational interventions for awareness building and attitudinal changes among employees. Apart from technical seminars and training, for ease of adoption and faster learning, organizations should hire technology specialists to maximize accessibility of system as well as comfort of users. The CEO should also set an example by embracing technological changes. This will enable employees to understand both opportunities and challenges posed by new technology. Tangible and intangible motivation from management can also foster adoption by employees. Organizations can focus on stress related training, which can help employees to cop with technology-related stress.

The objective of this paper is to highlight the coping practices individuals and organizations use to manage technostress. Hence, the paper will facilitate HR managers and techno-managers to understand how end-users appraise and adopt IT deployments in organizations. It will also enable them to appreciate the importance of providing users with adequate resources and change-management interventions so they can adapt to new technology quickly and with least resistance. It can also assist managers to design technology adoption strategies to improve employees' performance and minimize negative emotions associated with IT implementation. However, there is no one-size-fits-all strategy. In other words, what works in one organization may not work in another organization and successful intervention of past may not be a recipe for future success. It always needs to evolve in line with internal and external context. In nutshell, the importance of leadership in the form of facilitation, nurturing, organisation culture, team work, etc. Determines success and failure of technology adoption and assimilation.

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