Technostress and Personality Traits – Are they Associated? – Evidence from Indian Bankers

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Abstract
The technology usage which mostly results in technostress varies from person to person. This explains the importance of personality traits which leads to different capabilities of coping up with strain experienced by extensive technology use. The change in the technology used at workplace is inevitable; therefore it is necessary to train bank employees on the basis of their customized needs. For this, study of personality is required to be assessed, so that the resistance towards the technology change can be minimized. The results are based on both primary and secondary mode of research study. Six hundred respondents were interviewed through questionnaire from various public, private, SBI & Associates and foreign sector banks in Punjab and Haryana.The present study is conducted on the basis of the NEO-PIR scale given by Paul T. Costa and Robert and the relation of personality traits like neuroticism, extroversion, conscientiousness, agreeableness and openness etc. with strain experienced by bank employees of commercial banks were analysed. It is need of the hour to take behavioural aspects of human force working rather than only taking into consideration of aspects regarding financial and technological advancements.

Keywords
Big Five Model, Personality, Neuroticism, Agreeableness, Conscientiousness, Openness, Extroversion, Bank employees

I. Introduction

Technology adoption is widespread in banking industry and it is prevalent in each and every function of the banks. Technology has become an integral part of banking transactions. However, the present usage of technology also leads to anxiety, stress and work-life imbalance among bank employees. Technology advancements have increased the stress levels among bank employees (Sharma and Gill, 2015). In current times, Big five model of personality has taken an important position in the research works due to its high reliability. In the present research study also, this model would be utilized for determining the importance of personality in technology acceptance among the bank personnel. Following are the big five factors on which the present study is based upon:

Neuroticism comprises of the characteristics which include extreme worry, pessimism, lack of confidence, and tendencies to experience negative emotions. The people who score high on neuroticism are averse to attain positive attitude towards their work because of their tendency to analyse every aspect of work experiences in negative light. Furthermore, people high on neuroticism also lack confidence and are pessimistic; because of this they should be less likely to develop ambitions regarding their careers and to set performance and career goals accordingly. This is also supported by many empirical studies that neuroticism is negatively related to the tendency to be goal-oriented (Malouff et al., 1990). Hence, due to the relative absence of career and work goals, individuals who score high on neuroticism should be less likely to devote themselves to their work. Empirical findings concur with the above line of reasoning

Extroversion is characterized by sociability, assertiveness, social dominance, ambition, tendencies towards action, sensation-seeking, and the experience of positive affect. This implies that the people who score high on extroversion must be more likely to be very ambitious and try to achieve central and important position in the work environment. By this, they satisfy their ambitious and dominating attitude. Hence, the high scorers on extroversion should be more involved in their work assignments. The empirical studies support the above reasoning as it proposes a positive relationship between instrumentality and work involvement (Berthiaume et al., 1996).

Openness includes multiplicity of interests, receptivity of new ideas, flexibility of thought, inventiveness, and the tendency to develop idealistic ideas and goals. Therefore, individuals who score high on openness should be more likely to report involvement in their work, as their work can serve as the way to entertain their curiosity, their appetite for exploring new perspectives, and their tendency to develop genuine interests for any activities they are involved in. Empirical research reports a positive relationship between scores on openness and scores on work drive, a construct that partly overlaps with work involvement (Lounsbury and Gibson, 1998). In addition, quantitative review research suggests that openness relates positively to motivation towards the accomplishment of self-set work goals (Judge and Ilies, 2002).

Agreeableness is associated with altruism, friendliness and modesty, while low agreeableness includes antagonism, impression management and selfishness. Individuals tend to be involved in their work when they view work and career achievement as means for the maintenance and enhancement of their feelings of personal worth and esteem (Jans, 1982; Rabinowitz and Hall, 1977). Hence, individuals who score low on agreeableness must be more involved in their work because of their antagonistic and impression seeking nature, which must direct them towards seeking advancement and acknowledgment in their work environment; as these serve as sources of esteem.

Conscientiousness is associated with industriousness, perseverance, and sense of duty. Meta-analytic studies suggest that conscientiousness is the most potent and consistent correlate of job performance across all types of jobs and occupations (Barrick and Mount, 1991; Mount and Barrick, 1995; Salgado, 1997). Hence, individuals who report high scores on conscientiousness should report more involvement in their work due to their sense of duty towards every role they assume.

II. Review of Literature

Extensive review of literature has been carried out regarding the impact of personality factors on technostress. One of the research studies reported that perceived usefulness is directly related to technology usage (Robey, 1979; Igbaria, 1990 & Thompson et al, 1991) perceived usefulness is directly related to technology usage. It was also explained that the adoption of technological changes depends on the amount of perceived usefulness of the technology (Davis et al, 1989 & Adams et al, 1992).

In some of the studies, it was proposed that adoption of technology is dependent on the individual differences like personality traits are the causal factors for creating certain attitudes, cognitive behavior, and attitude towards usage of information technology

(Zmud, 1979;Harrison & Rainer, 1992; Aggarwal & Prasad, 1999). Further, contribution was made in the related research and found that the presence or absence of computer skills affects the variables of math anxiety, fear or anxiety of computers and resistance towards computers (Harrison & Rainer, 1992).

Some studies were carried out to ascertain the impact of technology adoption on employees (Gutek, 1983). This is not a widely researched aspect as compared to the Technology Acceptance Model and technology characteristics. But it is slowly gaining importance in the field of research nowadays. The most studies emphasize upon the psychological and behavioural reactions of employees when the technological changes were introduced.

It was reported by certain studies that the successful implementation and usage of technological changes depends on the ease to use it. The finding was further strengthened and was reported that perceived ease of use is an important determinant in acceptance of technology advancements. It was analyzed that perceived ease of use is considered to be a causal factor of perceived usefulness (Mathieson, 1991).

Another study gave concept of technology acceptance which is called as perceived ease of use. This means that usage of technology by employees is also based on the effort required to utilize it. The researcher explained the concept of perceived ease of use along with perceived usefulness in computer usage (Davis, 1989). He also reported that acceptance of technology mostly depends upon the perceived usefulness as compared to the other factors like attitude, satisfaction and perception measures researched in the study.

Some psychological aspects were also explained which mostly covered computer anxiety amongst employees (Igbaria & Chakrabarti, 1990). Researchers further studied the concept of technophobia experienced in employees due to technology usage (Rosen et al, 1987; Brosnan, 1998). Illustrative study was done on the technostress at workplace (Tu et al, 2005).

It was studied that the abstractive and associative dimensions of culture; these dimensions are not related to Hofstede's dimensions of culture, but are important in managerial aspects. These concepts enable the researcher to understand the ways of thinking and perception which impacts the behavioural approaches of individuals. The abstractive cultures are mostly present in North American and European regions. In these regions, people perceive and behave in a linear pattern by utilizing cause and effect relationships. This implies that they follow objective approach. Whereas associative cultures are followed in African, Arabian and Asian regions and their behavior is based on the association of different occurrences and are mostly without any logic involved in it (Kedia and Bhagat, 1988).It was also explained that it is easy to ascertain in case of regions following abstractive cultures and it was found that the perceived usefulness is directly related to technology usage (Robey, 1979; Thompson et al, 1991).

Some characteristics were found which may enhance the rate of technology adoption by the employees. If employees involuntarily adopt the technological changes due to lack of these technological characteristics in work environments, then it may negatively affect the technology usage. It is further pondered upon that if employees involuntarily adopt the new technology, then there may be lack of technological characteristics like technology usefulness and ease of use etc. When the employees involuntarily adopt the technological changes, then it becomes a stressful experience for them (Moore & Benbasat, 1991).

It was also identified that technology acceptance is affected by individual differences. These all studies discuss the personality traits of employees and its relation with technology acceptance. They also emphasized on earlier technology experience, workforce tenure, education, training involvement and the role of employee in organization like technology provider or user (Aggarwal & Prasad, 1999).

In social psychology, research was conducted which infers that the personality trait and individual's resistance to change decides the type of response portrayed when new technology is introduced because it brings substantial change to the work routines of workers (Oreg, 2003).

Many studies were done establishing relationship of Personality and Technology Acceptance Model (TAM) by utilizing the internet usage and use of personal computers at work. He judged the technology acceptance pattern by studying the Big Five Model like conscientiousness, neuroticism and extraversion. The study states that conscientiousness was negatively related to the personal use of computers at workplace (Everton, Masterangelo & Jolton, 2005).

The research was done on complete Big Five Model in which he postulated that neuroticism is positively related to the technology related phobia whereas extraversion is negatively related to technophobia (Korukonda, 2005). He further discussed in his findings that openness to experience and agreeableness were negatively related to computer anxiety whereas neuroticism was positively related to computer anxiety (Korukonda, 2007).

Technology Acceptance Model (TAM) has been used for measuring users' attitude towards adoption of several IT based services (Rigopoulos & Askounis, 2007). A study was conducted on the commercial banks of Kualalumpur state that the employees are having very positive attitude towards computer and technology usage. The level of acceptance of technology among them is also very high. The frequent use of technology based applications by them in the bank functioning has led to lowering of computer anxiety and improved technological skills (Shah et al, 2011).

III. Objectives of the Study

This study aims to assess the relationship between personality factors and technology acceptance among bank employees. The personality factors like extraversion, agreeableness, conscientiousness, neuroticism and openness are to be studied in relation with strain experienced by employees of public, private, SBI & Associates and foreign sector banks which will portray comparative analysis of different sector of banks.

IV. Scope of the Study

Bank employees from Punjab, Chandigarh and Haryana were taken as population for the present study. As per the statistical records of RBI of year 2009, bank group-wise and state-wise (Punjab, Chandigarh and Haryana) the number of employees are 4686, 5315, 4310 and 3878 in SBI & Associates, Other Public sector banks, Private sector banks and Foreign sector banks respectively. The total number of employees in scheduled commercial banks collectively in Punjab, Haryana and Chandigarh are 72254.

V. Research Methodology

The subjects of the present study are bank employees of Patiala, Chandigarh, Ambala and Ludhiana. Bank employees comprise of front line managers (executives, POs, cashiers, accountants etc.) and middle level managers (Training managers, Branch managers etc.). The sample includes bank employees (public, private & foreign sector) at different hierarchal levels. The sample was collected from the banks of Punjab, Chandigarh and Haryana. 600

bank employees, i.e 1% of the population in Punjab, Chandigarh and Haryana was taken as the sample for present study. Sample of bank employees was taken through simple random sampling. The sample was taken on the basis of type of banks i.e. public (including SBI and associates), private and foreign banks (150 each).

Questionnaire is the instrument chosen for the data collection. The questionnaire consists of both close and open ended questions. The pilot test was conducted before the final usage. The relation of personality with Technology acceptance would be assessed by NEO-PIR scale given by Paul T. Costa and Robert for Big Five Model of Personality and Technology Acceptance Model (TAM) developed on the basis of study of Davis (1989). The scales used for the study were well tested and validated. Pearson Correlation method was applied bank-wise to ascertain relation of personality traits and strain due to technology usage.

VI. Results and Analysis

Table 1: Demographic Analysis

		Count	Column N %
Gender	Male	334	55.7%
	Female	266	44.3%
Age	<25	228	38.0%
	26-35	72	12.0%
	36-45	221	36.8%
	>45	79	13.2%
Education	<Graduate	70	11.7%
	Graduate	280	46.7%
	Postgraduate	250	41.7%
Designation	Front Line Managers	330	55.0%
	Middle level Managers	270	45.0%
Experience	≤ 5	69	11.5%
	5 - 10	131	21.8%
	10 - 15	181	30.2%
	15 - 20	124	20.7%
	> 20	95	15.8%
Total		600	100.0%

Source: Survey

As per Table 1, 55.7% of respondents are male and 44.3% of respondent s are female. In case of age group, majority of 38% of respondents belong to age group "<25" years, 12% of respondents belong to age group "26-35" years, 36.8% of respondents belong to age group "36-45" years and remaining 13.2% of respondents belong to age group ">45" years. In case of education group, majority of 46.7% of respondents are graduate, 41.7% of respondents are post graduate and remaining 11.7% of respondents are under graduate.

In case of designation, majority of 55% of respondents are front line managers and 45% of respondents are middle line managers. In case of experience group, majority of 30.2% of respondents have "10-15" year experience, 20.7% of respondents have "15-20" year experience, 21.8% of respondents have "5-10" year experience, 15.8% of respondents have ">20" year experience and remaining 11.5% of respondents have "<5" year experience.

Table 2: Correlation of personality factors with strain

Correlations		
Variables	**Method**	**Strain**
Extraversion	Pearson Correlation	.086*
	Sig. (2-tailed)	.035*
	N	600
Agreeableness	Pearson Correlation	-.063
	Sig. (2-tailed)	.126ns
	N	600
Conscientiousness	Pearson Correlation	-.010
	Sig. (2-tailed)	.803ns
	N	600
Neuroticism	Pearson Correlation	.093
	Sig. (2-tailed)	.023*
	N	600
Openness	Pearson Correlation	-.111
	Sig. (2-tailed)	.007**
	N	600

Source: Survey

ns=non-significant, *Significant at p<.05

From Table 2 we can conclude that strain has positive relationship with extraversion (.086) and Neuroticism (.093) with p-value of .035 and .023 respectively. While strain has no relationship with Agreeableness (-.063) and Conscientiousness (-.010) and has p-value of .126 and .803 respectively. Whereas there is a negative relationship between Openness and strain (-.111) with p-value of.007 in the collective analysis of banks. The findings explain that the bank employees feel more strained when personality trait of neuroticism i.e. extreme worry, pessimism, lack of confidence, and tendencies to experience negative emotions increases. Likewise, bank employees having personality trait of extraversion i.e. sociability, assertiveness, social dominance, ambition, tendencies towards action enhances the strain due to usage of technology.

Table 3: Correlation of personality factors with strain in Public sector Banks

Correlations		
Variables	**Method**	**Strain**
Extraversion	Pearson Correlation	-.036
	Sig. (2-tailed)	.665ns
	N	150
Agreeableness	Pearson Correlation	-.004
	Sig. (2-tailed)	.960ns
	N	150
Conscientiousness	Pearson Correlation	.004
	Sig. (2-tailed)	.959ns
	N	150
Neuroticism	Pearson Correlation	-.017
	Sig. (2-tailed)	.838ns
	N	150
Openness	Pearson Correlation	-.060
	Sig. (2-tailed)	.469ns
	N	150

Source: Survey

From table 3 we can reveal that strain has no relationship with extraversion (-.036), Neuroticism (-.017), Agreeableness (-.004), Conscientiousness (.004) and Openness (-.060) for public banks with p-value .665, .838, .960, .959 and .469 respectively. It can be inferred from the findings that, in public sector banks personality factors do not portray any significant relationship with strain amongst bank employees.

Table 4: Correlation of personality factors with strain in SBI & its Associates

Correlations		
Variables	**Method**	**Strain**
Extraversion	Pearson Correlation	.107
	Sig. (2-tailed)	.192ns
	N	150
Agreeableness	Pearson Correlation	-.107
	Sig. (2-tailed)	.193ns
	N	150
Conscientiousness	Pearson Correlation	-.103
	Sig. (2-tailed)	.211ns
	N	150
Neuroticism	Pearson Correlation	.200*
	Sig. (2-tailed)	.014*
	N	150
Openness	Pearson Correlation	-.200
	Sig. (2-tailed)	.014*
	N	150

Source: Survey
ns=non-significant, *Significant at p<.05

Table 4 reveals that strain has no relationship with Extraversion (.107), Agreeableness (-.107) and Conscientiousness (-.103) for SBI & its associates with p-value .192, .193 and .211 respectively. While strain has a positive relationship with Neuroticism (-.063) in case of SBI & its associates with p-value of .014. Whereas there is a negative relationship between Openness and strain (-.20) for SBI & its associates with p-value.014. In SBI & Associates, bank employees high on neuroticism is more strained due to technology usage.

Table 5: Correlation of personality factors with strain in Private Banks

Correlations		
Variables	**Method**	**Strain**
Extraversion	Pearson Correlation	-.100
	Sig. (2-tailed)	.221ns
	N	150
Agreeableness	Pearson Correlation	-.014
	Sig. (2-tailed)	.865ns
	N	150
Conscientiousness	Pearson Correlation	-.026
	Sig. (2-tailed)	.751ns
	N	150
Neuroticism	Pearson Correlation	.143
	Sig. (2-tailed)	.082ns
	N	150
Openness	Pearson Correlation	.057
	Sig. (2-tailed)	.486ns
	N	150

Source: Survey

From Table 5 we can conclude that strain has no relationship with extraversion (-.100), Neuroticism (.143), Agreeableness (-.014) and Conscientiousness (-.026) and Openness (.057) for private banks with p-value.221, .082, .865, .751 and .486 respectively. This implies that the personality traits do not play pivotal role in creating technostress.

Table 6: Correlation of Personality Factors With Strain in Foreign Banks

Correlations		
Variables	**Method**	**Strain**
Extraversion	Pearson Correlation	.108
	Sig. (2-tailed)	.188n s
	N	150
Agreeableness	Pearson Correlation	-.270**
	Sig. (2-tailed)	.001**
	N	150
Conscientiousness	Pearson Correlation	.041
	Sig. (2-tailed)	.622ns
	N	150
Neuroticism	Pearson Correlation	.138
	Sig. (2-tailed)	.093ns
	N	150
Openness	Pearson Correlation	-.149
	Sig. (2-tailed)	.070ns
	N	150

Source: Survey
ns=non-significant, *Significant at p<.05

From Table 6 we can conclude that strain has no relationship with extraversion (.108), Neuroticism (.138), Openness (-.149) and Conscientiousness (.041) for foreign banks with p-value .188, .093, .070 and .622 respectively whereas there is a negative relationship between Agreeableness and strain (-.270) with p-value of .001 in case of foreign banks. It explains that the employees who are friendlier, modest i.e high on agreeableness are less strained while using technology.

VII. Conclusions and Recommendations

It is concluded from the present study that the personality traits affect the levels of strain experienced by the bank employees. Above findings signify that the bank employees of different sector of banks are affected by varying personality traits and variation of strain is also observed on this basis. When collective relationship of all the banks was analysed, then it was discovered that bank employees are emotionally reactive, prone to negative emotions (High Neuroticism) face more strain whereas employees who are calm, collective and optimistic (Low Neuroticism) are less strained. Likewise, it was observed that the bank employees who are outgoing and stimulation-oriented (High Extraversion) are more strained with technology usage whereas employees who are quiet and stimulation-avoiding are less prone to technology created stress or strained. Furthermore, it is concluded from the analysis

that the bank employees who are more open to new experiences and change (High Openness), then decrease in levels of strain are reported whereas the bank employees who are traditional and prefer routine work (Low Openness) are more prone to high level of strain created by technology advancements.

From the above analysis, no significant relationship was established between Big Five personality traits and strain levels in case of public and private sector banks. Whereas, increase in neuroticism, increased strain levels of bank employees in case of SBI & Associates and vice versa. Whereas increase in openness to experience leads to decrease in strain levels in SBI & Associates and decrease in openness enhances strain levels. Further, in case of foreign sector banks, personality trait of agreeableness appears to be significant and decrease in strain is experienced when the bank employees are easygoing, friendly and peacemaking(High Agreeableness); whereas the bank employees who are aggressive, dominant and disagreeable (Low Agreeableness), then strain levels increases abundantly. It was also reported that front line managers are high on Neuroticism and extraversion as compared to middle level managers because they are more exposed to continuous technological change.

The present study suggests that the personality traits of employees require special attention during the adoption and implementation of advanced technology. This may also help in assessing personality needs and organizing counseling programs and sessions as per their special needs. Further, recruitment policies can be amended to facilitate the hiring of employees on various hierarchal levels who are in synchronization with the fulfillment of technological targets of the organisations. The training need assessment should be done separately for middle and front line managers as per their dominant personality traits.

References

[1] Adams, D.A, Nelson, R.R, Todd, P.A,"Perceived usefulness, ease of use, and usage of information technology: A replication, MIS Quarterly, Vol. 16, pp. 227-247, 1992.

[2] Aggarwal, R and Prasad, J.,"Are individual differences German to the acceptance of new information technologies", decision sciences, Vol. 30, No. 2, pp. 361-391, 1999.

[3] Barrick, M.R., Mount, M.K,"The Big Five Personality Dimensions and Job Performance: A meta-analysis", Personnel Psychology, Vol. 44, pp. 1-26, 1991.

[4] Berthiaume, M., David, H., Saucier, J.F, Borgeat, F., "Correlates of gender role orientation during pregnancy and the postpartum", Sex Roles, Vol. 35, pp. 781-800, 1996.

[5] Brosnan, M.,"Technophobia, London: Routledge", 1998.

[6] Davis, F.D.,"Perceived usefulness, perceived ease of use, and user acceptance of information technology", MIS Quarterly, Vol. 13, pp. 319-340, 1989.

[7] Davis, F.D., Bagozzi, R.P, Warshaw, P.R.,"User Acceptance of Computer Technology: A comparison of two theoretical models", Management Science, Vol. 35, Issue 8, pp. 982-1002, 1989.

[8] Everton, W.J., Mastrangelo, P.M, Jolton, J.A.,"Personality correlates of employees' personal use of work computers", Cyber Psychology & Behaviour, Vol. 8, No. 2, pp. 143-153, 2005.

[9] Gutek, B.A.,"Women's work in the office of the future", In J. Zimmerman (Ed), The technological woman, New York, Praeger, pp. 201-215, 1983.

[10] Harrison, Allison. W, Rainer Jr., R. Kelly,"The influence of individual differences on skill in end-user computing", Journal of Management Information System /Summer, Vol. 9, No. 1, pp. 93-111, 1992.

[11] Igbaria, M.,"End-user Computing Effectiveness: A structural equation Model", OMEGA International Journal of Management Science, Vol. 18, Issue 6, pp. 637-652, 1990.

[12] Igbaria, M., Chakrabarti, A.,"Computer anxiety and attitudes towards microcomputer use", Behaviour and Information Technology, Vol. 9, pp. 229-241, 1990.

[13] Jans, N.A,"The nature and measurement of work involvement", Journal of Occupational Psychology, Vol. 55, pp. 57-67, 1982.

[14] Judge, Timothy. A, Ilies, Remus.,"Relationship of Personality to Performance Motivation: A Meta-Analytic Review", Journal of Applied Psychology, Vol. 87, No. 4, pp. 797-807, 2002.

[15] Kedia, B.L, Bhagat, R.S,"Cultural constraints on transfer of technology across nations: Implications for research in international and comparative management, Academy of Management Review, Vol. 13, No. 4, pp. 59-571, 1988.

[16] Korukonda, A.R.,"Personality, individual characteristics, and predisposition to computer anxiety: some answers, questions and points to ponder about", Information Sciences, Vol. 170, No. 2-4, pp. 309-328, 2005.

[17] Korukonda, A.R.,"Differences that do matter: A dialectic analysis of individual characteristics and personality dimensions contributing to computer anxiety", Computers in Human Behaviour, Vol. 23, No. 4, pp. 1921-1942, 2007.

[18] Lounsbury, J.W., Gibson, L.W.,"Personal Style Inventory: a work-based personality measurement system", Knoxville, TN: Resource Associates, 1998.

[19] Malouff, J. Schuttle, N., Bauer, M., Mantelli, D., Pierce, B., Cordova, G.,"Development and evaluation of a measure of the tendency to be goal oriented", Personality and Individual Differences, pp. 1191-1200, 1990.

[20] Mathieson, K.,"Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior", Information system research, Vol. 2, No. 3, pp. 173-191, 1991.

[21] Moore, G.C, Benbasat, I.,"Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation," Information Systems Research (2:3), pp. 192-222, 1991. (Accessed: 18th November, 2012)

[22] Mount, M.K., Barrick, M.R.,"The Big Five Personality Dimensions: Implications for research and practice in Human Resource Management", In Rowland, K.M. and Ferris, G. (Eds), Research in personnel and human research management, Vol. 13, JAI Press, Greenwich, CT, pp. 153-200, 1995.

[23] Oreg, S,"Resistance to change: Developing an individual differences measure", Journal of Applied Psychology, Vol. 88, No. 4, pp. 680-693, 2003.

[24] Rabinowitz, S., Hall, D.T.,"Organisational research on Job Involvement", Psychological Bulletin, Vol. 84, pp. 265-288, 1977.

[25] Rigopoulos, George, Askounis, Dimitrios,"A TAM framework to evaluate user's perception towards online electronic payments", Journal of Internet Banking and Commerce, December, Vol. 12, No. 3, 2007 [Online]. Available at: http://www.arraydev.com/commerce/jibc

[26] Robey, D. (1979),"User attitudes and management information system use", Academy of Management Journal, Vol. 22, pp.

166-179.
[27] Rosen, L.D, Sears, D.C., Weil, M.M,"Computer phobia, Behaviour Research Methods", Instruments & Computers, Vol. 19, pp. 167-179, 1987.
[28] Salgado, J.F,"The five-factor model of personality and job performance in the European community", Journal of Applied Psychology, Vol. 82, pp. 30-43, 1997.
[29] Shah, M.M, Hassan, R. Embi, R., Anxiety, C.,"Experiencing computer anxiety, Business, pp. 1631-1645, 2011.
[30] Sharma, Dhiraj, Gill, Tavleen Kaur,"Is Technology Stressful? (A Study of Indian Public Sector Banks)", International Journal of Computer Science and Technology, Vol. 6, Issue 1, 2015.
[31] Thompson, A.M., Brown, J.C., Kay, J.W., Titterington, D.M., "A study of methods of choosing the smoothing parameter in image restoration by regularization", IEEE transactions on pattern analysis and machine intelligence, Vol. 3, pp. 326-339, 1991.
[32] Tu, Quiang, Wang, Kanliang,"Computer-related technostress in China, Communications of the ACM - Transforming China, April, Vol. 48, Issue 4, pp. 77-81, 2005.
[33] Zmud, R.W.,"Individual differences and MIS success: A review of the empirical literature", Management Science, Vol. 25, pp. 966-979, 1979.

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