Human Aspect of Technology with Special Reference to Library Professionals of Anna University of Technology, Coimbatore, Tamil Nadu: A Study

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Abstract

The technological revolution of this decade has certainly brought many changes in the functioning of libraries today. Although it has allowed work to be carried out faster and more efficiently and still many library professionals are not comfortable with the implementation of technology as it involves change and uncertainty. As a result, they develop additional stress known as techno stress which may have negative impact in the activities of library professionals.

This study intends to find out the relationship between the departments where greatest technological advancement has been made and the cause of techno stress at work place among the library professionals of Anna University of Technology, Coimbatore. A questionnaire which comprises of demographic factors, departments where greatest technological advancement has been made, and the causes of techno stress at work place was distributed to the respondents and the relevant information were gathered and analysed. The results of the study are elucidated with relevant interpretation.

Keywords: *Library Professionals, Technological Advancement, Techno Stress*

1. INTRODUCTION

Today's persistent information and communication technology enable us to get connected almost everywhere at anytime. ICT, such as internet, advanced wireless technologies and mobile communication networks are becoming increasingly indispensable in many aspects of work and everyday life. But to keep pace with advancing new technology, library professionals have to constantly renew their technical skills as well as endure pressures and higher expectations from management and users. Amidst this technological revolution, library's traditional services remain the same. As new technologies evolve, what are departments of the library with greatest technological advancement? and what are the causes of techno stress at workplace?. Research on these aspects helps the library professionals in developing a stress free work environment.

2. LITERATURE REVIEW

A glance into the literature related to techno stress exposed the following:

Win Stead [1] examined staff and faculty reactions to automation in three libraries on an university campus during two time periods to see whether opinions changed after an integrated library system was fully implemented. She found insignificant differences between a survey instrument administered in 1987 and one administered in 1993. Library employees in this sample appreciated automation and expected it to enhance job satisfaction. Further educational level had no bearing on the acceptance of automation. The majority of library personnel expressed concern about ergonomic factors associated with computer usage and suffered negative impact in some aspects. Automation apparently neither influenced library's administrative hierarchy, nor did it impede interpersonal communication.

In a study of support staff in Wisconsin academic libraries, Palmini [2] surveyed the impact of computerization and its relationship to job satisfaction. She hypothesized those employees who had been in their positions for an appreciable length of time would find it difficult to adjust to computers and would be less enthusiastic about new technology. However, such assumptions were unsubstantiated. Although the majority of this sample expressed greater job satisfaction since the introduction of automation into their libraries, they did not believe that computers

offered any major time saving benefits to their workloads. More than one-third of respondents felt that their training was inadequate underscoring a need for better preparatory programs. Health problems and high stress levels stemming from computer usage were also prominent. Without specific reference to technology, an open-ended question asked "What part of your job causes you the most frustration? 62% of replies mentioned computer-related frustrations. (e.g., computer being down, slow response time, not enough terminals, too many different systems to learn).

Shelly Heaton and Jeanne M. Brown [3] look at technology as a series of incentives and hurdles in their article "Staff perceptions of incentives and hurdle to the use of technology". The technology committee of the University of Las Vegas (UNLV) administered a survey to the staff in spring of 1994. Their results concluded that the "hurdles" were often due to supervisory problems, lack of communication and time/staff levels. Some staff felt that they were "bogged down" by the information they were receiving in the automation implementation.

However, the "incentive" were training and a newsletter published by the technology committee called "technotes". Most of the staff recognised that technology was essential, but a third felt that their background and experience was actually a "hurdle" to overcome in learning the new technology.

3. OBJECTIVES

The main objective of the study is to analyse the impact of demographic factors of the library professionals on various departments in which technological advancements were made and the causes of techno stress at the workplace.

4. ENGINEERING COLLEGES IN TAMIL NADU

Anna University was established on 4th September 1978 as a unitary type of University. It offers higher education in Engineering, Technology and Allied Sciences relevant to the current and projected needs of the society. Besides promoting research and disseminating knowledge, it fosters cooperation between the academic and industrial communities. The University was formed by bringing together and integrating two well-known technical institutions in the city of Madras. In the year 2002, Anna University was converted into an affiliated type of University wherein all the Government, Government Aided and Self-Financing Engineering Colleges in the state of Tamil Nadu numbering around 102 are affiliated to it. Since the number of institutions in the state was continuously rising every year and 240 during 2006 [4], for administrative convenience, Anna University was divided into four separate Universities namely,

- Anna University of Technology, Chennai
- Anna University of Technology, Coimbatore
- Anna University of Technology, Trichirapalli and
- Anna University of Technology, Tirunelveli.

5. METHODOLOGY

A questionnaire method was adopted to collect responses from the library professionals of Anna University of Technology, Coimbatore which consists of three parts namely: Demographic factors such as age, gender, educational qualification, total library experience, area of specialization, their type of the institution, nativity, marital status, salary per month and the second part contains departments where greatest technological advancement has been made and the causes of techno stress at workplace. This was a slightly modified version of the questionnaire used by Charles Al.Qallaf [5]. The constructed questionnaire was given to subject experts for checking the content and construct validity. Based on their suggestion, changes were carried out in the questionnaire and then distributed to the respondents. Population consisted of Librarians and Assistant librarians of engineering colleges of Anna University, Coimbatore. Questionnaires were distributed to the library professionals during working hours from the month of November 2009 to June 2010 with an explanatory covering letter. The respondents were assured that their identity will remain confidential and the results will not have any negative effect on their institution. Participants were instructed to use 4-point scale like Likert scale for rating (1-Not-at-all, 2-Low, 3-Moderate, and 4-High). Out of 103 questionnaires collected, only 98 were found to be suitable in all aspects. So, the size of the sample for the study is 98 and the collected data were processed and analysed using SPSS software.

6. RESULTS AND DISCUSSION

Table 1 provides information about the demographic details of the respondents. There were 98 respondents who have answered to this questionnaire. 75 were male (76.53%) and female were 23 (23.47%). Majority of the respondents were in the age group of 25-34 (47.96%), followed by 35-44 age group (39.80%), and 45-54 age group (8.16%). Freshers, below 25 years of age were 3.06% and above 55 were 1.02%. Thus the chunk of the largest group was between 25-34, people in the middle of their lives. Most of the respondents (78.57%) were married and 20.41% were unmarried and very few (1.02%) respondents were widow. 36.73% of respondents have 6-10 years of total library experience, 30.61% have 1-5 years of experience, 19.39% of respondents have 11-15 years of experience, 6.12% of respondents have 16-20 years and 21-25 years each and 1.02% of the respondent have above 26 years of experience. Majority of the respondents worked in self-financing (87.8%), 3.1% in government and 2.0% in government aided and 7.1% in autonomous institutions. About 43.88% of participants were drawing monthly salary below Rs.10,000, 37.76% were drawing between Rs.10,001-Rs 20,000, 11.22 % were earning between Rs.20,001-Rs.30,000, 5.10% were drawing Rs.30,001-Rs.40,000 and 1.02% of the respondent were earning Rs.40,001-Rs.50,000. 58.2.% of respondents were from rural area and 41.8% were from urban.

Table 1 Demographical Details

Demographic Variable	Classification	Frequency	Percentage
Gender	Male	75	76.53
	Female	23	23.47
Age (in years)	<25	3	3.06
	25-34	47	47.96
	35-44	39	39.80
	45-54	8	8.16
	>=55	1	1.02
Marital Status	Bachelor/Spinster	20	20.41
	Married	77	78.57
	Widow	1	1.02
Educational Qualification	Bachelors in LIS	12	7.9
	Other Bachelor Degree	20	13.2
	Masters in LIS	38	25.2
	Other Master Degree	17	11.3
	M.Phil	56	37.1
	Ph.D.	8	5.3
Total library Experience	1-5	30	30.61
	6-10	36	36.73
	11-15	19	19.39
	16-20	6	6.12
	21-25	6	6.12
	26+	1	1.02
Institution Tpe	Government	3	3.1
	Govt. Aided	2	2.0
	Self-Financing	86	87.8
	Autonomous	7	7.1
Area of Work	Technical Services	5	5.10
	Acquisition	6	6.12
	Library Administration	65	66.33
	Circulation (book & Non-book material)	7	7.14
	Reference	1	1.02
	Online services	1	1.02
	Digital library	12	12.24
	Customer relation building	1	1.02
Salary	Below Rs.10,000	43	43.88
	Rs.10,001-20,000	37	37.76
	Rs.20,001-30,000	11	11.22
	Rs.30,001-40,000	5	5.10
	Rs.40,001-50,000	1	1.02
	Rs.50,001+	1	1.02
Nativity	Urban	41	41.8
	Rural	57	58.2

Table 2 Departments with Greatest Technological Advancement

Departments	Not-at-all	Low	Moderate	High	Total
Cataloguing	4 (4.08)	13 (13.27)	24 (24.49)	57 (58.16)	98 (100)
Acquisitions	3 (3.06)	14 (14.29)	36 (36.73)	45 (45.92)	98 (100)
Serials Management	2 (2.04)	13 (13.27)	39 (39.8)	44 (44.9)	98 (100)
Reference/Research	3 (3.06)	16 (16.33)	34 (34.69)	45 (45.92)	98 (100)
Circulation	3 (3.06)	6 (6.12)	32 (32.65)	57 (58.16)	98 (100)
Information Services	3 (3.06)	7 (7.14)	35 (35.71)	53 (54.08)	98 (100)
Inter Library Loan	9 (9.18)	17 (17.35)	26 (26.53)	46 (46.94)	98 (100)
Barcode/RFID	6 (6.12)	14 (14.29)	19 (19.39)	59 (60.2)	98 (100)

Note: The values in bracket are in percentage

Table 2 shows that a maximum of 58.16%, 45.92%, 44.9%, 45.92%, 58.16%, 54.08%, 46.94%, and 60.2% respondents felt that cataloguing, acquisitions, serials management, reference, circulation, information services, ILL, barcode have the highest technological advancement respectively and a minimum of 4.08%, 3.06%, 2.04%, 3.06%, 3.06%, 3.06%, 9.18%, 6.12% of respondents felt that cataloguing, acquisitions, serials management, reference,circulation, information services, ILL, Other barcode did not have technological advancement respectively.

Table 3 Causes of Techno Stress in the Workplace

Response	Not-at-all	Low	Moderate	High	NA	Average Sum
Too little formal training	15 (15.31)	34(34.69)	33(33.67)	15(15.31)	1(1.02)	2.5
Lack of technical support	13(13.27)	30(30.61)	34 34.69)	20(20.41)	(1.02)	2.6
Lack of trained manpower	8(8.16)	31(31.63)	38 38.78)	20(20.41)	1(1.02)	2.7
Inadequate number of computers and printers	18 (18.37)	38(38.78)	23 23.47)	18 (18.37)	1(1.02)	2.4
Not involved in decision making process	18(18.37)	35 (35.71)	24(24.49)	20 (20.41)	1(1.02)	2.5
A slow network	14 (14.29)	41 (41.84)	24(24.49)	18 (18.37)	1(1.02)	2.5
Technological breakdowns	14 (14.29)	36 (36.73)	27(27.55)	21 (21.43)	-	2.6
Growing user demands	17 (17.35)	30 (30.61)	27(27.55)	24 (24.49)	-	2.6
Information overload	18 (18.37)	25 (25.51)	32(32.65)	23 (23.47)	-	2.6
Increased management expectations in adoption of IT	12 (12.24)	21 (21.43)	38(38.78)	27 (27.55)	-	2.82
Health related problems caused by technology	21 (21.43)	33 (33.67)	32(32.65)	12 (12.24)	-	2.36
Lack of latest software/hardware	18 (18.37)	28 (28.57)	35(35.71)	17 (17.35)	-	2.52
Lack of access to the new electronic resources	19 (19.39)	29 (29.59)	40 40.82)	10 (10.2)	-	2.42
work environment is too complicated	21 (21.43)	28 (28.57)	33 (33.67)	16 (16.33)	-	2.45
Technology brought changes in the library	11 (11.22)	31 (31.63)	35 (35.71)	21 (21.43)	-	2.67
Lack of co-ordination among departments	19 (19.39)	26 (26.53)	35 (35.71)	17 (17.35)	1(1.02)	2.52
Migrate to a new library system	10 (10.2)	33 (33.67)	41(41.84)	14 (14.29)	-	2.6
Managing electronic subscription access	13 (13.27)	27 (27.55)	32 (32.65)	26 (26.53)	-	2.72
Security Issues Viruses and Authentication	17 (17.35)	29(29.59)	34 (34.69)	18 (18.37)	-	2.54
Problems with commercial databases	16(16.33)	30 30.61)	34(34.69)	17(17.35)	1(1.02)	2.45
Uncertainty over nature of job	17(17.35)	33(33.67)	35(35.71)	13(13.27)	-	2.37
Lack of Knowledge on latest websites	16(16.33)	41(41.84)	30(30.61)	11(11.22)	-	2.5
Privacy issues (is your work being monitored)	16(16.33)	36(36.73)	27(27.55)	19(19.39)	-	2.58
Frequent updating of technology	17(17.35)	26(26.53)	36(36.73)	19(19.39)	-	2.61
Lack of documented training resources	15(15.31)	30(30.61)	31(31.63)	22(22.45)	-	2.61
Financial constraints for training and development in IT	14(14.29)	32(32.65)	30(30.61)	22(22.45)	-	2.37
Unannounced and uncontrolled changes	26(26.53)	27(27.55)	27(27.55)	18(18.37)	-	2.38
Too many electronic file formats	14(14.29)	26(26.53)	41(41.84)	17(17.35)	-	2.62

Note: The values in bracket are in percentage

Table 3 solicited data about causes of techno stress. Participants were provided with 28 causes and asked to rate the level of stress for each item based on a four point scale where: not-at-all, low, moderate, and high. As illustrated, the respondents have maximum average score of 2.82 on a four point scaling towards Increased management expectations in adoption of IT, followed by Managing electronic subscription access (2.72), Lack of trained manpower (2.7), Technology brought changes in the library (2.67), Frequent updating of technology, Lack of documented training resources (2.61) and also the respondents have a very low average score towards Health related problems related to technology (2.36). Hence, it is evident that the respondents are subject to moderate to high level of stress irrespective of the causes of techno stress at the workplace.

7. CONCLUSION

Considering the ramifications of technology in an information environment, library professionals need to focus on strategies and plans that will produce a dynamic culture for both librarians and users. They must take practical measures to provide a stable, mutually respectful work environment and to ensure a technological infrastructure that facilitates the provision of fundamental library information systems to the academic and research communities.

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