



## International Journal of Economic Research

ISSN : 0972-9380

available at <http://www.serialsjournals.com>

© Serials Publications Pvt. Ltd.

Volume 14 • Number 20 • 2017

## Influence of Technostress on Job Performance and Job Satisfaction of IT Professionals

Pardeep Kumar<sup>1</sup>, Vivek Bhuchar<sup>2</sup>, Parul Sharma<sup>3</sup> and Angel Anu John<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Psychology, Lovely Professional University, Punjab. Email: [pardeep.19468@lpu.co.in](mailto:pardeep.19468@lpu.co.in)

<sup>2,3</sup>Research Scholar, Department of Psychology, Lovely Professional University, Punjab

<sup>4</sup>Assistant Professor, Department of Psychology, Lovely Professional University, Punjab

### ABSTRACT

Technical advancements are the need and fashion of modern times. However, recently, a number of studies have indicated that complexity of technology may cause 'technostress' and produce detrimental effects on the productivity of employees. In this light, the current research aims to study the impact of technostress on the job satisfaction and job performance of the IT professionals. Total 200 IT professionals (112 males, 88 females) have participated in the current research from the Tricity region i.e. Chandigarh, Panchkula and Mohali of Punjab and Haryana, India. To measure the study variable three highly reliable and valid tools including Technostress, Job Satisfaction Instrument and Job Performance Questionnaire have been used. Collected data has been analysed by using *t* test, Pearson Product Moment correlation and Regression analysis. Results of the study reveal that there are significant gender differences in technostress ( $t = -2.01, p < .05$ ) and job satisfaction ( $t = -2.29, p < .05$ ), females being on the higher side than their male counterparts. However, no gender difference is visible on job performance. Moreover, a significant negative relationship of technostress is evident with job satisfaction ( $r = -.282, p < .001$ ) and job performance ( $r = -.376, p < .01$ ). Moreover, job satisfaction and job performance were found to be related positively ( $r = .38, p < .01$ ). The findings also provide evidence of a significant impact of technostress on job satisfaction and job performance of the IT employees. The results support the notion that IT industry should design effective strategies to mitigate the challenges caused by technostress.

**Keywords:** Technostress, Job Satisfaction, Job Performance.

### 1. INTRODUCTION

In modern times, people are over-dependent on technology and this dependency is creating several physical and psychological issues for them resulting into personal and professional ineffectiveness. Undoubtedly,

technology has created comfort and proficiency in people's lives, but most of its user also struggle to cope with its negative effects (Tagurum et. al., 2017). Researchers examining the factors relating to overall well-being of employees have a common view that over-engagement with technology has a major negative impact on the satisfaction and professional growth of employees. The stress caused by technology is termed as 'technostress' by a clinical psychologist, Dr. Craig Brod (1984), who further mentioned technostress 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 but 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) described technostress as a "state of arousal observed in certain employees who are heavily dependent on computers in their work". Davis-Milis (1998) suggested technostress as a stress to adjust to the new technologies when there is no training or support available to manage it. Similarly, Tarafdar et. al., (2007) defined technostress as a difficulty in adaptation due to failure to deal with or to get used to the technology. Further, they proposed five major components of technostress including techno-overload, techno-invasion, techno-complexity, techno-insecurity and techno-uncertainty. To be precise, all the above definitions indicate that technostress is a struggle of an individual to adjust to the emerging technological advancements.

Today, almost every profession and occupation is dependent on one or the other kind of technology and it is not feasible for any profession to survive without it. Moreover, there are some professions which are totally technology based e.g. people working in information and technology (IT) industry deal with computers all the time. According to Lim and Teo (1990) IT jobs are the most lucrative profession globally catering mostly the intellectual and skilful youth. However, this profession has several drawbacks including poor job security, cut throat competitions and highly pressurized working environment. This environment put the IT professionals in high stress due to uncertainty and gives no opportunities for personal development creating imbalance in work life (Kumar et. al., 2013). Further, IT is a field of continues technological changes and the employees need to update them with it on day to day basis. Failure to adapt to such changes may lead to higher technostress which ultimately result into less job satisfaction and poor job performance. Some researchers also suggest that computer technology hassles create psychological stress and excess use of computers lead to increased computer related stress (Hudiberg, 1989). Due to the professional requirements IT professionals need to use computers and be in touch of technology for long durations. However, very few researches have been conducted to know the relationship of technostress with job satisfaction and performance of IT professionals particularly. The current research aims to fulfil this research gap and tend to develop new insights about the impact of technostress on job satisfaction and performance of IT professionals.

### **Technostress in Relation to Job Satisfaction and Job Performance**

Job satisfaction and job performance are strongly interconnected (Pushpakumari, 2008; Gu and Chi, 2009) and both the concepts are crucial to personal and professional growth of an employee. Locke (1969) described job satisfaction as "perceived relationship between what one wants from one's job and what one perceives it as offering." Job satisfaction is one of the major factors that affects employee overall functioning and may lead to significant loss to the organisation if not dealt properly (Ragu-Nathan et. al., 2008). Assessment of job satisfaction among Information and Communications Technology (ICT)

users has produced numerous outcomes indicating its relationship with job performance and system effectiveness (Melone, 1990). Campbell (1990) defined job performance as “what the organization hires one to do and do well”. Each employee’s performance contributes to the overall performance of any organisation and factors that affect performance are also a great matter of interest to any organisation.

Tarafdar et. al., (2011) studied effects of technostress satisfaction and task performance of 233 ICT users. Results suggest that technostress negatively impact managers’ ability to effectively use ICT. Another study by Tarafdar et. al., (2014) indicated that technology overload, incursion, intricacy and insecurity have a negative effect on the salesperson’s behavioural performance. Wei Qiu (2013) conducted a study on a sample of 215 working people from New Zealand to know the factors creating technostress and also examined the link among technostress, job satisfaction and organisational commitment. The results of the study revealed that technostress significantly predicts job satisfaction and organisational commitment. Moreover, results also provided evidence for the mediating role of job satisfaction between organisational commitment and stress. Similarly, Kumar et. al., (2013) also suggested technostress is negatively associated to job satisfaction and organizational commitment. Raišienė and Jonušauskas (2013) examined the impact of technostress in relation to ICT usage on work and life balance in employees from Lithuania. The findings suggested that employees from Lithuania’s institutions have high level of technostress as 75% of the employees were suffering from technostress and 41% from imbalance in work and life. Another study confirmed the relationship between technostress and job satisfaction. The multiple regression analysis results of the study revealed that technostress predicted 27.3% ( $p = .000$ ) of the variation in job satisfaction among librarians of KPK University, Pakistan. Results also suggested that technological innovations have a considerable negative impact on job satisfaction (Khan et. al., 2013). Jena (2015) studied impact of technostress on Job satisfaction among Indian academicians. Findings of the study indicate unfavourable effect of technostress on job satisfaction. A study conducted in Nigeria on academic staff of University of Jos by Tagurum et. al., (2017) investigated the effect of technostress on job performance and coping mechanisms. The findings demonstrated that 54.2% participants experienced technostress and it affected the job performance of 9% of the employees negatively to a very high extent. Technostress also resulted in negative physical symptoms with neckache and blurred vision in 45.8% and 42.4% of the employees, respectively. From gender perspective, the research done by Rajput et. al., (2011) suggests that female IT employees feel high stress on the dimensions of “internal factors to the job”, “managerial role”, “relationships within office”, “career and achievement”, and “organizational environment” than males. Further a number of researches report that females are also high on job satisfaction than males (Kim, 2005; Gligorović et. al., 2014). However, few other studies do not support the difference in job satisfaction and job performance (Sumner & Niederman, 2002).

Overall, all the above findings suggest a strong relationship among all the three study variables i.e. technostress, job satisfaction and job performance and technostress seems to be affecting both job satisfaction and job performance negatively. On the basis of this review, it is hypothesized that (1) there exists gender differences in all the study variables (2) there is positive relationship between job satisfaction and job performance (3) technostress is negatively linked to job satisfaction and job performance and (4) technostress impacts job satisfaction and job performance unfavourably.

## 2. RESEARCH METHODOLOGY

### Participants

To analyse the research problem, a random sample of 200 IT professionals (M = 112, F = 88) has been selected from the Tricity i.e. Chandigarh, Panchkula and Mohali region of Punjab and Haryana, India. The sample represents about ten percent of the population of IT professionals in the given region i.e. from Tech Mahindra, IDS Infotech, Infosys and Quark. All the participants have an age range from 30-40 years and each employee possesses minimum B.Tech degree. A consent form was sought from all the participants in the beginning of the study.

### Research Tools

The following research tools have been used for collecting data in the current study:

**Technostress:** This scale is developed by Ragu-Nathan and Ragu-Nathan (2002). The tool consists of 24 statements and responses are obtained on five options in likert style ranging from completely disagree to strongly agree. The scores of the scale ranges from 24 to 120 and a high score on the scale represents high technostress. The scale is considered fairly reliable (test-retest  $r = .68$ ) and valid.

**Job Satisfaction Instrument:** This instrument has been developed by Mishra et. al., (1977). The tool contains 41 statements and each statement is rated against five point likert scale. The scale has 18 positive and 23 negative scored items. The reliability coefficient for this scale has been calculated by both split half ( $r = 0.78$ ) and test retest ( $r = 0.68$ ) method. The validity coefficient of the scale is also found as 0.68.

**Job Performance Questionnaire:** The job performance of the participants was measured by the job performance questionnaire (JPQ) developed by Shokrkon and Arshadi (1990). This scale consists of 15 items based on likert scale. The Cronbach alpha reliability coefficient for this scale is 0.78 and split half reliability is represented by the score of 0.86.

### Statistical Analysis

All the data of the study was analyzed by SPSS (Version 24). Apart from descriptive analyses, t test, Pearson Product Moment Correlation and Regression Analysis were used to obtain the results.

## 3. RESULTS AND DISCUSSION

The demographic distribution detail of the sample is given in Table 1.1. Total 112 males and 88 females participated in the study. It is visible from Table 1.1 that females have slighter high industry experience (3.29 years) than their male counterparts (2.89 years).

**Table 1.1**  
**Group wise distribution of the sample**

<i>Gender</i>	<i>Total</i>	<i>Average Industry Experience</i>
Males	112	2.89 Years
Females	88	3.29 Years

Table 2.1 represents the mean, standard deviation and *t* ratios of the gender differences in the study variables. It is seen that females are significantly higher on technostress ( $t = -2.01, p < .05$ ) and job satisfaction ( $t = -2.29, p < .05$ ) than males. The results support the notion of gender differences in technostress and job satisfaction suggested by Rajput et. al., (2011) and Kim (2005) and Gligorović et. al., (2014), respectively. Further, the critical ratio for gender differences for job performance is above .05 indicating no gender differences on this variable. This finding goes along with the views of Sumner & Niederman (2002) indicating no gender differences in job performance. This finding also seems interesting as it suggests that despite having high stress, female employees are equal to males on job performance. This finding can be further elaborated by the report of American Psychological Association (2010) which suggests that both men and women react and confront to stress differently. Whereas women show high stress initially, they tend to manage stress effectively by connecting to others and finally this assist them in maintaining their performance.

**Table 2.1**  
**Means, SDs and *t* ratios of the gender differences in Technostress, Job Satisfaction and Job Performance**

	<i>N</i> = 200	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>t value</i>	<i>p value</i>
Technostress	Males	112	63.63	15.747	-2.01	.04*
	Females	88	67.84	13.293		
Job Satisfaction	Males	112	131.70	17.138	-2.29	.02*
	Females	88	137.52	18.756		
Job Performance	Males	112	34.27	7.666	1.58	0.11
	Females	88	32.57	7.359		

\*Significant at .05 level of significance.

Table 3.1 provides the details for the Pearson Product Moment Correlation coefficients among Technostress, Job Satisfaction and Job Performance. As hypothesized, it is visible for the scores that there is a negative relationship of technostress with job satisfaction ( $r = -.282, p < .001$ ) and job performance ( $r = -.376, p < .01$ ). These findings are supported by numerous other researches (Kumar et. al., 2011; Wei Qiu, 2013) and indicate that technostress is an unfavourable factor that can significantly reduce the job satisfaction and job performance of IT Professionals. The notion of Pushpakumari (2008) and Gu and Chi (2009) that Job satisfaction and job performance are strongly interconnected is supported by the results as there is a significant relationship between job satisfaction and job performance ( $r = .38, p < .01$ ). The findings suggest that job satisfaction and job performance are strongly linked and one variable may be very crucial to increase the level of the other.

**Table 3.1**  
**Pearson Product Moment Correlation coefficients among Technostress, Job Satisfaction and Job Performance**

		<i>Job Satisfaction</i>	<i>Job Performance</i>
Technostress	<i>r value</i>	-.282**	-.376**
	<i>p value</i>	.000	.000
Job Satisfaction	<i>r value</i>		.389**
	<i>p value</i>		.000

\*\*Correlation is significant at the 0.01 level (2-tailed).

Table 4.1 provides the results for regression analysis predicting the impact of technostress on job satisfaction and job performance. It is evident from the scores that technostress is a significant predictor of job satisfaction and job performance. Technostress explains about 8% variance in job satisfaction (R Square = .08,  $p < .01$ ) and 14% variance in job performance (R square = .14,  $p < .01$ ). As from Table 3.1 we can see that there is a negative relationship of technostress with job satisfaction and job performance, the findings indicate that technostress significantly impact both job satisfaction and job performance negatively.

**Table 4.1**  
**Regression analysis predicting the impact of technostress on job satisfaction and job performance**

<i>Model 1</i>					<i>Change Statistics</i>		
<i>a. Predictors: (Constant), Technostress, Dependent variable: Job Satisfaction</i>	R	R Square	Adjusted R Square	R Square Change	df1	df2	Sig. F Change
Values	.282 <sup>a</sup>	.080	.075	.080	1	198	.000

  

<i>Model 2</i>					<i>Change Statistics</i>		
<i>a. Predictors: (Constant), Technostress, Dependent variable: Job Performance</i>	R	R Square	Adjusted R Square	R Square Change	df1	df2	Sig. F Change
Values	.376 <sup>a</sup>	.141	.137	.141	1	198	.000

This finding is supported by different earlier researchers including Tarafdar et. al., (2011, 2014), Raišienė and Jonušauskas, Khan et. al., (2013) and Tagurum et. al., (2017). The findings suggest that technostress is an important factor that impacts the overall wellbeing of the IT professionals unfavourably and employers must strategise to mitigate its negative effects to improve the job satisfaction and job performance of the employees.

#### 4. CONCLUSION AND RECOMMENDATIONS

The objective of the current research was to investigate the impact of technostress on job satisfaction and job performance of the IT professionals. On the basis of the review, it was hypothesized that technostress relates with and impacts job satisfaction and job performance negatively. The findings support the hypotheses and provide the evidence that technostress is a crucial factor and dealing technostress can assist both the employers and employees working in IT sectors to improve the overall performance. In the current scenario, technology change has become a trend and also a necessity. However, no effective measures and strategies are designed to meet the requirements of these changes. The decision makers working in the IT industry need to introduce training and support programs to mitigate the negativity generated from technostress. The researchers also recommend apart from training and support programs, the IT professional should also be given enough time to learn and adjust to the new technology.

#### References

American Psychological Association (2010). <http://www.apa.org/news/press/releases/stress/2010/gender-stress.pdf>

Arnetz, B.B., & Wiholm, C. (1997). Technological stress: Psychophysiological symptoms in modern offices. *Journal of psychosomatic research*, 43, 35-42.

Brod, C. (1984). *Technostress: The human cost of the computer revolution*. Addison-Wesley, reading, MA.

- Campbell, J.P. (1990). Modeling the performance prediction problem in industrial and organisational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organisational psychology, 1*, 687-732. Palo Alto: Consulting Psychologists Press.
- Davis-Millis, N. (1998, February). Technostress and the organization: A manager's guide to survival in the information age. In *67th Annual Meeting of the Music Library Association* (Vol. 14).
- Gligorović, B., Terek, E., Glušac, D., Sajfert, Z., & Adamović, Ž. (2014). Job satisfaction and gender differences in job satisfaction of teachers in Serbian primary schools. *Journal of Engineering Management and Competitiveness (JEMC)*, 4, 94-100.
- Gu, Z., & Chi, R.S.S. (2009). Drivers of job satisfaction as related to work performance in Macao casino hotels: An investigation based on employee survey. *International Journal of Contemporary Hospitality Management*, 21, 561-578
- Hudiburg, R.A. (1989). Psychology of computer use: VII. Measuring technostress: Computer-related stress. *Psychological Reports*, 64, 767-772.
- Jena, R.K. (2015). Technostress in ICT enabled collaborative learning environment: An empirical study among Indian academician. *Computers in Human Behavior*, 51, 1116-1123.
- Khan, A., Rehman, H., & Rehman, D.S.U. (2016). An empirical analysis of correlation between technostress and job satisfaction: A case of KPK, Pakistan. *Pakistan Journal of Information Management & Libraries (PJIM&L)*, 14.
- Kim, S. (2005). Gender differences in the job satisfaction of public employees: a study of Seoul Metropolitan Government, Korea. *Sex roles*, 52, 667-681.
- Kumar, R., Lal, R., Bansal, Y., & Sharma, S.K. (2013). Technostress in Relation to Job Satisfaction and Organisational Commitment among IT Professionals. *International Journal of Scientific and Research Publications*, 3, 1-3.
- Lim, V.K., & Teo, T.S. (1997). Sex, money and financial hardship: An empirical study of attitudes towards money among undergraduates in Singapore. *Journal of Economic Psychology*, 18, 369-386.
- Locke, E.A. (1969). What is job satisfaction?. *Organizational behavior and human performance*, 4, 309-336.
- Melone, N.P. (1990). A theoretical assessment of the user-satisfaction construct in information systems research. *Management science*, 36, 76-91.
- Mishra, R.S., Tiwari, M. and Pandey D.N. (1977). *Job Satisfaction Instrument*, published by Agra Psychological Research Cell, Agra.
- Pushpakumari, M.D. (2008). The impact of job satisfaction on job performance: An empirical analysis. In *City Forum*, 1, 89-105.
- Qiu, W. (2013). *Impact of technostress on job satisfaction and organizational commitment: a thesis presented in partial fulfillment of the requirements for the degree of Master of Management (Management) at Massey University, Auckland, New Zealand/ Ian Hyslop* (Doctoral dissertation, Massey University).
- Ragu-Nathan, B., Ragu-Nathan, T.S. and T.S. and Tu, Q. (2002). A large-scale multinational investigation of techno-stress and its impact on information. Technology (IT) workforce productivity. Research proposal submitted to IT Research division of the US National Science Foundation.
- Ragu-Nathan, T.S., Tarafdar, M., Ragu-Nathan, B.S., & Tu, Q. (2008). The consequences of technostress for end users in organizations: Conceptual development and empirical validation. *Information systems research*, 19, 417-433.
- Raišienė, A.G., & Jonušauskas, S. (2013). Silent issues of ICT era: impact of technostress to the work and life balance of employees, *Entrepreneurship and Sustainability Issues* 1, 108–115.

- Rajput, N., Gupta, M., Kesharwani, S., & Ralli, N.C.N. (2011). Techno Stress in Gender Perspective: An Empirical Investigation. *Global Journal of Enterprise Information System*, 3, 12-21.
- Sumner, M., & Niederman, F. (2004). The impact of gender differences on job satisfaction, job turnover, and career experiences of information systems professionals. *Journal of Computer Information Systems*, 44, 29-39.
- Tagurum, Y.O., & Code, Q.R. (2017) Effect of technostress on job performance and coping strategies among academic staff of a tertiary institution in north-central Nigeria. *International Journal of Biomedical Research*, 8, 312-318.
- Tarafdar, M., Bolman Pullins, E., & Ragu-Nathan, T.S. (2014). Examining impacts of technostress on the professional salesperson's behavioural performance. *Journal of Personal Selling & Sales Management*, 34, 51-69.
- Tarafdar, M., Tu, Q., Ragu-Nathan, B.S., & Ragu-Nathan, T.S. (2007). The impact of technostress on role stress and productivity. *Journal of Management Information Systems*, 24, 301-328.
- Tarafdar, M., Tu, Q., Ragu-Nathan, T.S., & Ragu-Nathan, B.S. (2011). Crossing to the dark side: examining creators, outcomes, and inhibitors of technostress. *Communications of the ACM*, 54, 113-120.