
IMPACT OF ICT ON JOB SATISFACTION OF TECHNICAL STAFF OF THE UNIVERSITY LIBRARIES OF WEST BENGAL, INDIA

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Abstract

The paper studies the impact of ICT on job satisfaction of the technical staff of seven state funded general university libraries of West Bengal. Respondents were asked to tick against 25 Job satisfaction related statements listed in the questionnaire. Five point Likert scale is used with weightage and mean values are determined for comparison of different parameters of job satisfaction and techno-stress as well. Difference of impact on the basis of gender, age, qualification, experience, and length of time spent on computer are studied. It is found that ICT work environment provide professionals higher level of job satisfaction. However the respondents consider that ICT does not offer better opportunities for professional growth, improvement of social prestige, status or personality. Regarding techno stress, over 50% respondents often suffer from eye problem, back & chest problem, and fatigue. 48.39% respondents feel board to work with computer. 18.33% respondents often experience headache whenever they work with computer. Provision of extensive in-service training and post training incentives, avenues of promotion, comfortable ergonomic design of ICT workstations, improved working conditions, arrangement of periodic health checkup and stress releasing measures are suggested.

KEYWORDS :

ICT, Information and Communication Technology, Impact of ICT on job satisfaction, Job satisfaction, Library Automation, State University, Technical staff, Techno-stress, University Library, West Bengal.

INTRODUCTION:

It is often said that the University Libraries in West Bengal are lagging in computer application. Lack of proper ICT training, work culture and managerial problems are often said to be the cause. An attempt is taken to know the staff reaction regarding ICT application in these libraries.

Millins¹ noted that, "when a change occurs in the way employees handle information materials, services and their users, there is bound to be some change in their perception of their work and hence a shift in the orientation of their job satisfaction."

LITERATURE STUDY

Palmini² explores the effects that computerisation of libraries has had on the work and job satisfaction of support staff employed in academic libraries in Wisconsin. Mondal and Bandyopadhyay³

examined the situation of IT application and related manpower problems in college libraries of Burdwan and found that the computerisation work of the college libraries is very slow and trained manpower is one of the major problems. Haridasan and Sultan⁴ examined the extent of Occupational Stress felt by the library staff of the Gorakhpur University. Sornam and Sudha⁵ studied the level of Occupational Role Stress (ORS) among women library professionals working in Bharathidasan University in Tamil Nadu. Lim⁶ examined the job satisfaction of library information technology (IT) workers in relation to demographic and socioeconomic variables, and work-related variables. Ramzan and Singh⁷ investigated the factors affecting librarian's attitudes toward IT application in libraries. Madhusudhan⁸ investigated the level of job satisfaction among librarians of select engineering colleges in India and revealed that ICT is the highest motivating factor in increasing efficiency. Adeyinka⁹ examined the attitudinal correlates of some selected Nigerian librarians towards the use and application of ICT. He found that four variables namely, age, gender, educational qualifications and knowledge of ICT significantly correlate with librarian's attitude towards ICT. Muhammad Ramzan¹⁰ investigated the attitudes of librarians towards application of IT in academic libraries in Pakistan on a 5-point Likert scale through 42 IT attitude statements. Respondents showed overall positive attitudes toward IT with a mean of 3.71. Eguavoen¹¹ has examined the attitudes of library staff to the use of ICT in Kenneth Dike Library. The results revealed that the training and knowledge of ICT influence the attitudes of library staff toward its usage.

OBJECTIVES

The Objective of the study is to know the impact of ICT on job satisfaction; age wise, gender wise and qualification wise differences on the impact of ICT on job satisfaction; if the impact of ICT on job satisfaction differs with time spent on computer and also to know about techno-stress if any.

Scope

In West Bengal there are 12 state funded UGC recognized general universities. The scope of the study is kept limited to those seven of them, which are established before 2000 AD, whereas, most of the universities established after 2000 AD have not yet managed to develop big libraries and are not having considerable staff. There problems of retro-conversion and change in environment are also less. Library professionals having at least BLIS degree and involved in ICT related works are only covered under the study.

METHODOLOGY

Questionnaires were sent to 93 professionals of the 7 libraries who are known to be actively involved in using ICT and belonged to the professional working cadre, namely, library assistants, technical assistants (designated as assistant librarian Grade I and Grade II) and library supervisors. Filled-in questionnaires were received back from 63 (68%) respondents. To assess the impact of ICT on job satisfaction respondents were asked to tick mark against 25 positive statements listed in the questionnaire. Each statement consisted of Likert type scale 'strongly agree', 'agree', 'undecided / no comment', 'disagree', 'strongly disagree'. Each response is 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 are totalled to measure the respondent's attitude. In other words, the overall score represents the respondent's position on the continuum of favourable-unfavourableness towards an issue¹². The mean value of score is calculated as shown below:

Items	SA (2)	A (1)	U (0)	D (-1)	SD (-2)	NC (0)	Frequency	Score	Mean
I enjoy my co-workers	15	43	0	5	0	0	63	68	1.08

It is seen in the above statement that, out of 63 respondents 15 strongly agree, 43 agree, 0 undecided/ no comment, 5 disagree, 0 strongly disagree. Now multiplying each column's frequency with respective score and summing them we get: $(15 \times 2) + (43 \times 1) + (0 \times 0) + (5 \times -1) + (0 \times -2) = 30 + 43 + 0 - 5 + 0 + 0 = 68$. Now mean value is calculated dividing total score by frequency, i.e., $68 / 63 = 1.07937$ or 1.08 (approx).

DATAANALYSIS

It is found from Table 1 that Jadavpur University (JU) started the automation work first in 1992 and Kalyani University (KU) started late in 2008 only. Only three libraries, namely Burdwan University (BU), North Bengal University (NBU) and Vidyasagar University (VU) have included most of its books in the computerized data base, although Calcutta University (CU) and JU have much bigger computerised catalogue. Rabindra Bharati University (RBU) has lowest number of books taken in its computerised catalogue.

Table No.1
Basic Data of the Libraries covered in the survey

Name of the Univ.	Year of estab.	Year of Library estab.	Year of starting Library Automation	Total Library Staff	Total No. Books available	Total No. of Books taken in Comp. Data base
CU	1857	1872	2002	108	15 L	5L*
JU	1955	1955	1992	67	6 L	3.5L
BU	1960	1960	2001	24	1.6L	1.3L
KU	1960	1960	2008	21	1.5L	36T!
RBU	1962	1962	2004	4	1L	5.5T
NBU	1962	1962	1999	14	2.5L	2.3L
VU	1981	1986	2001	9	92T	92T

*L=Lakh !T=Thousand

Designation

It is seen from Table 2 that out of 63 respondent's 7 (11.11%) hold the post of 'Superintendent in library services', 33 (52.38%) are 'assistant librarian grade II', 14 (22.22%) are 'assistant librarian grade I' and 9 (14.29%) are 'Library assistant'. Thus, majority of the respondents belong to the post of Assistant librarian grade II. It may be noted here that Technical assistants in the University libraries of West Bengal are designated as assistant librarian grade I and grade II.

Table No.2 Designation wise Distribution of Respondents

Designation	No. of Respondent	%
Superintendent (library services)	07	11.11
Assistant librarian grade I	14	22.22
Assistant librarian grade II	33	52.38
Library Assistant	09	14.29
Total	63	100

Age distribution

From Table 3 we find that majority respondents (nearly 70%) belong to the most active age group of 25 to 45, however over 20% respondents belong to the age group 46-55.

Table No.3 Age distribution of the Respondents

Age Range (years)	No. of Respondent	%
18-24	03	4.8
25-35	16	25.4
36-45	28	44.4
46-55	13	20.6
56-65	03	4.8
Total	63	100

Educational Background

It is found from Table 4 that over 82% of the respondents have P.G. or higher professional degree. Only four (6.34%) respondents have diploma in computer science and three (4.76%) have P.G diploma in computer science.

Table No.4 Educational Background of Respondents

Course Name	General Education		Computer Science		Library Science	
	No of Resp.	%	No of Resp.	%	No of Resp.	%
Diploma	-	0.00	04	6.34	-	0.00
Degree	30	47.61	-	0.00	11	17.46
P.G. Diploma	-	0.00	03	4.76	-	0.00
P.G. Degree	32	50.80	-	0.00	41	65.08
M.Phil.	01	1.58	-	0.00	05	7.94
Ph.D.	-	0.00	-	0.00	06	9.52

Professional Experience

From Table 5 it is seen that 20.64% of the respondents have up to 5 years professional experience, while 44.44% have 6-10 years of experience, and rest 35% of the respondents have over 10 years of experience.

Table No.5 Professional Experience

Experience Range (years)	No. of Respondent	%
= 5	13	20.64
6-10	28	44.44
11-15	7	11.11
16-20	5	7.94
21-25	3	4.76
25 +	7	11.11
Total	63	100

Work Areas of Respondents

Out of the 63 respondents, 27 (42.86%) are working in Technical processing section. followed by 12 (19.05%) in Merge section and 6 (9.53%) each in Acquisition, Serials control & circulation section.

TableNo.6 Work Areas of Respondents

Work Area	No. of Respondent	%
Acquisition	6	9.53
Technical Processing	27	42.86
Serial Control	6	9.52
Circulation	6	9.52
Reference	4	6.35
Merge section*	12	19.05
Stack Room	2	3.17
Total	63	100

*Work in different sections as required

Staff Training Programme on ICT

Table 7 shows that all the University Libraries except N.B.U. has arranged some kind of training programme. 5 libraries conduct short training programme in their library premises. 2 libraries conduct sponsored workshop programmes by INFLIBNET or other agencies for library professionals. B.U. and K.U. conduct 3 kinds of training programme. It is known through personal interview that all the universities have sent one or two representatives for training conducted by INFLIBNET.

Table No.7 Staff Training Programme on ICT conducted by the Library

Training methods	C.U.	J.U.	B.U.	K.U.	R.B.U.	N.B.U.	V.U.	Total
Short Training	Y	Y	Y	N	Y	N	Y	5
Individual training by supervisor/colleague	N	N	Y	N	N	N	N	1
In-house workshops	N	N	N	Y	N	N	N	1
Sponsor workshops	N	N	Y	Y	N	N	N	2
Outside institution	N	N	N	Y	N	N	N	1
<i>Total</i>	1	1	3	3	1	0	1	10

Y=YES; N=NO.

Time Spent on Computer at Work Place

From table 8 we come to know that only 31.75% spend 4-6 hours per day of their time on computer at workplace. Although over 60% of the respondents spend over 2 hours per day on computer, 40% spend less than 2 hours a day on computer. Thus, these library professionals spend less than half of their time on computerised operations and are yet to make extensive use of available technological facilities.

Table No.8 Time Spent on Computer at Work Place by Respondents

Time range (in hours)	No. of Respondent	%
4-6 hrs	20	31.75
2-4 hrs	18	28.57
1-2 hrs	18	28.57
Not at all	07	11.11
Total	63	100

ICT Experience

Table 9 indicates 41.27% respondents have over 9 years of ICT experience. 9 (14.29%) respondents have 7-9 years experience of work with computer. 14 (22.22%) respondents have 4-6 years of ICT experience. 8 (12.69 %) between 1-3 years experience. Thus, over 78% of the library professionals have 4 or more years of experience of work in ICT environment.

Table No.9 ICT Experience of Respondents

ICT Experience in years	No. of Respondent	%
=1	06	9.52
1-3	08	12.69
4-6	14	22.22
7-9	09	14.29
9 +	26	41.27
Total	63	100

From Table 10, nearly 75% of the respondents have attended ICT related Training Course or Seminar.

Table No.10 Participation in ICT related Professional Activities

Professional Activities	No. of resp.	%
ICT related Training course attended	47	74.60
ICT related Conference/ Seminar attended	47	74.60
ICT related Paper presented/ Published	22	34.92

Impact of ICT on job satisfaction

Table 11 depicts ranked order of impact of ICT on job satisfaction on the basis of mean value of response. To assess the impact of ICT on job satisfaction respondents were asked to tick mark against 25 positive statements listed in the questionnaire. The mean value has been calculated on the basis of Likert scale. As discussed under methodology. The table shows that, the average scores on the 25 aspects were high ranging from 1.35 to 0.56. The highly recognized ICT effects are: 'ICT helped to keep me up-to-date', 'enabled enormous saving in time and efforts', 'created a better quality of working environment', 'made it mandatory to learn to use modern technologies', 'Upgraded my knowledge & skill'. All the impacts of ICT are listed in the table in descending order of their rank.

Overall, it is observed that ICT work environment provide professionals higher level job satisfaction. However, in some areas ICT provide professionals least positive impact. These are: it does not offer new challenges and better opportunities for professional growth, dedication to the task, responsibility, physical work/activity/movement, improvement of social prestige, status, personality etc.

Table No.11 Impact of ICT on job satisfaction

Rank	ICT Items	SA (2)	A (1)	NC (0)	U (0)	D (-1)	SD (-2)	Score	Mean
1	Helped to keep me up-to-date.	27	33	1	0	2	0	85	1.35
2	Enabled enormous saving in time and efforts.	22	37	1	1	2	0	79	1.25
3	Created a better quality of working environment.	20	39	1	2	1	0	78	1.24
4	Made it mandatory to learn to use modern technologies.	24	32	2	1	4	0	76	1.21
5	Upgraded my knowledge & skill.	24	31	0	3	5	0	74	1.17
6	Made my work more interesting	16	43	1	1	1	1	72	1.14
6	Provided more variety in my work.	17	41	1	1	3	0	72	1.14
8	Increased my job satisfaction	20	34	6	1	1	1	71	1.13
8	Information search and evaluation has become easy.	24	30	3	1	3	2	71	1.13
10	Improved accuracy, consistency and reduced errors.	22	33	2	0	5	1	70	1.11
11	Enabled to devote more of my time for user service.	20	34	4	0	5	0	69	1.10
12	Increased my efficiency & performance.	13	44	2	2	1	1	67	1.06
13	Improved my competence and performance.	17	38	4	0	2	2	66	1.05
14	Enabled rapid communication.	19	35	3	0	4	2	65	1.03
15	Improved my morale and motivation.	13	39	3	4	3	1	60	0.95

16	Offered new challenges and better opportunities for professional growth.	23	27	2	1	6	4	59	0.94
17	Increased more dedication to the task.	12	39	2	2	6	2	53	0.84
18	Added more responsibilities to my work.	10	39	2	5	7	0	52	0.82
19	Reduced physical work / activity / movement.	11	38	3	3	7	1	51	0.81
20	Reduced my workload by eliminating duplication of efforts.	13	34	4	3	6	3	48	0.76
21	Improved my personality.	13	31	5	1	10	3	41	0.65
22	Brought major changes in my work.	11	28	6	5	13	0	37	0.59
23	Improved my status.	14	29	3	1	11	5	36	0.57
23	Provided greater autonomy to my work.	10	31	3	6	11	2	36	0.57
25	Improved my social prestige.	14	26	5	3	11	4	35	0.56

SA= Strongly Agree (2); A= Agree (1); NC=No Comment (0); U= Undecided (0); D= Disagree (-1); SD= Strongly Disagree (-2).

Gender wise impact of ICT on job satisfaction

Table 12 shows gender wise impact of ICT on job satisfaction. It is found that Female staff considers to a higher (Mean 1.24) degree that ICT environment reduced workload by eliminating duplication of efforts than their male partners (Mean 0.59). No significant difference is found between male and female library professionals in their total mean value. Therefore, it can be commented that both male & female library professionals have got similar satisfaction to work in ICT environment.

Table No.12 Gender wise impact of ICT on job satisfaction

Items	Gender	
	Mean value of job satisfaction	
	Male	Female
Upgraded my knowledge & skill.	1.24	1.00
Made my work more interesting	1.17	1.06
Made it mandatory to learn to use modern technologies.	1.17	1.29
Increased my job satisfaction	1.09	1.24
Created a better quality of working environment.	1.26	1.18
Provided more variety in my work.	1.17	1.06
Added more responsibilities to my work.	0.80	0.88
Improved my competence and performance.	1.04	1.06
Offered new challenges and better opportunities for professional growth.	0.89	1.06

Improved my morale and motivation.	0.70	1.06
Enabled to devote more of my time for user service.	1.11	1.06
Brought major changes in my work.	0.57	0.65
Improved my status.	0.59	0.53
Reduced my workload by eliminating duplication of efforts.	0.59	1.24
Enabled rapid communication.	0.96	1.24
Improved accuracy, consistency and reduced errors.	1.11	1.12
Enabled enormous saving in time and efforts.	1.28	1.18
Reduced physical work / activity / movement.	0.78	0.88
Information search and evaluation has become easy.	1.11	1.18
Improved my social prestige.	0.63	0.53
Improved my personality.	0.67	0.59
Increased more dedication to the task.	0.85	0.82
Increased my efficiency & performance.	1.09	1.00
Helped to keep me up-to-date.	1.43	0.53
Provided greater autonomy to my work.	0.63	0.41
Total mean value	23.93	23.85

Age wise impact of ICT on job satisfaction

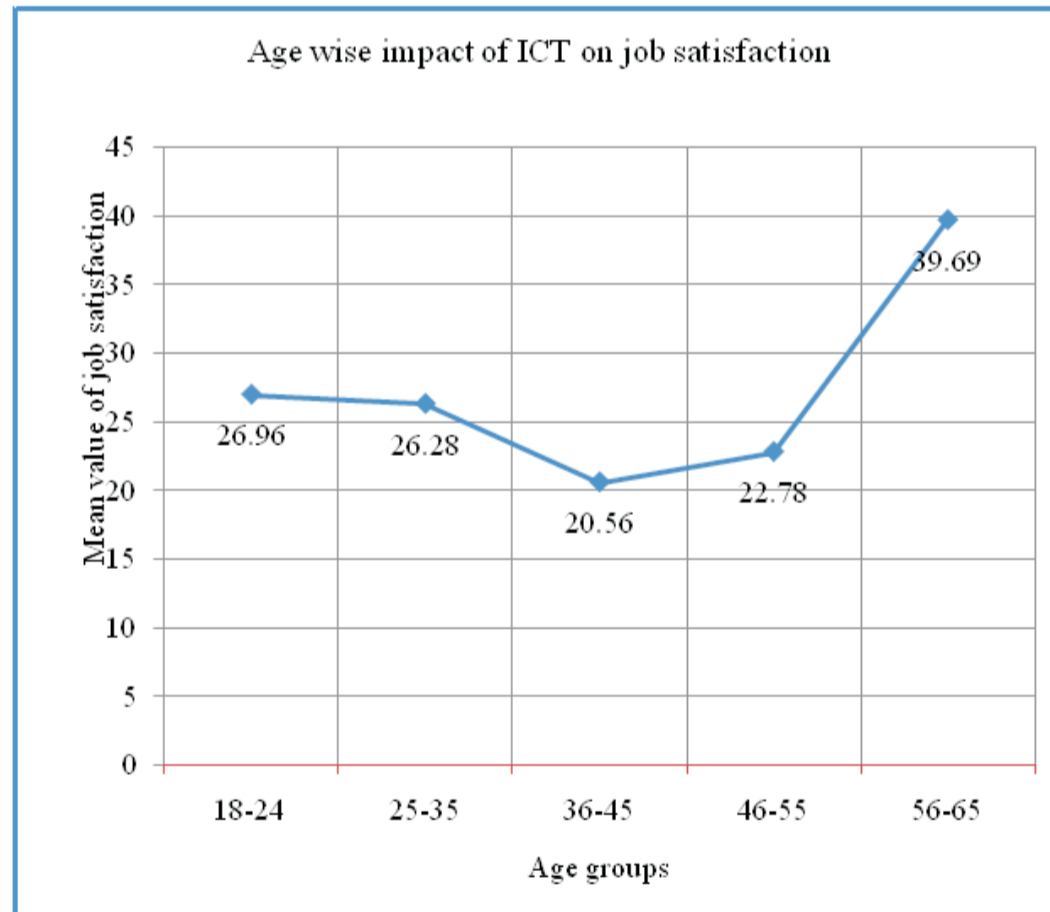
Table 13 and Figure 1 show age wise impact of ICT on job satisfaction. Library professionals who belong to age group 56-65years are highly satisfied to work within ICT environment. Through interview it is identified that they (age group 56-65years) are not competent enough to work in ICT environment but they give more priority to work in ICT environment. Those belonging to age group 18-24 & 25-35 have acquired 2nd & 3rd position in this respect. They have obtained similar satisfaction to work in ICT environment. Library professionals who belong to age group 36-45 have obtained lower level satisfaction compared to other age groups. Middle aged (25-35yrs.) professionals consider to a higher (mean1.31) degree that ICT offered new challenges and better opportunities for professional growth.

Table No.13 Age wise impact of ICT on job satisfaction

Items	Age				
	Mean value of job satisfaction				
	18-24	25-35	36-45	46-55	56-65
Upgraded my knowledge & skill.	1.33	1.44	1.11	0.77	2.00
Made my work more interesting	1.33	1.31	1.00	0.77	2.00
Made it mandatory to learn to use modern technologies.	1.33	1.44	0.93	1.38	1.67
Increased my job satisfaction	0.67	1.38	0.96	0.92	2.00
Created a better quality of working environment.	1.33	1.25	1.14	1.23	2.00
Provided more variety in my work.	1.00	1.19	1.00	1.23	2.00
Added more responsibilities to my work.	0.33	0.94	0.82	0.69	1.33
Improved my competence and performance.	1.33	1.31	0.89	0.54	1.67

Offered new challenges and better opportunities for professional growth.	0.33	1.31	0.75	0.62	0
Improved my morale and motivation.	1.00	1.13	0.86	0.62	1.67
Enabled to devote more of my time for user service.	0.33	1.25	1.07	1.00	1.67
Brought major changes in my work.	0.33	0.31	0.64	0.77	1.00
Improved my status.	1.33	0.75	0.36	0.62	1.33
Reduced my workload by eliminating duplication of efforts.	1.00	0.56	0.57	1.00	1.67
Enabled rapid communication.	1.33	1.19	0.75	0.77	1.67
Improved accuracy, consistency and reduced errors.	1.67	0.94	0.89	1.38	1.67
Enabled enormous saving in time and efforts.	1.33	1.19	1.11	1.54	1.67
Reduced physical work / activity / movement.	1.00	0.81	0.50	1.15	1.33
Information search and evaluation has become easy.	1.33	1.00	1.04	1.31	1.67
Improved my social prestige.	1.33	0.75	0.25	0.62	1.33
Improved my personality.	1.33	0.88	0.50	0.46	1.67
Increased more dedication to the task.	1.00	1.00	0.75	0.62	1.67
Increased my efficiency & performance.	1.00	1.13	1.00	1.08	1.67
Helped to keep me up-to-date.	1.67	1.38	1.21	1.31	2.00
Provided greater autonomy to my work.	1.00	0.44	0.46	0.38	1.33
Total mean value	26.96	26.28	20.56	22.78	39.69

Figure 1 Age wise impact of ICT on job satisfaction



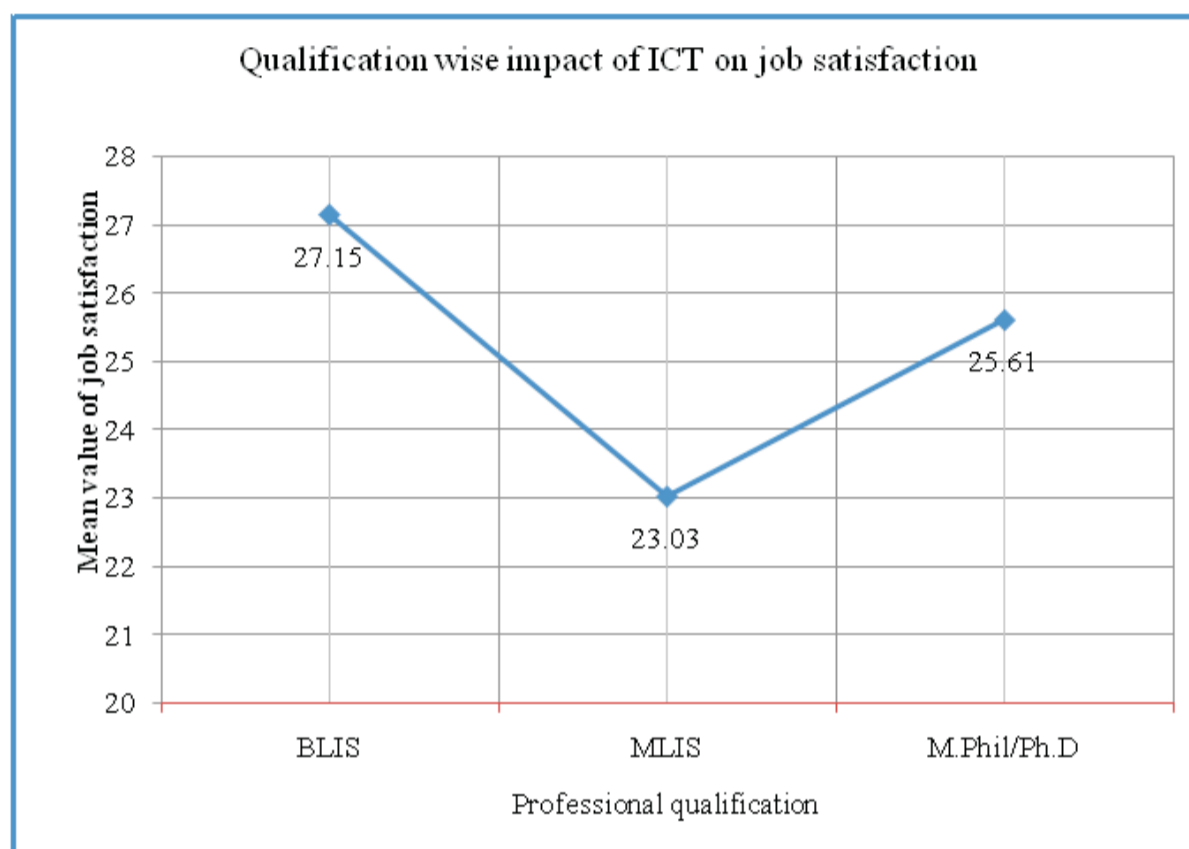
Qualification wise impact of ICT on job satisfaction

It is seen from table 14 and figure 2 that, library professionals with BLIS, MLIS & MPHIL/PHD qualifications have got similar level of satisfaction to work in ICT environment. No significant differences have been found between them in their total mean value. It was found that MPHIL/PHD holders consider to a higher (Mean 1.27) degree that ICT offered new challenges and better opportunities for professional growth than BLIS (Mean 0.36) & MLIS (mean 1.00) degree holders. But BLIS (mean 1.09) degree holders are more satisfied than MLIS (mean 0.41) & MPHIL / PHD (Mean 0.64) holders because ICT have provided greater autonomy to their work.

Table No.14 Qualification wise impact of ICT on job satisfaction

Items	Professional qualification		
	Mean value of job satisfaction		
	BLIS	MLIS	M.Phil / Ph.D
Upgraded my knowledge & skill.	1.27	1.10	1.36
Made my work more interesting	1.27	0.98	1.64
Made it mandatory to learn to use modern technologies.	1.00	1.17	1.55
Increased my job satisfaction	1.36	1.07	1.18
Created a better quality of working environment.	1.36	1.17	1.36
Provided more variety in my work.	1.27	1.02	1.45
Added more responsibilities to my work.	1.09	0.76	0.82
Improved my competence and performance.	1.00	0.95	1.45
Offered new challenges and better opportunities for professional growth.	0.36	1.00	1.27
Improved my morale and motivation.	1.09	0.93	0.91
Enabled to devote more of my time for user service.	1.27	1.05	1.09
Brought major changes in my work.	0.64	0.66	0.27
Improved my status.	0.64	0.56	0.55
Reduced my workload by eliminating duplication of efforts.	0.73	0.85	0.45
Enabled rapid communication.	1.18	0.88	1.45
Improved accuracy, consistency and reduced errors.	1.18	1.12	1.00
Enabled enormous saving in time and efforts.	1.45	1.24	1.09
Reduced physical work / activity / movement.	0.73	0.85	0.73
Information search and evaluation has become easy.	1.27	1.07	1.18
Improved my social prestige.	1.18	0.46	0.45
Improved my personality.	0.91	0.63	0.45
Increased more dedication to the task.	1.18	0.76	0.82
Increased my efficiency & performance.	1.18	1.00	1.18
Helped to keep me up-to-date.	1.45	1.34	1.27
Provided greater autonomy to my work.	1.09	0.41	0.64
Total mean value	27.15	23.03	25.61

Figure 2 Qualification wise impact of ICT on job satisfaction



Time spent on computer & impact of ICT on job satisfaction

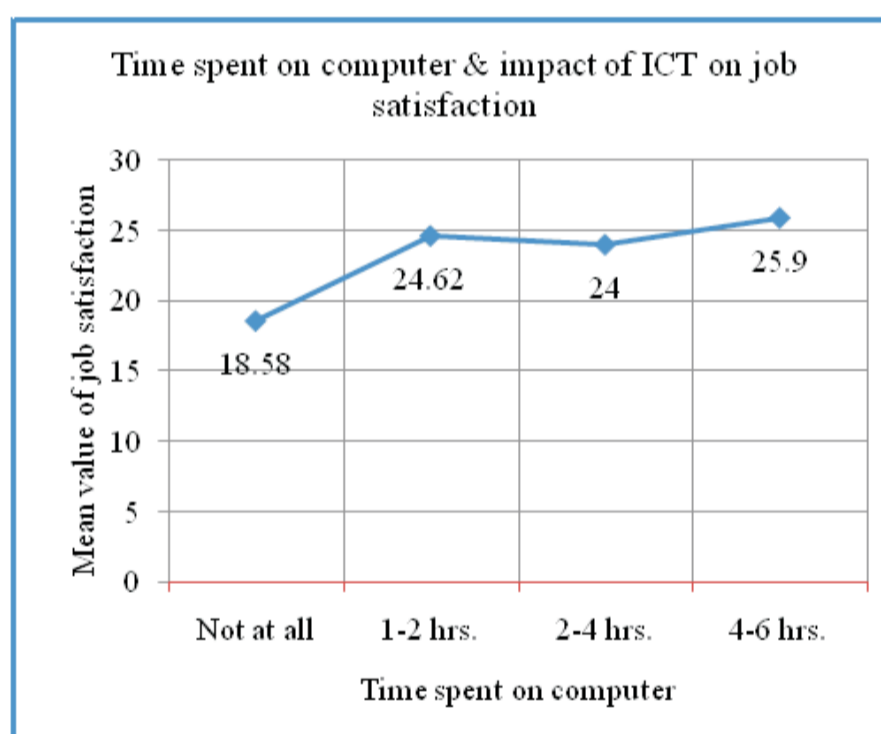
It is seen from table 15 and figure 3 that library professionals who do not use computer in their work place are comparatively less satisfied to work within this ICT work environment. But they have agreed with the advantages of ICT work culture. On the other hand, little difference is found among the library professionals who spend at least 1-2 hours and 2-4 hours with computer in their work place.

Table No.15 Time spent on computer & impact of ICT on job satisfaction

Items	Time spent on computer (in hours)			
	Mean value of job satisfaction			
	0	1-2	2-4	4-6
Upgraded my knowledge & skill.	0.86	0.94	1.22	1.45
Made my work more interesting	0.14	1.17	1.33	1.30
Made it mandatory to learn to use modern technologies.	0.86	1.17	1.00	1.55
Increased my job satisfaction	0.43	1.17	1.11	1.35
Created a better quality of working environment.	1.14	1.17	1.22	1.35
Provided more variety in my work.	0.86	0.89	1.22	1.35
Added more responsibilities to my work.	0.57	0.89	0.78	0.90
Improved my competence and performance.	0.29	1.11	0.89	1.40
Offered new challenges and better opportunities for professional growth.	0.57	0.89	0.56	1.45
Improved my morale and motivation.	0.57	1.00	0.95	0.95
Enabled to devote more of my time for user service.	0.86	1.22	0.89	1.30

Brought major changes in my work.	0.71	0.56	0.44	0.70
Improved my status.	1.14	0.78	0.56	0.20
Reduced my workload by eliminating duplication of efforts.	1.14	0.94	0.72	0.60
Enabled rapid communication.	0.57	0.94	1.11	1.20
Improved accuracy, consistency and reduced errors.	1.14	1.22	1.06	1.05
Enabled enormous saving in time and efforts.	0.86	1.22	1.44	1.25
Reduced physical work / activity / movement.	0.86	0.94	0.78	0.70
Information search and evaluation has become easy.	0.71	1.22	1.17	1.15
Improved my social prestige.	0.86	0.56	0.83	0.20
Improved my personality.	1.00	0.56	0.67	0.60
Increased more dedication to the task.	0.29	0.89	0.83	1.00
Increased my efficiency & performance.	0.86	1.00	1.11	1.15
Helped to keep me up-to-date.	1.29	1.28	1.33	1.45
Provided greater autonomy to my work.	0.00	0.89	0.78	0.30
Total mean value	18.58	24.62	24.00	25.9

Figure 3
Time spent on computer & impact of ICT on job satisfaction



Techno-stress

Table 16 has summarized techno-stress among library professionals. Techno-stress in this study is regarded as negative attitudes, thoughts, behaviours and body physiology caused by the use of computer technology by the library personnel in carrying out their duties. It is seen from the table that a large number of 30 (48.39%) library professionals either feel bored sometimes or not at all. More than 50% library professionals do not believe that computerised work environment may create problems such as irritation, frustration, pressurisation, isolation, afraid, dry mouth, heartbeat, loss of control and tension. 52.54% respondents sometimes suffer from back & chest problem followed by 49.12% respondents experienced fatigue and 48.39% respondents feel board to work with computer. 18.33%

respondents often experienced headache whenever they work with computer. 58.73% respondents very often suffer from eye sight related problem to work with computer. It is also seen from the table that most of the respondents have experienced eye sight problem when they work with computer. It is clear from the analysis that techno-stress is a problem for a considerable percentage of the library professionals, although, others enjoy working with computer.

Table No.16 Techno-stress

Items	Not at all (0)	Some time (1)	Often (2)	Very often (3)	Weightage
Do you feel bored when you work with the computer?	30* (48.39)	30 (48.39)	1 (1.61)	1 (1.61)	35
Do you feel frustrated when you work with the computer?	50 (80.65)	6 (9.67)	2 (3.23)	4 (6.45)	22
Do you feel irritated when you work with the computer?	39 (65.00)	16 (26.67)	3 (5.00)	2 (3.33)	28
Do you feel pressurized by your employer, supervisor or co-worker to work with the computer?	47 (82.45)	9(15.79)	1 (1.76)	-	11
Do you feel isolated (alone) when you work with the computer?	49 (83.05)	8 (13.56)	2 (3.39)	-	12
Do you feel back and chest pain when you work with the computer?	17 (28.81)	31 (52.54)	10 (16.96)	1 (1.69)	54
Do you experience fatigue when you work with the computer?	18 (31.58)	28 (49.12)	9 (15.79)	2 (3.51)	52
Do you experience fear when you work with the computer?	46 (77.97)	7 (11.86)	5 (8.48)	1 (1.69)	20
How often do you experience headache when you work with the computer?	22 (36.67)	26 (43.33)	11 (18.33)	1 (1.67)	51
How often do you experience dry mouth when you work with the computer?	40 (70.17)	12 (21.05)	4 (7.02)	1 (1.76)	23
Do you experience increase in heart beat when you work with the computer?	45 (80.35)	8 (14.29)	2 (3.57)	1 (1.79)	15
Do you experience a feeling of loss of control when you work with the computer?	46 (75.41)	11 (18.03)	1 (1.63)	3 (4.93)	22
Do you experience tension when you work with the computer?	44 (75.86)	10 (17.24)	3 (5.17)	1 (1.73)	19
Do you experience eye sight problem when you work with the computer?	-	12 (19.05)	14 (22.22)	37 (58.73)	151

* % (percentage) value of the row is given in parenthesis.

FINDINGS

1. Most of the respondents, have over 4 years ICT (Information & Communication Technology) experience.

2. Most of the respondent library professionals spend less than half of their duty hours on computerised operations.
3. ICT work environment provide professionals higher level of job satisfaction because ICT helps them to keep up-to-date, save their time, provide better quality work life etc. However, it does not offer new challenges and better opportunities for professional growth, dedication to the task, responsibility, physical work/movement, improvement of social prestige, status, personality etc.
4. Middle aged (25-35year) library professionals consider to a higher degree that ICT offered new challenges and better opportunities for professional growth than other age groups. Professional of age group 36-45 have lower level satisfaction compared to other age groups.
5. MPHIL / PHD holders consider to a higher degree that ICT Offered new challenges and better opportunities for professional growth than BLIS and MLIS degree holders. But BLIS degree holders are more satisfied as ICT have provided greater autonomy to their work.
6. Library professionals who do not use computer are comparatively less satisfied to work within this ICT environment. But they have agreed with the advantages of ICT work culture.
7. Regarding techno stress, 52.54% respondents sometimes suffer from back & chest problem followed by 49.12% experiencing fatigue and 48.39% respondents feel board to work with computer. 18.33% respondents often experience headache whenever they work with computer. 58.73% respondents very often suffer from eye sight related problem to work with computer. It is clear from the analysis that techno stress is a considerable problem for some library professionals and the work environment need be improved. However, more than 50% library professionals do not believe that computerised work environment may create problems such as irritation, frustration, pressurisation, isolation, afraid, dry mouth, heartbeat, loss of control and tension.

SUGGESTIONS

1. More activeness of technical staff is necessary for full fledged library automation. Every library staff, particularly those who are directly linked to ICT work should be well trained, laborious and motivated to do their work.
2. Library professionals should constantly remain in touch with new and emerging technologies, their application and utility.
3. Intensive training, retraining and sensitizing the staff need to be increased and more funds and staff time are to be allocated in order to exploit the full potential of ICT applications for the development of innovative library services.
4. Staff should be encouraged by liberally deputing them to attend training programmes, conferences and by providing incentives in the form of reimbursement of course fee as well as additional increments on completion of course/ acquisition of additional qualifications related to ICT.
5. Comfortable ergonomic design of ICT workstations, extensive efforts in job design and organizational development should be made to improve working conditions and job satisfaction among library staff.
6. Provision of periodic health checkup and stress releasing measures should be arranged.
7. Most of the library professionals are not satisfied with present promotional policy of the universities. Promotional opportunities not only fulfill personal ambitions and requirements but also motivate the personnel to work more and take additional responsibility. Authority should create more posts in the upper tiers of the hierarchy and promote the employees working in lower tiers.

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