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ABSTRACT

The article sought to examine the causes, symptoms and reducing strategies of technostress among the library professionals of the selected Private College Libraries in North Bengal. The descriptive survey method was employed using the questionnaire to collect data from the 52 respondents in ten higher education institutions in the northern region of West Bengal. The gathered data were analyzed by using the Likert scale and mean value calculation. The findings of the investigation show that library professionals experience technostress to a great extent. It was identified that the major cause of technostress was information overload. Different reducing strategies of technostress also revealed through this study.

Keyword: Technostress, Symptoms, Causes, Reducing strategies, Library professional, North Bengal

1. Introduction:

It is a well known fact for all that the emergence of high tech technologies and the use of these technologies with sophistication has made possible many exciting new opportunities in running and using the electronic library. An excellent rate of ICT (Information Communication Technology) adoption by the library professionals has enhanced their different types of activity such as information collection, processing, organization, storage, packaging and dissemination. With the advancement of technologies, library operations are changing rapidly and library personnel need to adapt to new plans, tasks, and activities. As the librarians interact with the modern technology, they also encounter with a number of psychological, personal and organizational issues (AL-Qallaf, 2006). According to Doshi (2007) this kind of technology surrounded environment increases the stress among the library

professionals, caused by trying to keep up with rapidly changing technologies. A lot of time and energy is needed to stay abreast with the latest technology and if these technological demands are not met, library professionals can feel inadequate and insecure with regarding their jobs, which in turn can make them "technostressed".

2. Technostress – a brief description:

The term techno stress was coined in 1984 by a clinical psychologist, Dr. Craig Brod. Brod (1984) defined the term as "a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner. It manifests itself in two distinct and related ways: in the struggle to accept computer technology, and in the more specialized form of over identification with computer technology." Arnetz and Wiholm (1997) also tried to define Technostress as "a state of arousal observed in certain employees who are heavily dependent on computers in their work." According to the explanation of Kupersmith (1992) technostress is the general feeling of anxiety and the negative impact on thoughts, behaviours, attitudes, and body when a person is expected to deal with technology. Some other researchers also used some other terms for defining this technological stress such as technophobia, computer phobia, computer anxiety, and computer stress (Chua, Chen, & Wong, 1999; Durndell & Haag, 2002). Tarafdar, Tu, Ragu-Nathan & Ragu-Nathan (2007) identified five components of technostress, also known as technostress creators, which are:

a. **Techno-overload**: A situation where ICT users are forced to work faster and longer.

b. **Techno-invasion**: A situation where ICT users felt that they can be reached anytime or constantly "connected" which caused a blurring between work-related and personal contexts.

c. **Techno-complexity**: A situation where ICT users feel that their skills are inadequate due to the complexity related to ICT. As a consequence, they are forced to spend time and effort to learn and understand the various aspects of ICT.

d. **Techno-insecurity**: A situation where ICT users feel threatened that they will lose their job, either being replaced by the new ICT or by other people who are better in ICT compared to them.

e. **Techno-uncertainty**: A situation where ICT users feel uncertain and unsettled since ICT is continuously changing and need upgrading. Other terms that were synonymous with techno stress used by other researchers include technophobia, computer phobia, computer anxiety, and computer stress

3. Literature review:

Researchers have done different studies to identify the different technostress creators among the academic library professionals. Saunders (1999) reported that in the process of adopting the new technologies, the library staffs have been increasingly experiencing physical and emotional stress. A study by Bitcheler (1987) reported that technostress in library staff can be attributed to four general areas, i.e. fear, hostility and apprehension resulting in typical resistance behaviour; dissatisfaction and frustration with the planning and implementation of automated systems; physical complaints; and inadequate training. She also said that careful planning and methodical implementation of automated system reduces stress and gives staff a feeling of participation and control over their own jobs. Kupersmith (1992) stated that basically four distinct factors, viz. performance anxiety, information overload, role conflicts and organizational factors, affect the lives of librarians and other library staffs. Another study by Champion (1988) tried to assess the impact of technostress on school librarians. This study reported that symptoms of technostress include resistance, intolerance, and panic. Another study by Harper (2000) investigated the level of Technostress among the library staffs. That particular study reported that the heavy use of computer technology could result eyestrain, headaches, backaches, Carpal Tunnel Syndrome, muscular dysfunctions. He also mentioned that the fear that computers were taking over their roles also led to feelings of job insecurity. AL-Qallaf (2006) also investigated the effect technology on librarians working in academic and research institutions in Kuwait. The study reported that 88 percent respondents said that the lack of formal training was the main cause for the technostress. Kupersmith (2003) also did a unique online survey to assess the technostress among library staff. He found that the major causes of technostress were information overload, networking problems, computer hardware, ergonomics, and vendor produced databases. Ahmad and Amin (2012) sought to examine the level of technostress among academic librarians from nine public universities of West Malaysia. The study revealed that the respondents were found to experience high level of techno-uncertainty and moderate level of techno-overload and techno-complexity.

4. Research objectives:

The purposes of this particular research study are as follows:

a. Identify the demographical and profession related details of the library professionals of the selected private college libraries in North Bengal.

b. Ascertain the major causes of technostress among the library professionals.

c. Find out the different symptoms and effects of technostress among the library professionals.

d. Suggest some control measures for reducing the effects of technostress.

5. Methodology:

This study employed a descriptive survey method using the questionnaire to collect data from the respondents. The first part of the questionnaire comprised demographic data of the respondents such as age, gender, educational qualification, total library experience, area of specialisation, type of the institution, marital status, and salary per month. The second part was concerned with the causes, effects and solutions of technostress. In this part, each statement consisted of Likert scale, i.e. five ordered response levels were used for each statement. These response levels were 'strongly agree', 'agree', 'undecided / no comment', 'disagree', 'strongly disagree'. Each response was given a numerical score [Strongly Agree (SA) = 2, Agree (A) =1, Undecided (U)/No Comment (NC) = 0, Disagree (D) = -1, Strongly Disagree (SD) = -2], indicating its favourableness or unfavourableness, and the scores were totalled to measure the respondent's attitude. Total 54 copies of questionnaire were distributed to the library professionals of the selected institutions, out of which only 52 questionnaires (96.3%) were returned back. The collected primary data were processed, tabulated and analysed using the R statistical software.

6. Data analysis and interpretation:

6.1 Details of the Institutions:

Table 1 reflects that the concerned study included ten private higher education institutions which are located at the northern region of West Bengal (commonly known as North Bengal). The study covered the institutions of various disciplines. It includes General Degree College, Engineering College, Management College, Law College and teacher Education College. Among the institutions which were included in this study, most of the institutions are located in the Darjeeling district. The table also reveals that among the respondents, highest numbers of the respondents were from Siliguri Institute of Technology.

Table 1. Details of the Institutions

Sl. No.	Name of the Institution	Type of Institution	No. of Library Professional	District
1	Gyan Jyoti College	General Degree	4	Darjeeling
2	IIAS School of Management	Management	2	Darjeeling
3	Indian Institute of Legal Studies	Legal	3	Darjeeling
4	Salesian College	General degree	7	Darjeeling
5	Siliguri Institute of Technology	Engineering and Management	9	Darjeeling
6	Surendra Institute of Engineering and Management	Engineering and Management	6	Darjeeling
7	Vidyasagar College of education	Teacher Education	3	Darjeeling
8	North Bengal St. Xavier's College	General Degree	7	Jalpaiguri
9	IMPS College Of Engineering & Technology	Engineering	7	Malda
10	Techno Global Balurghat	Engineering	6	South Dinajpur
		Total	**54**	

6.2 Demographic background of the respondents:

Table 2 shows the demographic details of the respondents. There was a total of 52 respondents, with 33 males (63.46%) and 19 females (36.54%). Majority were in the age group of 25-34 (44.23%), followed by the age group 35-44 (28.85%). Most of the respondents were married (61.54%) with 32.69% were single and very few respondents were widowed (1.92%). The two largest groups with the total library experience were for 6-10 years (42.31%) and for 1-5 years (36.53%). All the respondents (100%) had bachelor degree

in library and information science and all of them also had a bachelor degree in other subject. About 59.62% respondents also had master degree in library and information science. Most of the professionals were involved with technical services of the library (44.23%) with 32.69% were involved with information services of the library. About 46.15% participants were drawing monthly salary below Rs.10,000 and 34.62% were being paid between Rs.10,001-20,000.

Table 2. Demographic background of the respondents

Demographic variable	Classification	Frequency	%
Gender	Male	33	63.46
	Female	19	36.54
Age (**In years**)	<25	8	15.38
	25-34	23	44.23
	35-44	15	28.85
	45-54	4	7.69
	55+	2	3.85
Marital Status	Bachelor/Spinster	17	32.69
	Married	32	61.54
	Divorced	2	3.85
	Widow	1	1.92
Educational Qualification (Multiple response)	Bachelors in LIS	52	100
	Other Bachelor Degree	52	100
	Masters in LIS	31	59.62
	Other Master's Degree	26	50
	M. Phil	8	15.38
	Ph.D.	1	1.92
Total library experience (In Years)	1-5	19	36.53
	6-10	22	42.31
	11-15	9	17.31
	16-20	2	3.85
Area of Work	Technical Services	23	44.23
	Information Services	17	32.69

	Library Administration	12	23.08
Salary	Below Rs.10,000	24	46.15
	Rs.10,001-20,000	18	34.62
	Rs.20,001-30,000	8	15.38
	Rs.30,001-40,000	2	3.85

6.3 Causes or reasons of Technostress:

Table 3 reveals the major reasons that cause technostress among the library professionals. It shows that information overload (mean=1.33) is the major causes of technostress. The table also shows that the growing user demand (mean=1.29), lack of technical support (mean=1.15), technological breakdowns (mean=1.09), fast pace of change (mean=1.04) results in technostress to a great extent. Other major causes identified in this study include poor work environment (mean=0.94), lack of formal training (mean=0.96) and Increased management expectations (mean=0.90).

Table 3. Causes or Reasons of Technostress (N=52)

Sl. No.	Causes of Technostress	SA (2)	A (1)	UD/NC (0)	D (-1)	SD (-2)	Score (S)	Mean (S/N)
1	Too little formal training	18	22	6	4	2	50	0.96
2	Lack of technical support	21	24	2	4	1	60	1.15
3	Lack of professional staff	13	15	12	9	3	26	0.5
4	Not enough equipment such as computers and printers	14	26	4	6	2	44	0.85
5	Not enough involvement in the decision-making process	18	23	1	7	3	46	0.88
6	Slow network response time	14	24	4	8	2	40	0.77
7	Technological breakdowns	20	24	2	5	1	57	1.09
8	Growing user demands	21	27	2	2	0	67	1.29

9	Information overload	23	26	0	3	0	69	1.33
10	Increased management expectations	17	22	7	3	3	47	0.90
11	Security issues (viruses authentication)	08	20	4	14	6	10	0.19
12	Older technology (software, hardware)	16	19	9	4	4	39	0.75
13	Undescribed, unannounced, uncontrolled changes	20	22	3	7	0	55	1.08
14	Things are too complicated (overall work environment)	17	26	0	7	2	49	0.94
15	Fast pace of change	23	18	2	8	1	54	1.04
16	Organization culture	15	19	9	5	4	36	0.69
17	Electric Power Fluctuation	7	15	14	12	4	9	0.17

*Note: SA= Strongly Agree, A= Agree, UD/NC= Undecided/No Comment, D= Disagree,
SD= Strongly Disagree; Numeric number in the braces denotes score for each response, N=
No. of respondents*

6.4 Symptoms of Technostress:

The major symptoms of technostress among the library professionals are presented through Table 4. It can be seen from the table that mental fatigue (mean=1.33) rank first as major symptoms of technostress experienced by the library professionals. This is followed by decreased health and wellness (mean=1.31) and losing promotional opportunities (mean=1.31). Other symptoms include job burnout and lack of concentration (mean=1.17), negative self-image (mean=1.08), Intimidation of new technology (mean=1.08), Irritability, anger, and exhaustion (mean=1.02) and technological avoidance (mean=0.92).

Table 4. Effects or Symptoms of Technostress (N=52)

Sl. No.	Effects of Technostress	SA (2)	A (1)	UD/NC (0)	D (-1)	SD (-2)	Score (S)	Mean (S/N)
1	Inability to relax after work and difficulty in sleeping	19	18	6	7	2	45	0.87

		SA	A	UD/NC	D	SD	N	
2	Increased errors, and absenteeism	16	19	6	10	1	39	0.75
3	Decreased health and wellness	26	20	3	2	1	68	1.31
4	Low self confidence	20	19	4	6	3	47	0.90
5	Frustration	15	18	5	11	3	31	0.6
6	Irritability, anger, and exhaustion	18	23	7	2	2	53	1.02
7	Fear of losing autonomy	17	18	10	4	3	42	0.81
8	Losing promotional opportunities	26	21	1	3	1	68	1.31
9	Feeling isolated	15	15	7	11	4	26	0.5
10	Burnout and difficulty in concentrating	24	22	1	1	4	61	1.17
11	Mental fatigue	24	25	0	2	1	69	1.33
12	Intimidation of new technology	20	23	4	3	2	56	1.08
13	Technological avoidance	15	27	4	3	3	48	0.92
14	Negative self-image, depression	20	21	6	5	0	56	1.08
15	Negative information seeking behaviour	14	17	5	12	4	25	0.48

Note: SA= Strongly Agree, A= Agree, UD/NC= Undecided/No Comment, D= Disagree, SD= Strongly Disagree; Numeric number in the braces denotes score for each response, N= No. of respondents

6.5 Strategies for reducing the Technostress:

Table 5 discloses the different strategies adopted by the library professionals to reduce the technostress. It can be seen from the table that flexible and continuous training programmes (mean=1.35) rank first as the major strategy to reduce the level of technostress. This is followed by decentralized decision making process (mean=1.29) and recruitment of sufficient and skilled workforce (mean=1.25). Other reducing strategies include maintenance of Work-Life Balance (mean=1.17), setting achievable goals (mean=1.15), stronger

communication mechanisms between all levels of employees (mean=1.08), use of stress inoculation training (SIT) (mean=0.96) and discussion on technostress and plan for it (mean=0.94).

Table 5. Strategies for reducing the technostress

Sl. No.	Strategy	SA (2)	A (1)	UD/NC (0)	D (-1)	SD (-2)	Score (S)	Mean (S/N)
1	Flexible and continuous trainings	23	27	0	1	1	70	1.35
2	Buying more adequate user friendly hardware and software	14	15	11	8	4	27	0.52
3	Stronger communication mechanisms between all levels of employees	19	22	7	4	0	56	1.08
4	Decentralization of the decision-making	23	25	1	2	1	67	1.29
5	Maintain a sufficient, skilled workforce	26	19	3	2	2	65	1.25
6	Use of stress inoculation training (SIT)	19	19	9	3	2	50	0.96
7	Maintain Work-Life Balance	24	20	3	3	2	61	1.17
8	Take frequent break	14	16	12	7	3	31	0.6
9	Use bio feedback software and mediate	8	12	20	7	5	11	0.21
10	Discuss technostress and plan for it	18	22	5	5	2	49	0.94
11	Revert to manual systems of library operations	17	18	12	3	2	45	0.87
12	Set achievable goals	22	19	8	3	0	60	1.15
13	Maintain the use of old technologies and equipments	25	14	3	3	7	47	0.9

Note: SA= Strongly Agree, A= Agree, UD/NC= Undecided/No Comment, D= Disagree, SD= Strongly Disagree; Numeric number in the braces denotes score for each response, N= No. of respondents

7. Conclusion:

Based on the finding of the study, it could be concluded that librarian in the university libraries experience technological stress when they use computer related technologies. Different causes of technostress have been discovered and also different symptoms of technostress have been identified through this study. By understanding the underlying reasons of technostress, libraries might be able to adapt different strategies to manage technology driven stress in their workplace more effectively.

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