Techno stress Creators- A genesis or not- Study of teaching and non teaching staff

Dr. Taj Hoda

Dr. Ritika Bhateja ,Assistant Professor, MBA Department, DAV, Chd.

Pooja Sareen, Assistant Professor, Commerce Department, PGGC46, Chd.& Research Scholar PTU, Jallandhar

ABSTRACT

Nowadays, technology is omnipresent, and our home, work and social life is considerably dependent on the information system and technology. This radical change has enhanced the expectation level of management as far as productivity and work culture is concerned. Since, with various techno stress creators like Techno insecurity, Techno overload, Techno Complexity, Techno uncertainty and Techno Invasion the physical and psychological health of an employee in affected. In this paper the relationship between Techno Stress Creators with the employees working in Government colleges, Government Aided colleges and Management Institutes in and around Chandigarh was analyzed. Results revealed that Employees working in Management Institutions feel more Techno Overload, Techno Invasion and Techno Insecurity.

Keywords: Techno Stress, Techno Overload, Techno Invasion and Techno Insecurity, Techno uncertainty, Techno complexity

1. INTRODUCTION

In this digital Era employees are forced to update their knowledge and skills in their spare time having no privacy at all. There is an increase in workload due to the complication in understanding new technology systems in a relatively short time frame. According to a survey by **Anne, 2004 and Wang *et al.*, 2008**, the main causes of job stress for white-collar workers in China are workload and occupational crises. Nowadays, many organizations are carrying out reforms within the workforce to cope up with new technologies. The technostress level may also increase when more and more technologies are placed on employee desktops, hampering organizational productivity and work efficiency.

Companies must take realistic procedures to cope with technostress **(Tu, Wang, & Shu, 2005)**. Various causes and symptoms of stress have been defined by various authors in the past. Apparently, work related stress is by far the major reason for being stressful.

Technostress is more apparent among professionals, who all together create new technology and are affected by it. Employees have to constantly update their technical skills to keep up with the pace of the new technologies. Meanwhile, where we have fewer people to do the same amount of work and the introduction of new technologies is accompanied by organizational downsizing.

According to **Craig Brod (1984)** Techno stress is a stress caused by the inability to cope with the new computer technology in a healthy manner. He was the first to describe technostress and outlined may stress symptoms like irritability, headaches, resistance to learning about the computer or outright rejection of the technology, etc. According to him, it turns into anxiety, technophobia or computer phobia by which employees started to hesitate or avoid the use of technology (Rosen *et al.*, 1987). The working pattern of the organizations revolutionizes by upgrading information technology. Work related culture is affected by Technostress and has brought many problems to the employees working in an organization., employees in many organizations are not able to cope up with it in spite of several training programs and workshops organized **(Lalitha & Pangannaiah, 2006).**

Technology has turned the world into a global village in which we have endless connectivity, interactive organizations, information sharing and infinite access. It has drastically changed our views about limits between the organizations and within it. Dependence on technology has brought convenience and productivity gains on the one hand with people in distress from being surrounded by irresistible and rapidly varying technologies on the other. This often leads to ICT related technostress experienced by employees in many organizations which affect employee productivity negatively **(Ragu-Nathan *et al.*, 2002 and Tarafdar *et al.*, 2007 and Ragu-Nathan *et al.*, 2008).**

Nowadays, technology is omnipresent, and our home, work and social life is considerably dependent on the quality information systems. The IT professionals have to recognize their responsibility and develop a professional attitude in order to generate and maintain a safe and dependable information society. Since, An ICT worker works within a complex environment filled with various types of stress and pressures in which young people are struggling to find direction in their lives to survive and improve their living conditions, and further develop their identities. Some call it the information or digital age, while others prefer the term techno-culture **(Robins & Webster, 1999)** or techno capitalism, global media culture, or simply globalization, referring to the process in which the global and the local community exists as combined and mutually implicating.

This radical change has enhanced the anticipation level of management as far as productivity and work culture is concerned. Since, employees are expected to be available through email or cell phone while at home or even on vacation, it has influenced their psychological health and therby increasing their workloads **(Duxbury & Higgins, 2001 and Thomee *et al.*, 2007).**

In this paper the relationship between Techno Stress Creators with the employees working in Government colleges, Government Aided colleges and Management Institutes in and around Chandigarh was analyzed.

2. TECHNO STRESS CREATORS

Tarafdar, Tu, Ragu-Nathan, and Ragu-Nathan in their study identified into five main components and for checking the validity and reliability Factor Analysis and Cronbach's Alpha will be applied on the sample collected in our study.

Tarafdar, Tu, Ragu-Nathan, and Ragu-Nathan explains technostress as a problem of adaptation and inability to cope with technology. They have identified five components of technostress, which are:

Techno-overload: Techno overload is a situation in which employees feel burdened when are forced to work more as well as faster. They feel technology stress when are instructed to work more rapidly with rigid schedules. It is a condition where they encounter stress symptoms when they have to do more work than they can handle, and are forced to adapt to new technologies.

Techno-invasion: Techno invasion is a state where employees are required to be constantly connected with technology irrespective of place and time. It becomes impossible for an employee to have privacy and their personal life is being invaded due to technology. The regular work-day is extended and office work is done at odd hours. It includes increase in workload due to complex technologies and lesser time to spend with family due to increased challenges. Further, employees need to be in touch with the superiors even during vacations and sometimes have to sacrifice their holidays to keep in touch with new technologies.

Techno-complexity: Techno complexities arise when an employee is to enhance their competence and are forced to spend recourses in learning and development. Due to inadequate technical knowledge, they feel stressed while using technology. Some of them face difficulty in understanding and using technology and in sparing enough time to study and upgrade their technological skills while others feeling insecure from fresher's and think that they are better versed with latest technology.

Techno-insecurity: Techno insecurity is a situation where people feel insecure about their jobs due to complex technologies and its applications. They feel that other employees are well equipped with new tools and techniques. It is associated with situations where people feel in jeopardy from other people who have a better technical knowledge and they have to constantly update the skills to avoid being replaced.

Techno-uncertainty: Techno uncertainty deals with a situation where users feel uncertain due to constant change in technology and there is a need to bring advancement in technology due to short life span of computer systems and latest technological gadgets. In technology, continuous changes and upgrades do not give people a chance to understand a particular system because of which they find this stressful as their knowledge becomes outdated and are required to update it rapidly.

3. LITERATURE REVIEW

Technostress according to **Brod (1984)** 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.

Kupersmith, (1992) says that the internet is probably becoming the major causes of technostress due to the fact that many of new information site with no standard to how they are designed, maintained and updated. Dealing with the information overload is a real problem.

Arnetz and Wiholm, (1997) says that in the 21st century, most jobs require some type of technological interaction whether it be in an office or in the field. Interaction with computer systems is inevitable and can create technostress that can lead to ineffectiveness in the workplace as well as health problems. These health problems lead to missed work, absents and loss in productivity. Organizations need to understand these issues and implement solutions.

Kupersmith, (2003) in his survey discovered that information overload, networking problems, security issues, computer hardware and software, ergonomics and vendor-produced databases as leading causes of technostress for them. Common symptoms of technostress may include: feelings of isolation and frustration; negative attitudes toward new computer based sources and systems; indifference to users' computer-related needs; self depreciating thoughts or statement about one's ability to cope; an apologetic attitudes toward users; and a definition of self as not a computer person. All these may result in the poor job performance by the library and information science professionals which would in turn lead to low library users' satisfaction.

Brillhart, (2004) says that stress has been a major issue for organizations, and employers must deal with it in order to be productive at work. The anxiety and tension can also come from the inability to use the technology that leads to a disadvantage over other workers who do use the technology effectively. The non-users become less competitive compared to their counterparts.

Strang, (2004) It is possible for these factors to be influenced by management, but this idea was not addressed in the literature. These factors were more associated with work-related stress and not technostress, specifically.

Scott and Timmerman, (2005) viewed that stress is most industry in the informational technology field. These IT professional learn how to cope with the technostress by identifying the root cause of the stress and implementing coping strategies such as learning the functionalities and increasing training on the technology to help mitigate the technostress.

Tarafdar et al., (2007) explains that technology factors such as techno-overload, techno-invasion, techno-complexity, techno insecurity and techno-uncertainty can have affect on technostress. These six factors have been shown to have a strong relationship with technostress, but one area that was not addressed in the literature is the role of management influence.

Thomee et al. (2007) demonstrates that technostress can cause depression and sleeping issues. This in turn can affect many other aspects of life such as work and family. Technostress can also affect work performance.

Al-Fudail and Mellar, (2008) conducted their study in educational field. According to him in the past decade, teachers have become exhibiting technostress because of the application of technology in their schools. Knowing that technology can have an adverse effect on the teachers, schools have implemented processes to aid the teachers in reducing technostress. This includes more technology training, practicing before using the technology, changing teaching styles, and classroom management training.

Tiemo, Pereware Aghwotu and **Ofua, Justice Owajeme, (2010)** in their paper **"**Technostress: Causes, symptoms and coping strategies among Librarians in University libraries" examine the causes, symptoms and coping strategies of technostress among librarians in university libraries. Their study revealed that majority of the librarians experienced technostress as a result of technological changes. And to cope with technostress in their various working places, they agreed to the various coping strategies and plans.

Barley, Meyerson and Grobal (2010) In the article, *Email as a Source and Symbol of Stress* review the increasing volume of email and other technological communications that are regarded as a growing source of stress in people's lives. Research suggests that this new media provides people additional flexibility and control by enabling them to communicate anywhere at any time. However, the authors' research builds theory that unravels this contradiction. Instead, email and other forms of communication led people to feel overwhelmed and unable to cope with the stress.

4. OBJECTIVES OF THE STUDY:

The objectives of the study are:

1. To derive various factors required in techno stress creators.

2. To outline the technostress symptoms among college teaching and non teaching staff working in Government Colleges, Private Colleges and Management Institutes.

PROBLEM FORMULATION:

Universities all over the world are among the major organizations where Information and Communication Technologies are being used on a large. However, in spite of various benefits of Technology, it is also true that the adoption and utilization of technology have brought about a number of demands and challenges such as technostress and job burnout into workplace.

So an attempt will be made to study the causes or factors of stress among teaching and non teaching staff working in colleges

5. RESEARCH METHODOLOGY

5.1 RESEARCH PROBLEM

The research problem is to study all the aspects related to Techno stress and devise various coping strategies for the same for which statement of problem would be :-

- Causes of technostress among college professionals
- To check the reliability and validity of these factors
- To determine main factors causing techno stress using Factor Analysis

5.2 RESEARCH DESIGN

The research type will be **exploratory** research because the entire research is based on questionnaire and analysis. There will be detailed description in the research, so this will be descriptive design.

5.3 SAMPLING UNIT and SAMPLING SIZE

The sample for the present study would comprise of around 300 employees which comprise of 200 employees at Teaching level and 100 at Non teaching level. The participants would be selected using probability method i.e. **stratified sampling** technique, wherein the strata would be of only the Teaching employees and Non teaching employees, and the selection of sufficient subjects would be done randomly from these stratums, which would be the exact representation of the population. The participants would be Teaching and Non Teaching staff working in Colleges and Management Institutes in Chandigarh Region.

5.4 DATA SOURCES:

The research plan can call for gathering secondary data as well as primary data. Secondary data consists of information that already exists somewhere having been collected for another purpose. It will be collected from books, magazines, Journals, periodicals and libraries. Information will also be collected through various websites Primary data consists of original information gathered for specific purpose. **.** To collect primary data the questionnaire will be developed to measure the level of techno stress, causes of techno stress and ways of coping techno stress..

In this study, to collect primary data the questionnaire will be developed to measure the level of techno stress, causes of techno stress and ways of coping techno stress among the Teaching and Non teaching staff working in Government colleges, Private colleges and Management Institutes. The five core questions will be measured by statements using seven 5 points of Likert Scale. The seven 5 points is explained below.

1 = Strongly Disagree

2 = Disagree

3 = Moderate

4 = Agree

5 = Strongly Agree

5.6 SAMPLING TECHNIQUE

In this study we included the academic and Non Academic staff of Government colleges, Private colleges and Management Institutes in our research. For Data Analysis and Interpretation hypothesis will be formed and tested using various methods like Mean, Standard Deviation, Standard Error and One way Annova.

6. RESULTS AND DISCUSSION

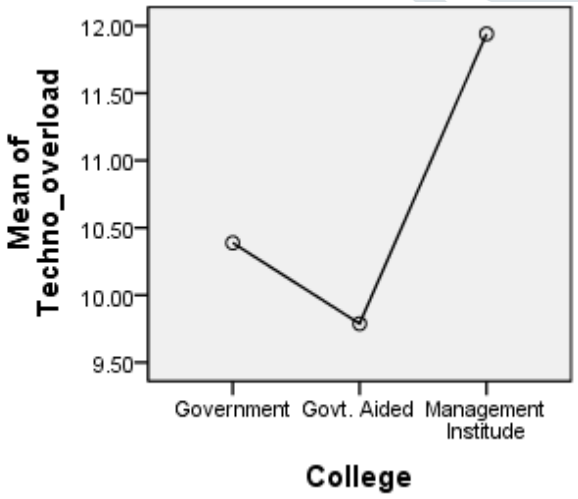
Hypothesis: There is a statistically significant relationship between technostress creators and College

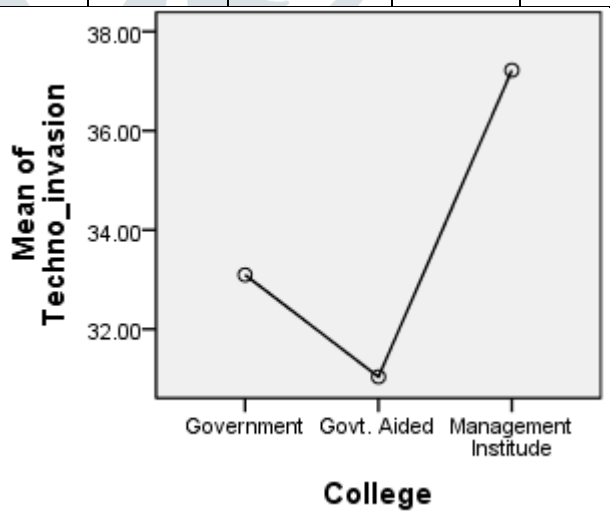
	COLLEGE	N	Mean	Std. Deviation	Std. Error
TECHNO OVERLOAD	Government	170	10.3882	3.50011	.26845
	Govt. Aided	80	9.7875	2.97540	.33266
	Management Institute	50	11.9400	3.66678	.51856
	Total	300	10.4867	3.45779	.19964
TECHNO INVASION	Government	169	33.0947	12.69573	.97659
	Govt. Aided	80	31.0375	9.26876	1.03628
	Management Institute	50	37.2200	12.22124	1.72834
	Total	299	33.2341	11.92364	.68956
TECHNO COMPLEXITY	Government	170	12.1824	3.53792	.27135
	Govt. Aided	80	11.4500	3.40476	.38066
	Management Institute	50	11.7800	3.68832	.52161
	Total	300	11.9200	3.53108	.20387
TECHNO INSECURITY	Government	169	8.9408	2.74882	.21145
	Govt. Aided	80	8.4000	2.78149	.31098
	Management Institute	50	10.2000	3.01696	.42666
	Total	299	9.0067	2.85440	.16507

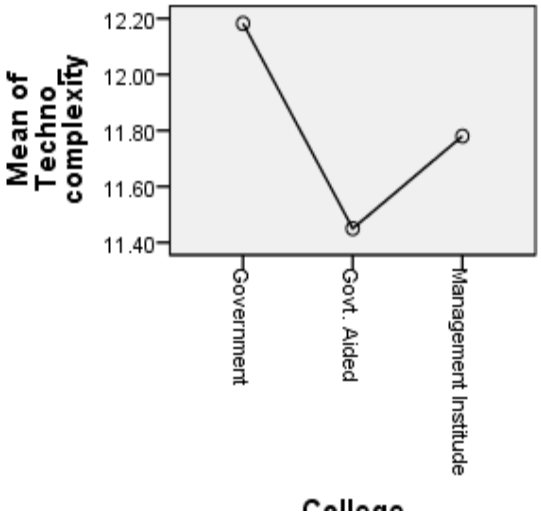
TECHNO UNCERTAINITY	Government	170	8.8941	2.33077	.17876
	Govt. Aided	80	9.2750	2.03124	.22710
	Management Institute	50	8.9400	2.11322	.29885
	Total	300	9.0033	2.21804	.12806

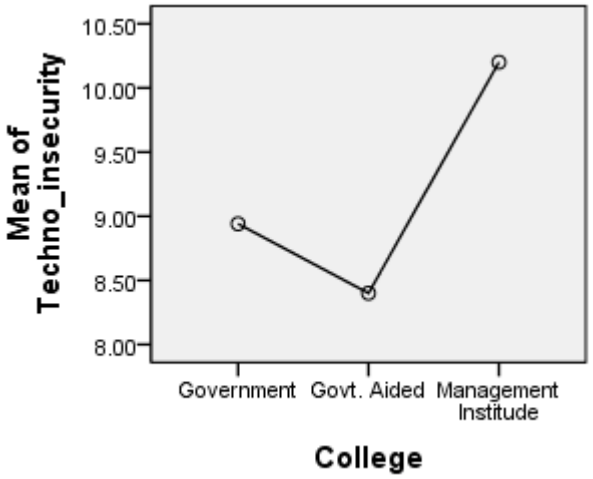
ANOVA TABLE

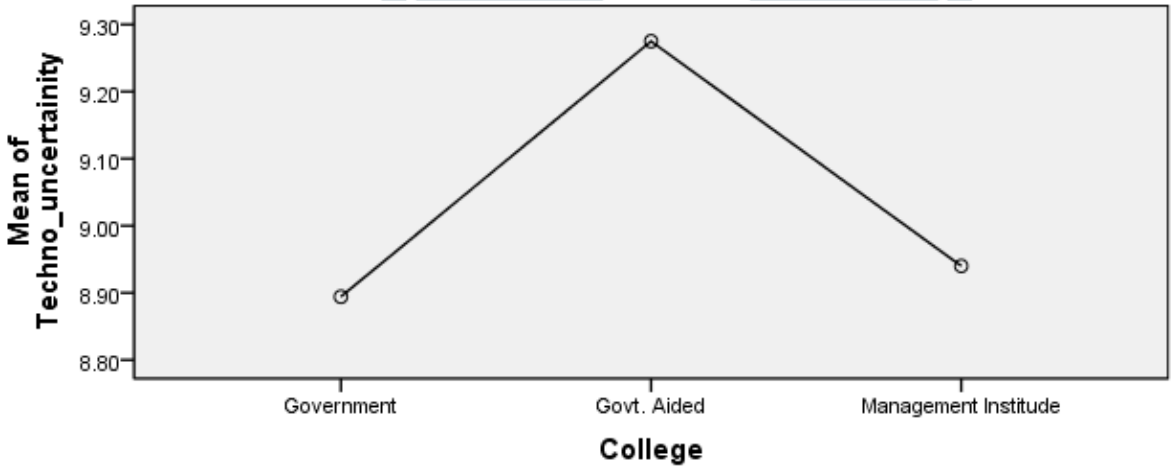
		Sum of Squares	df	Mean Square	F	Sig.
TECHNO OVERLOAD	Between Groups	146.363	2	73.181	6.339	.002
	Within Groups	3428.584	297	11.544		
TECHNO INVASION	Between Groups	1183.659	2	591.830	4.254	.015
	Within Groups	41183.953	296	139.135		
TECHNO COMPLEXITY	Between Groups	30.353	2	15.176	1.219	.297
	Within Groups	3697.727	297	12.450		
TECHNO INSECURITY	Between Groups	101.378	2	50.689	6.449	.002
	Within Groups	2326.608	296	7.860		
TECHNO UNCERTAINITY	Between Groups	8.133	2	4.066	.826	.439
	Within Groups	1462.864	297	4.925		











Data was collected from 170 employees of Government colleges, 80 employees of Government Aided and 50 employees from Management Institutes working in and around Chandigarh. After analyzing the data, it was found that Employees working in Management Institutions feel more Techno Overload (Mean11.9400 Std. Deviation 3.66678), Techno Invasion (Mean 37.2200 Std. Deviation 12.22124) and Techno Insecurity (Mean10.2000 Std. Deviation3.01696). Employees' working in Government Colleges feels more Techno Complexity (Mean 12.1824 Std. Deviation 3.53792) while the ones working in Government Aided feels more Techno Uncertainty (Mean9.2750 Std.Deviation 2.03124). No significant difference was found for the variables Techno Complexity (p value 0.297) and Techno Uncertainty (p value 0.439) which was felt more by employees working in Government and Government Aided colleges. Hence, difference in their means is likely due to chance. Statistically significant difference was found for the variables like Techno Overload (p value 0.002), Techno Invasion (p value 0.015) and Techno Insecurity (p value 0.002). So, it can be concluded that Employees working in Management Institutions feel more Techno Overload, Techno Invasion and Techno Insecurity.

7. CONCLUSION

Technology has turned the world into a global village in which we have endless connectivity, interactive organizations, information sharing and infinite access. It has drastically changed our views about limits between the organizations and within it. Dependence on technology has brought convenience and productivity gains on the one hand with people in distress from being surrounded by irresistible and rapidly varying technologies on the other. An employee works within a complex environment filled with various types of stress and pressures in which young people are struggling to find direction in their lives to survive and improve their living conditions, and further develop their identities. Universities all over the world are among the major organizations where Information and Communication Technologies are being used on a large. So in this paper an attempt is made to study the causes or factors of stress among teaching and non teaching staff working in colleges. Results revealed that Employees working in Management Institutions feel more Techno Overload, Techno Invasion and Techno Insecurity.

8. REFERENCES

1. Arnetz, B.B. and Wiholm, C. (1997) "Technological Stress Psycho physiological Symptoms in Modern Offices". Journal of Psychosomatic Research, 43, 35-42.

2. Al-Fudail, M. and Mellar, H. (2008) "Investigating Teacher Stress When Using Technology" Computers & Education Volume 51, Number 3

3. Barley, Meyerson and Grobal (2010) "Email as a Source and Symbol of Stress", OrganizationScience Vol. 22, No. 4, July–August 2011, pp. 887–906

4. Brillhart, P.E. (2004) "Technostress in the Workplace, Managing Stress in the Electronic Workplace", Journal of American Academy of Business, 5(1/2), pp. 302-308.

5. Brod, Craig (1982) "Managing technostress: Optimizing the use of computer technology" Personnel Journal , v61 n10 p753-57 Oct 1982

6. Brod, C. (1984) "Technostress: The Human Cost of the Computer Revolution", Addison-Wesley. 242p

7. Champion, Sandra G. (1988). Technostress: technology's toll. School Library Journal, 35, 48-51.

8. Kupersmith, J. (1992) "Technostress and the Reference Librarian", Reference Services Review, 20(2). [Web:] http://www.greatbasin.net/~jkup/tstr_ref.html

9. Monideepa Tarafdar, Qiang Tu, T. S. Ragu-Nathan (2007) "The Impact of Technostress on Role Stress and Productivity" J. of Management Information Systems

10. Scott, C. R., & Timmerman, C. E. (2005). Relating Computer, Communication, and Computer-Mediated Communication Apprehensions to New Communication ...

11. Thomée, Sara, "Computers in Human Behavior" 23 (2007) 1300–1321 1303.University of Gothenburg

12. Tiemo, Pereware Aghwotu and Ofua, Justice Owajeme, (2010) in their paper "Technostress: Causes, symptoms and coping strategies among Librarians in University libraries" http://internationalresearchjournals.org