

Technostress and technolust: coping mechanisms among academic librarians in Eastern and Southern Africa

by

Tom Kwanya, Christine Stilwell and Peter Underwood

University of KwaZulu-Natal, Information Studies, Pietermaritzburg, South Africa

ABSTRACT

Several user studies have confirmed that academic libraries are under great pressure to adopt new technologies. This pressure has resulted in technostress and technolust among academic librarians. Technostress is defined as a feeling of anxiety or mental pressure caused by working with multiple and rapidly changing computer systems, and mediating between these systems and the demands of one's organisation, staff, customers, and personal life. Technostress results from poor technological change management. Technolust, on the other hand, is the continuous desire to have the latest and flashiest technological tool available even when it is not necessary.

Available evidence indicates that academic librarians experience physical and emotional stress in their efforts to adapt to the emerging technologies. Using survey research methodology, this study sought to unravel the mechanisms academic librarians in Eastern and Southern Africa employ to cope with the consequences of technostress and technolust. The findings indicate that education and training, effective time management and scheduling of tasks, resource mobilisation, maintenance of good health, improvement of personal image, and an appreciation of what technology can and cannot do, are some of the strategies academic librarians in Eastern and Southern Africa use to cope with the effects of technostress and technolust in their personal and professional lives.

KEYWORDS

Technostress, technolust, academic libraries, Eastern Africa, Southern Africa

INTRODUCTION

The environment in which academic libraries currently operate is changing drastically and becoming more complex. For instance, the emergence of new information and communication technologies, exemplified by the Internet, has changed the way people seek information,

communicate and collaborate. Thus, modern library users have embraced new information seeking behaviour as well as expectations for better usability, faster response times to needs, and constant access to unrestricted library services. As libraries struggle to cope with these changes and user expectations, some library users are already reducing their levels of usage, preferring to “Google” than visit a physical library. Similarly, library circulation statistics indicate that the usage of the traditional services and products is decreasing steadily while the usage of electronic resources and services is increasing. There is also a perceived increase in the usage of libraries which offer Internet access and other online services (D’Elia *et al.* 2002). This observation is also supported by the Public Access Computing Project (PACP)¹ studies which have provided anecdotal evidence that including Internet access points and other electronic services in libraries increases library usage (Kinney 2010).

The Centre for Information Behaviour and Evaluation Research (2007) also argues that modern library users seem to have embraced a new information seeking behaviour that is not compatible with the old library service model nurtured in a hardcopy system and, in many respects, still tied to it. Instead, this information seeking behaviour can be characterised as being horizontal, bouncing, checking and viewing in nature. Therefore, current library users are perceived as being “promiscuous”, diverse and volatile. This information seeking behaviour is described as a form of skimming activity, where people view just one or two pages from an online resource or site and then “bounce” out, perhaps never to return. The Centre for Information Behaviour and Evaluation Research (2007) further suggests that modern library users: 1) are generally more competent with technology, pick up these skills on the move through trial and error and expect a lot from ICTs; 2) prefer interactive systems and are turning away from being passive consumers of information; 3) have drastically shifted to digital forms of communication such as texting rather than talking; 4) multitask in most, if not all, areas of their lives; 5) prefer info-tainment approaches to traditional information provision; 6) have limited tolerance of delay in the provision of services; 7) find their peers more credible as sources of information than authority

¹ This is a research organisation conducting studies on a number of librarianship issues and supported by the Gates Foundation and other philanthropic organisations. A number of these research findings and reports are available on various websites.

figures and structures; 8) feel the need to remain constantly connected; 9) believe everything is on the web; and 10) are format agnostic.

Critically, most of these users do not presently perceive the academic library as the first or only stop for information. As the pace of change in academic libraries accelerates, the greatest challenge the libraries and librarians now face is how to keep up (Courtney 2007). Attempts to keep up have created immense pressure on the libraries to modernise and improve their services and products. Although there are several perspectives to library modernisation such as user-centricity, user participation, flexibility of operating hours, ease of access, ease of search across databases, round the clock access to library services and resources, renovation of the physical library spaces and library programming, most users seem to equate library modernisation with the adoption of the emerging technologies (Choh 2011). Indeed several user studies confirm that libraries are under great pressure to adopt new technologies. This pressure has resulted in technostress which is described as the stress resulting from inability to cope with technological change (Brod 1984; Kupersmith 2012) and technolust which is obsession with technology.

METHODOLOGY

The authors used a survey research methodology to unravel the mechanisms academic librarians in Eastern and Southern Africa employ to cope with the consequences of technostress and technolust. Data for the study was collected through a semi-structured, self-administered online questionnaire facilitated by SurveyMonkey software. The authors solicited the responses of academic librarians in Kenya and South Africa by sending the hyperlink of the online questionnaire to academic librarians selected purposively, based on an information-oriented sampling approach.

TECHNOSTRESS

Stress is defined as a psychological or physical response of the body that occurs whenever one attempts to adapt to changing conditions, whether those conditions are real or perceived, positive or negative. Selye (1979) defined the three stages of reaction to “stressors” in the environment as alarm, resistance, and exhaustion (in extreme cases where stress is serious and prolonged.) Symptoms of stress may be physical (muscle tension, rapid heartbeat, dry mouth and throat, shallow breathing, headaches, gastric problems), cognitive (mental fatigue, inability to

concentrate, poor judgment), affective (irritability, anxiety, mental fatigue, depression, nightmares), or behavioural (impulsiveness, avoidance, withdrawal, loss of appetite, insomnia) (Kupersmith 1998). Other symptoms of stress include feelings of isolation, frustration, self-deprecating thoughts and apologetic attitude.

The term technostress was introduced by Craig Brod in his book *Technostress: the human cost of the computer revolution* published in 1984 (Brod 1984; Kupersmith 1998). He argued that the computerisation of society can change people's attitudes and norms via the socialisation process, since the computer is held in high esteem. He emphasised that people should be aware of the impact of machines so that they control the machines rather than the machines socialising them. He described technostress as a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner. He explained that technostress manifests itself in two distinct and related ways: in the struggle to accept computer technology, and in the more specialised form of over-identification with computer technology. Kupersmith (1998) adds that technostress is part of the price the modern generation pays for living in a time of revolutionary and dramatic change.

Technostress has also been described as a feeling of anxiety or mental pressure from overexposure or involvement with technology. It is any negative impact on attitudes, thoughts, behaviours, or body physiology that is caused either directly or indirectly by technology. One well-documented form of technostress is the escalating problem of information overload, colloquially called "data smog" (Kupersmith 2012). Technostress can also be associated with technology related performance anxiety (the feeling that one cannot use technology systems effectively or help others to do so), role conflicts (uncertainty about one's role), and disparity between increasing demands and decreasing resources (Kupersmith 1998). Poor user interfaces, lack of standardisation, networking and security issues, hardware and ergonomic problems may also cause technostress (Kupersmith 2012). Technostress is people's reaction to technology and its impact on them. It is becoming more prevalent with the increasing ubiquity of technology. Its impact permeates all spheres of life.

Prabhakaran and Mishra (2012) also explain that technostress results from poor technological change management. They explain that technostress is manifested by multitasking madness

(inability to multitask efficiently), burnout, fatigue, frustration, withdrawal, and information overload.

Several scholars have studied technostress in libraries. Ennis (1997) studied technostress in the reference environment of college and research libraries in the United States of America and concluded that the majority (51 percent) of reference librarians experienced technostress. A study by Kupersmith (2003) also revealed that 59 percent of librarians had experienced increased levels of technostress in the past five years prior to 2003. The study also found that 65 percent of those who had experienced increased technostress considered it a serious problem. Respondents to Kupersmith's (2003) study also identified information overload, networking problems, security issues, computer hardware and ergonomics, and vendor-produced databases as some of the causes of technostress in their lives. Other causes of technostress were identified as new things to learn or monitor constantly; irrational patron expectations of technology; dealing with other people's technostress; managing electronic subscription access; spam; un-described, unannounced, uncontrolled changes; working around limitations in library catalogue systems; and migrating to a new library systems. Bichteler (1986) explains that some librarians have reported a personality change as a result of being too technology-oriented. As a consequence, they have reported being more irritable and impatient when dealing with unorganised or illogical people. The librarians have also reported that they have increasingly lost their conversational capacity as a result of being more exposed to technology than human beings.

Prabhakaran and Mishra (2012) further explain that librarians have indeed experienced physical and emotional stress in their efforts to adapt to the emerging technologies resulting in higher levels of absenteeism and turnover. The situation has been exacerbated by the rapid pace of technological change (usually at the whims of vendors), lack of standards, expanding roles of librarians, rising costs of technology against dwindling library budgets, high expectations from users emanating from the belief that information is instantly available through technology, and information overload.

Isaacson (2006) argues that one way of dealing with technostress is by libraries seeking to only meet the needs of users, not their wants. There is contention, however, on who and how to determine library users' needs and wants. Isaacson (2006) justifies his view by explaining that a

library should not try to compete with Barnes & Noble, which is interested in direct profits. He concludes that libraries should not experiment with populist ideologies and technologies but should be brave to tell the users that some questions need to be sifted, refined, checked in multiple sources, and perhaps even reframed before they can be answered adequately. He admits that there are occasions when the librarians may be wrong, but he also emphasises that the users cannot also always be right. He cautions that there is no need for “Wal-Mart greeters” in libraries. Stephens (2006) also suggests that modern librarians should control technostress by not adopting technologies just because it is “cool” to do so.

Kupersmith (2012) explains that moderate stress can be beneficial and stimulating. However he adds that severe and prolonged stress can have harmful physiological and psychological effects. It is also important to note that technostress is just one form of stress. In fact, it is rarely exhibited alone. It often synergises with other forms of stress to present compounded symptoms and effects. Therefore managing technostress requires a holistic approach. Prabhakaran and Mishra (2012) assert that technostress management is critical to librarians since most of them are older and are prone and are exposed to more stress factors and psychological disorders.

TECHNOLUST

Technolust is defined as the constant desire to have the newest, flashiest, fastest, shiniest technological gadget available even if one does not need it. Technolust can also be perceived as a passionate desire for technological fulfilment. Stephens (2008) adds that technolust is an irrational love for new technology combined with unrealistic expectations for the solutions it brings. He emphasised that new technologies cannot, on their own, save any library. He advises libraries not to make new technologies to become the centre of their missions.

Technolust drives people to acquire new technologies without careful planning, an environmental scan of the current landscape, and a complete road map for training, roll out, buy in and evaluation. People exhibiting technolust are in a rush to add new technologies as soon as they hit the shelves just to boost the coolness factor (Stephens 2004) even if they cannot afford it. Technolust is a form of obsession or addiction to new technologies; it is a compelling desire to get the coolest technology.

Technolust is perceived as one of the desires that have nothing to do with people's real wants and needs or the reality in which they live. It is an extreme form of consumerism fanned by an abundance of "must-get" gadgets flooding the market.

New terms such as techno-shame, techno-hesitation, techno-banality and techno-phobia have also sprung up to describe behaviour contrary to technolust. The terms generally refer to the tendency to keep using the technology one has, as long as it is still useful, before acquiring emerging technologies. Techno-banality is the extreme opposite of technolust. People exhibiting techno-banality have been described as dunce (technologically) and possessing obsolete gadgets. Such people fear to adventure and experiment with emerging technologies and prefer to keep with the tested.

It is not desirable of librarians or library users to exhibit either tendency; a balance between the two extremes is recommended. A similar approach should be applied at the organisational level as well so that libraries do not end up with pieces of technology which they do not need.

FINDINGS AND DISCUSSIONS

Presence and nature of technostress

Twenty-five academic librarians responded to the questionnaire. Of these nineteen (76%) said they have experienced technostress while six (24%) said they had not. 44.4 percent of those who had experienced technostress said that it had increased in the past three years; 22.2 percent said it had remained neutral; 16.7 percent said it had increased greatly; 11.1 percent said it had reduced; while 5.6 percent said it had reduced greatly. Thus, the majority (61.1%) said their levels of technostress had increased while only a minority (16.7%) said that their levels of technostress had reduced. Fig 1 below summarises the results of change on technostress levels:

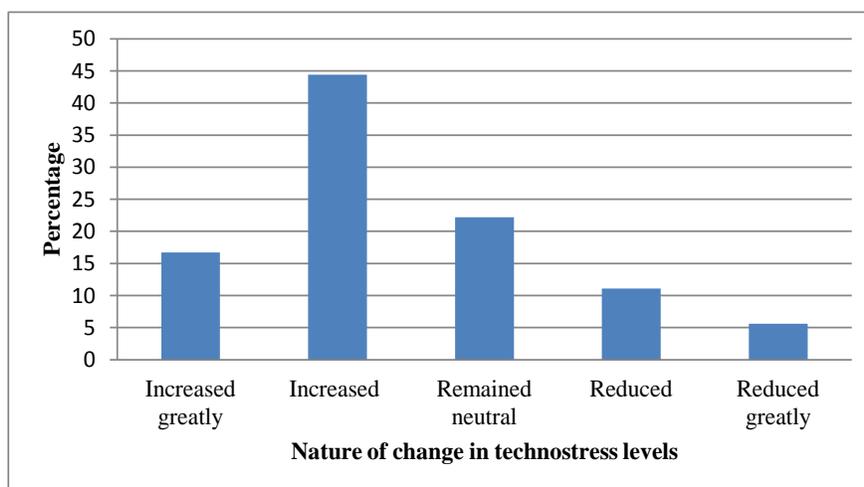


Fig 1 – Change in technostress levels over the past three years.

Seriousness of technostress

The majority (44.4%) of the respondents who had experienced technostress said they found their levels of technostress to be a little serious; 22.2 percent said it was neutral; 16.7 percent said it was serious; 11.1 percent said it was not serious at all; while 5.6 percent said it was very serious. Thus, the majority (66.7%) considered their levels of technostress as serious though in varying degrees.

Causes of technostress

Few access points to some technology systems against many users of the system; performance hitches by some systems; eye-strain; rapid technological change; many profiles (usernames and passwords) to master; use of obsolete systems; pressure to stay up to date and work efficiently (seamlessly) with the latest technology; pressure to adapt quickly and adopt the latest trends; desire to remain ahead of the market; failure to get expected results from technology; inadequate technological infrastructure; having to learn so many things at one go; lack of support; spam; too much work to be done too soon; inadequate technological skills; heavy workload; inadequate technology standards; and unreliability of technology were identified as some of the major causes of technostress amongst academic librarians in Eastern and Southern Africa.

Ways of coping with or minimising technostress

The respondents proposed the following strategies to help minimise technostress in academic libraries: the libraries should move at the same pace with the development of systems in the

market; staffing needs should be considered while implementing technology projects to ensure smooth deployment; keeping a record of passwords; continuous training of librarians to develop skills in the emerging technologies; effective communication; effective change management plans; realistic time scheduling to reduce attempts to accomplish different tasks at once; improving technological infrastructure; providing adequate resources to support technology projects in the libraries; providing ample time to learn and implement the new systems; establishing and using communities of practice to facilitate sharing of ideas and best practices; only attending to the most relevant, personally useful and necessary emails and alerts on the various media and technological gadgets; developing and maintaining comprehensive technology standards.

Technolust

The majority of the respondents (55%) have experienced technolust. The respondents also attributed technolust to peer pressure (“Everybody has it!”); competition to have the best, the latest and the flashiest; new features and abilities of the newer technology hence need to adopt; demand from users or stakeholders; pressure to retain users as some of them withdraw from using the library and look for alternative ways where they can use the new technology; changing needs of the users; and panic. The respondents also said that technolust leads to dissatisfaction or discontent with the library; conflict with decision makers; frustration; bureaucracy; exhaustion; withdrawal; poor service delivery; anxiety; reduced morale; increased costs; and increased workload.

The respondents also suggested that academic institutions should provide more resources for the libraries; decision makers should be more accommodative and prompt; libraries should acquire technologies with long “shelf-lives” and that are futuristic; libraries should invest in staff development; librarians should not bow to peer pressure; librarians should maximise the potential of the tools they currently have; and librarians should be realistic.

CONCLUSION

The presence of technostress and technolust amongst librarians is real. Different people respond to and deal with technostress and technolust in different ways. It is evident from the foregoing that there is no magic bullet to deal with technostress and technolust among librarians. The authors propose the following strategies for academic librarians in Eastern and Southern Africa to enable them to cope with the reality and consequences of technostress and technolust in their personal and professional lives:

Workload reduction

Heavy workload is one of the major causes of technostress and technolust in academic libraries as librarians try to embrace the latest technologies to keep pace with the demands of the library users. Librarians should take mini-vacations throughout the work year; take periodic breaks during work; change routes to and from work; create time to run personal errands such as paying bills or housekeeping; and interact more with colleagues and users. Other ways of reducing workload include approaching problems in a systematic way, setting realistic goals, setting aside

time for learning, fostering a culture that values cooperation and is positive about technology and providing adequate equipment, training, and technical support (Kupersmith 2012).

Librarians should also admit what they cannot do and inform library users of the same; apply a sense of humour in their work; develop and sustain a cordial working relationship with the users and colleagues; step away from the areas of stress so as to get time to reflect, rejuvenate and map out a way forward; ask for help when it is necessary; create opportunities to learn; develop and use written “to-do” lists to manage time better; prioritise tasks; and know when and how to say “No” and make it clear that they cannot do everything (Kupersmith 2003). Outsourcing or hiring a dedicated techie for the library may also help reduce the workload.

Training

Training and education is another way of coping with the impact of technostress and technolust. Training develops the capacity of the librarians to understand and appreciate technological trends, manage change effectively, and explore alternatives to frustrated goals. Individualised training is recommended where possible.

Good health

Proper nutrition; exercise; breaking of unhealthy habits such as smoking, drinking or excessive eating; meditation; and relaxation can help the librarians to generate sufficient social, physical and psychological energy to cope with the consequences of technostress and technolust.

Independence, self-sufficiency from technology

Librarians should be encouraged to use technology selectively. They should be helped to understand that not all technologies are useful for their personal or professional needs. Thus, they should be encouraged to use technology which works for them; stay cool when technology is not working; schedule time away from technology to avoid overdependence on technology; boost personal image to forestall peer pressure; and develop capacity to impart the same skills to their clients.

REFERENCES

- Bichteler, J. 1986. Human aspects of high tech in special libraries. *Special Libraries Association* 77(3):121-128.
- Brod, C. 1984. *Technostress: the human cost of the computer revolution*. Reading: AddisonWesley.
- Centre for Information Behaviour and Evaluation Research (CIBER). 2007. Information behavior of the researcher of the future. Available at <http://www.ucl.ac.uk/infostudies/research/ciber/downloads/GG%20BL%20Learning%20Report.pdf> Accessed 28 April 2008.
- Choh, N.L. 2011. Libraries of the future: what our users want: the NLB Singapore's perspective. Paper presented at the World Information Congress: 77th IFLA General Conference and Assembly held 13-18 August 2011 in San Juan, Puerto Rico. Available <http://conference.ifla.org/past/ifla77/122-ngian-en.pdf> Accessed 21 February 2012.
- Courtney, N. 2007. *Library 2.0 and beyond*. London: Libraries Unlimited.
- D'Elia, G.C. Jørgensen, J. Woelfel and E.J. Rodger. 2002. The impact of the internet on public library use: an analysis of the current consumer market for library and internet services. *Journal of the American society for information science and technology* 53(10):802-820.
- Isaacson, D. 2006. BackTalk: serve their needs, not their wants Available <http://www.libraryjournal.com/article/CA6396343.html> Accessed 18 July, 2010.
- Kinney, B. 2010. The internet, public libraries and the digital divide. *Public library quarterly* 29(2):104-161.
- Kupersmith, J. 1998. Technostress in the bionic library. Available at <http://www.jkup.net/bionic.html> Accessed 20 June 2012.
- Kupersmith, J. 2003. Library technostress. Available at <http://www.jkup.net/tstress-survey-2003.html> Accessed 20 June 2012.
- Prabhakaran, A. and H.K. Mishra. 2012. Technological change in libraries: the evolution of technostress. *Journal of Arts, Science & Commerce*. 2(1):131-135. Available http://www.researchersworld.com/vol3/Paper_14.pdf Accessed 20 February 2012.
- Selye, H. 1979. The Stress Concept and Some of its Implications," in Vernon Hamilton and David M. Warburton, ed., *Human Stress and Cognition: An Information Processing Approach*. New York: John Wiley and Sons, 11-32.

Stephens, M. 2004. Technoplans vs. technolust. *Library Journal*. Available at <http://www.libraryjournal.com/article/CA474999.html> Accessed 21 June 2012.

Stephens, M. 2006. Into a new world of librarianship. *Next Space, The OCLC Newsletter*. <http://www.oclc.org/nextspace/002/3.htm> Accessed 18 May 2011.

Stephens, M. 2008. Taming technolust: ten steps for planning in a 2.0 world. *Reference and User Services Quarterly* 47(4):314-317.