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Exploring Technostress: Results of a Large Sample Factor Analysis

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Abstract

With reference to the results of a large sample factor analysis, the article aims to propose the frame examining technostress in a population. The survey and principal component analysis of the sample consisting of 1013 individuals who use ICT in their everyday work was implemented in the research. 13 factors combine 68 questions and explain 59.13 per cent of the answers dispersion. Based on the factor analysis, questionnaire was reframed and prepared to reasonably analyze the respondents' answers, revealing technostress causes and consequences as well as technostress prevalence in the population in a statistically validated pattern. A key elements of technostress based on factor analysis can serve for the construction of technostress measurement scales in further research.

Keywords: ICT impact on employees, Assessment of Technostress; Human Resource Management; Factor analysis.

1. Introduction

The term „technostress" was proposed by a psychologist Craig Brod in 1984 [5]. The author described technostress as a health disorder of nowadays, arising from an individual's inability to rationally adapt to the environment filled with technologies [5]. Later on, technostress became an interdisciplinary field of research which is of interest to organization's theorists, scientists of management, psychology, information and technology management and various other fields. Many works are worth mentioning that explore the factors inducing stress and symptoms of technostress [2], [4], [35], [36], [1], [22], [40], [25], [26], confirm that technostress negatively affects efficiency and work satisfaction [35], [27], [42], [3], [38], analyze personal characteristics influence on the intensity of technostress [42], [8], reveal the symptoms of technostress and individual's reaction to technostress [28], [7], [37], [17], [27], [38], [34], [36], [9], [32], [6]; [15], [21], [16],[18], discuss impact of the leadership to the technostress [12]. Therefore, the research concentrate on several

fields: i) definition of technostress as a phenomenon; ii) examination of factors causing technostress (stressors); iii) research of technostress factor interactions and technostress effect in different populations. In spite of increasing number of technostress research, empirical measurements of technostress causes and consequences remain a field that lacks studying. In addition, even less authors are interested in the validation of technostress measurement questionnaire and creation of technostress evaluation instrument. Hence, our article is aiming to start filling this gap.

The penetration of information, communication and mobile technologies is extremely intense in Lithuanian organizations. The possibility to reach employees at home is especially favorable, because as much as 70 per cent of inhabitants in Lithuania have computers and access to the internet at home [19]. Therefore, it is purposeful and important to investigate the prevalence of technostress and its effect amongst the organization‘s employees. In order for the research results to be reliable, it should firstly be ensured that the research will invoke methodology which allows to reasonably forming the generalizations of the gathered data. This necessity gives origin to the purpose of the article – to identify the key factors causing technostress in a particular population. With reference to the results of a large sample factor analysis, the future research (both in practice and for scientific purposes) will be able to reasonably analyze the prevalence of technostress in a population and its effect on employees of different genders, age and marital status in Lithuania. Furthermore, our research enables the comparison of results with the results published by Tarafdar et al. [35], [36] and Fuglseth and Sorebo [13], and form conclusions verified in an intercultural context, which increases the scientific value of our research.

The limitations of the research are related to the characteristics of the investigated population and the factor analysis method. Theoretically, a possible outcome of a research conducted on another sample or in another population, the questions would be answered by representatives with very different characteristics than the ones we‘ve questioned. Due to this reason, the number and significance of the factors could differ. However, it is unlikely, because during our survey, a rather big and heterogeneous sample was questioned.

2. Technostress assessment issues

Hudiburg [14] and Rosen and Weill [30] were among the first authors who have methodologically researched technostress measurement capabilities.

Hudiburg [14] created The Computer Technology Hassles Scales and distinguished two subscales: Computer Runtime Problems and Computer Information Problems. These scales allowed to measure computer stressors. As it is seen from recent publications in the technostress field, some factors mentioned in the Hudiburg scales are still relevant nowadays (e.g. increased computer expectations, increased time demands, necessity to update skills) while others (from the subscale Computer Runtime Problems) are outdated.

The technostress measurement instrumentation proposed by Rosen and Weill [30] is used to measure people's anxiety, cognition and attitudes towards computers. The instrumentation consists of three scales: the Computer Anxiety Rating Scale (CARS-C), Computer Thought Survey Scale (CTS-C) and the General Attitudes towards Computer Scale (GATCS-C). With the help of these scales, Rosen and Weill [30] determined that 39 per cent of the population suffers from average or high level technostress (the researches were conducted in the Education sector). However, in the year 2012, using the same scales, Self and Aquilina [31] found that average and high technostress is experienced by 56 per cent of the population. It is obvious that technostress is becoming an increasingly relevant problem for a major part of the society.

The majority of modern technostress research is based on a technostress cause structure proposed by Tarafdar et al. [35], which consists of such components as techno-overload, techno-invasion, techno-complexity, techno-insecurity and techno-uncertainty. Regarding the transaction theory, some authors incorporate this structure into a wider model of research for technostress assumptions, causes and consequences [13], whereas others investigate only several components [41], [21].

It is most likely that the study of Fuglseth and Sorebo [13] best reflects the context of striving for the methodological reliability of technostress evaluation instrument. Authors [13] analyze the components of technostress with the help of factor analysis and a tool Mplus 6.1. The authors examine „Technostress creators", influencing „employee satisfaction with ICT use", as well as „Technostress inhibitors" (technical support provision, literacy facilitation, involvement facilitation), which directly affect not only the „employee satisfaction with ICT use", but also „employee intension to extend the use of ICT".

Other authors rarely seek to verify the content of components itself. However, some of them see a necessity to do so. For example, Yin et al. [41] creates a technostress evaluation model based on a few components distinguished by Tarafdar et al. [35]. The authors examines the effect of techno-overload and techno-insecurity to individual's job satisfaction and offer to supplement the model with external circumstances and individual's habits. The authors ground their model with a sample of 30 postgraduate students, and are planning to revise the measurement used in the following large-scale data collection process with the working professionals who use mobile, information and communication technologies in their work [41]. The authors are preparing to conduct a validation of research instrumentation.

On the other hand, the very components of technostress defined by Tarafdar et al. [35] may be discussed. For example, Hung at al. [15] investigates techno-overload effect to employees, but states that the negative effect is evoked not by the techno-overload, but rather communication-overload. This factor was not defined earlier. On the other hand, even Kupersmith [20] noticed that overcoming „information overload" is a real problem. Therefore, research of technostress factors does not lose their significance. As the validation of technostress assessment tool is not well explored in publications yet, it is a relevant field of research. As the time changes, technological literacy of individuals changes along with the attitude to

technologies in general. Thus, it is necessary to periodically investigate the content and dynamics of technostress factors.

3. Research methodology

Our research aims to identify key factors and their defining variables that determine technostress in a particular population.

The survey was conducted in two stages.

At the first stage, based on the analysis of scientific publications on the technostress, a questionnaire for evaluating the variables determining technostress was formed. Based on Tarafdar et al. [35], our survey was composed of eight segments: 1. *ICT in the organization.* Questions were given to find out the nature of ICT change in organizations and the importance of ICT for organizing the employees' work and collaboration; 2. *Properties of job assignment organization and accomplishment.* The questions in this segment were meant to ascertain how intensively is ICT used by employees' while performing their tasks; 3. *ICT and personal time.* Questions were formed that allowed to evaluate the employees' personal and work balance; 5. *Dependency on ICT.* The questions were given with a goal to identify if the organizations' employees have a choice of work tools and opportunity to decide whether to accomplish the daily work assignments with or without using ICT; 6. *ICT and self-consciousness.* In this segment, individuals were asked to describe their physical and psychological health state and typical behavior that, according to the respondents, is related with the use of ICT to accomplish daily assignments; 7. *Satisfaction in work and personal life.* These questions were used to find out how respondents evaluate their work and personal life quality, health condition, resources of inner energy; 8. *Socio-demographic data.* Respondents were asked to identify their age, gender, education, branch of activity of their represented organization etc.

The survey participants were offered a closed type questionnaire and asked to express their opinion by five-point Likert scale choosing between strongly agree, agree, neither agree nor disagree, disagree and strongly disagree, where the answer "Strongly agree" was evaluated by 5 points and "Strongly disagree" was evaluated by 1 point.

To verify the reliability of the questionnaire, Cronbach's alpha coefficient was invoked, which is used to verify that all questions of the questionnaire scale correlate with each other.

A survey population is based on the premise that every employee could use ICT for work purposes. On this premise, survey population composed of approximately 1,61 million individuals [24]. According to simple random sampling methodology a representative population should consist of a minimum of 384 respondents (for 95% reliability and 5% error). An inquiry of 71 questions was spread in the population with the help of a public opinion poll web-page. An invitation to participate in the survey was also distributed in social networks (Facebook, LinkedIn) and with chain e-mails.

1013 properly completed questionnaires were received. Table 1 presents the socio-demographic data of survey representatives.

		Frequency	Percent	Cumulative %
Gender	Male	290	28,6	28,6
	Female	723	71,4	100,0
Age	< 20	6	,6	,6
	20 – 29	503	49,7	50,2
	30 – 39	279	27,5	77,8
	40 – 49	144	14,2	92,0
	50 – 59	73	7,2	99,2
	60 – 69	7	,7	99,9
	70+	1	,1	100,0
Children	0	598	59,0	59,0
	1	200	19,7	78,8
	2	162	16,0	94,8
	3	46	4,5	99,3
	4	4	,4	99,7
	5	2	,2	99,9
	8	1	,1	100,0
Represented sector	Individual business owner	44	4,3	4,3
	Production	89	8,8	13,1
	Services and Facilities	514	50,7	63,9
	Commerce	73	7,2	71,1
	Education	142	14,0	85,1
	Public Administration	124	12,2	97,3
	Other	27	2,7	100,0
Role at organization	Head	140	13,8	13,8
	Professional	480	47,4	61,2
	Administration staff	215	21,2	82,4
	Operation staff	161	15,9	98,3
	Other	17	1,7	100,0

Table 1. Socio-demographic data of survey representatives.

At the second stage, the factor analysis was conducted on the basis of the data gathered during the research, which allowed to distinguishing groups in the array of questions-variables, called factors. One such factor includes variables strongly correlating with each other, but weakly correlating with other variables. This way,

every factor depicts the empirical connections between the variables. Factors insure significance to every variable, which may be used in connecting variables into integrated indexes. The number of factors is determined with *Kaiser* Eigenvalues rule as well as *Cattel scree* criterion. Hence, with the help of factor analysis, the factors causing technostress and their values were determined.

The data of the survey was processed using a program IBM SPSS Statistics.

4. Research results

Factor analysis enables distinguishing a series of groups in the array of variables, called components or factors. The grouping is done by calculating the correlation between variables. One component includes variables that strongly correlate with each other, but weakly correlate or do not correlate with other variables, which form other components.

Using methods of factor analysis, two types of objectives – exploratory and confirmatory - could be pursued. Based on the objective, the factor analysis is called exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

Exploratory factor analysis is applied when an array of variables is present and the number of components is unknown as well as what variables form them and if the variables are linearly related (collinear) in general.

In order for the data to be appropriate for factor analysis, they should correlate, e.g. be related with each other. Whether the variables are related with each other may be decided from the initial correlation matrix. The sampling adequacy for factor analysis is verified with using of Kaiser-Meyer-Olkin (KMO) measure and Bartlett‘s test of sphericity. These two methods conclude a minimal standard, mandatory before conducting factorial or principal component analysis.

KMO measure verifies if the partial correlation coefficients of the variables are low. If the value of KMO measure is low, the factor analysis of the explored variables is non-resulted. In such case, low value of KMO statistics shows that the correlation between pairs of variables is not explained through other variables. The KMO statistic varies between 0 and 1. A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. Field [11] claims that KMO measures lower than 0,5 are unacceptable. If KMO < 0,5, it is necessary to increase the sample or refuse a part of problem variables. The meanings of KMO values should be treated as follows: barely acceptable (bellow 0,5), mediocre (between 0,5 and 0,7), good (between 0,7 and 0,8), great (between 0,8 and 0,9) and superb (above 0,9).

It is also mandatory to verify whether there are statistically significantly correlating variable pairs observed at all [11]. This is shown by the Bartlett‘s test of sphericity. This test verifies null hypothesis which states that the variables of the population‘s correlation matrix are non-correlated, i.e. the correlation matrix is singular and the elements of its diagonal are equal to one and the rest are equal to zero (which means that the variables are no correlated). Factor analysis has no meaning when the p-value of this statistics is higher or equal than the selected significance level.

A principal component analysis (PCA) of the research data presented in this article was conducted on the 71 items with orthogonal rotation (Varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, a KMO value of 0,932 was obtained. This shows that the *sample adequacy for explored factor analysis is superb* (Table 2).

The analysis has also shown that the Bartlett's test of sphericity χ^2 (2485) = 34447,027, p< ,001 and is lower than the selected level of significance with a reliability of 95% and 99% (Table 2). Hence, a conclusion is made that *the data are adequate to conduct a factor analysis*.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,932
Bartlett's Test of Sphericity	Approx. Chi-Square	34447,027
	Df	2485
	Sig.	,000

Table 2. Survey data adequacy for factor analysis.

During our conducted factor analysis, 71 total components were distinguished. Therefore, the whole dispersion may be obtained through 71 rates (Table 3).

Table 3 lists the eigenvalues associated with each component (factor) before extraction, after extraction and after rotation and shows the dispersion of each evaluated component. The eigenvalues associated with each factor represent the variance explained by that particular component (in column Total).The column Percent of Variance concludes the whole dispersion in percent values. The eigenvalue of the first factor is 15,535. As this value is higher than 1,0, it means that the factor explains 15,535 times more dispersion than a separate variable. In percent values, the first factor explains 15,535/71 = 0,21881 or 21.881% dispersion. If the eigenvalue of a factor is less than 1, it explains less dispersion than a separate variable. In order to decide what number of factors should be retained, Kaiser's criterion was invoked. Kaiser's criterion is suggested to be used for investigation of factors the eigenvalues of which are higher or equal to 1. In our case, the number of such factors is 14.

After reducing the number of factors to 14, 60,605% of the initial data dispersion left. Field [11] states that the constituted factor model is applicable if no less of 50% of the initial variable dispersion remains. Hence, we may strongly claim that our factor model is appropriate.

The significance of the variable factor loading depends on the size of the sample. In case of sample size is 100, loadings higher than 0,512 are considered significant, while when a sample size is 1000, a factor must be higher than 0,162 to be held significant [33]. However, the most authors adhere to a more conservative treatment and state that a factor loading is significant when its absolute value is no less than 0,4. Thus, variables with factor loading less than 0,4 were removed. In addition, Rotated Component Matrix has shown that the 14th factor is only determined by one variable with a loading greater than 0,4. Therefore, we shall eliminate this factor.

Summing it up, we finally keep 13 factors the Kaiser‘s criterion eigenvalues of which are up 1 and which explain 59,130% of the initial data dispersion (Table 3).

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15,535	21,881	21,881	15,535	21,881	21,881	6,595	9,289	9,289
2	5,461	7,692	29,572	5,461	7,692	29,572	6,472	9,116	18,405
3	3,154	4,442	34,015	3,154	4,442	34,015	4,788	6,743	25,149
4	2,783	3,920	37,935	2,783	3,920	37,935	3,303	4,653	29,801
5	2,704	3,809	41,743	2,704	3,809	41,743	3,056	4,305	34,106
6	2,195	3,092	44,835	2,195	3,092	44,835	2,985	4,205	38,311
7	1,901	2,677	47,512	1,901	2,677	47,512	2,840	4,000	42,311
8	1,715	2,416	49,928	1,715	2,416	49,928	2,599	3,660	45,971
9	1,514	2,132	52,060	1,514	2,132	52,060	2,470	3,479	49,450
10	1,446	2,037	54,098	1,446	2,037	54,098	2,171	3,058	52,508
11	1,295	1,825	55,922	1,295	1,825	55,922	1,505	2,120	54,628
12	1,164	1,639	57,561	1,164	1,639	57,561	1,482	2,088	56,715
13	1,114	1,569	59,130	1,114	1,569	59,130	1,424	2,005	58,721
14	1,047	1,475	60,605	1,047	1,475	60,605	1,338	1,884	60,605
15	,990	1,395	62,000						
16	,941	1,326	63,325						
…	…	…	…						
70	,197	,277	99,742						
71	,183	,258	100,000						

Table 3. Principal Component Analysis.

The questionnaire scale internal consistency was evaluated using Cronbach's alpha coefficient, which evaluates whether all questions of the scale adequately reflect the investigated value and allow to specify the number of questions required in the scale. If the sum of dispersion of different questions is close to the dispersion of the whole scale, separate questions do not correlate with each other, i.e. they do not reflect the same thing. In this case, the questionnaire scale consists of random questions and Cronbach's alpha coefficient is close to zero. If the dispersion of the whole questionnaire scale is significantly higher than the sum of all questions dispersion, separate questions correlate with each other, i.e. reflect the same thing. In this case, Cronbach's alpha coefficient is close to one. Cronbach's alpha coefficient should be interpreted carefully, because its value depends not only on the strength of correlation between variables but also on the number of variables in a factor [23]. Various authors give different sizes of a coefficient for the scale to be reliable. The most mentioned minimal value of Cronbach's alpha is 0,7 [39]. If the scale is only used for a statistical analysis (as in our particular case), the authors suggest that Cronbach's alpha may be lower than 0,7, but it should nonetheless be around 0,5. However, if the constructs are of psychological nature, even lower values could be acceptable [11]. It is plausible that lower values of this statistics can be influenced by a lower number of variables in a factor. In table 4, low values of Cronbach's alpha are exactly related with a low number of variables. In our case, the Cronbach's alpha values of technostress factor scale fluctuate from 0,554 to 0,915 (Table 4). It can be stated that the internal consistency of technostress factor scales varies from average to very good.

The internal consistency of the scales is precisely evaluated by conducting a confirmatory factor analysis and calculating the average explained dispersion [10]. Nevertheless, the final validation of the scales is not an assignment of this research.

	L	%	α
F1. The influence of leadership and job management on employee commitment			
I think that I should find a work with lesser work load and more honest work load accounting	,770	21,881	0,915
I care less about the organization's results and success	,737		
I think that I work a lot more than I am evaluated in terms of salary	,734		
I wish my leaders would "enjoy" my emotional state as mine when accomplishing their commitments	,720		
I am starting to feel being exploited by the organization	,698		
It begins to seem that some co-workers work a lot less than me	,677		
I got irritated at my leaders who cannot regulate the work load effectively	,666		
I have to time to worry about my random mistakes in my work	,597		

I think that I sacrifice too much of my personal time for the work	,583		
I feel that inspiration and initiative comes increasingly rarer in my work	,580		
I have to be extremely concentrated in order to reduce the lateness of work accomplishment to a minimum	,492		
F2. The effect of work intensity to psycho-emotional state			
After work day, I am annoyed by my family requiring my attention	,756	7,692	0,912
After work day, I have no energy to take on "household" activities	,720		
After work day, I feel exhausted from communication and do not want to speak with anyone	,719		
After work day, I have less desire to meet my friends	,708		
I am annoyed by having household commitments after an intensive day at work	,704		
After work day, I get irritated from noise, e.g. TV, radio, household chore sounds, noise of children or neighbours	,685		
I begin to make mistakes in work assignments	,628		
More and more often I feel irritated and nervous	,619		
I notice that I work slower although I dedicate all time on the computer for work	,586		
I feel hatred towards e-mail, computer and other ICT related to work	,473		
At night, I think to whom to contact and what assignments to accomplish, thus my sleep is superficial	,413		
F3. Satisfaction in individual life			
Satisfaction in time dedicated to socializing with my family and relatives	,783	4,442	0,886
Satisfaction in balance of work and personal time	,777		
Satisfaction in my personal life in general	,726		
Satisfaction in time for socializing with my friends	,722		
Satisfaction in the reserves of my inner energy	,718		
Satisfaction in my health state	,691		
Satisfaction in my job results	,545		
Satisfaction in my work situation	,539		
Satisfaction in ICT which I use for work	,495		
F4. The dependence of assignment accomplishment on ICT			
All the required information in my work is shared through ICT networks – internet or intranet	,769	3,92	0,794
The absolute majority of internal communication processes in my work take place with the help of ICT	,739		
In more than 50 per cent of the cases, the external communication in my work (e.g. with clients) takes place with the help of ICT	,715		
I keep my documents and other information required for work in my computer or digital media	,646		

The possibilities provided by the computer has changed paper documents, telephone, fax and many other work means in my work	,566		
I could not accomplish my duties without a computer	,555		
F5. Intensity of everyday work			
I cannot unambiguously identify the beginning and the end of work stages because new tasks appear with every e-mail or phone call	,736	3,809	0,782
My work routine is very intense. I always work through several channels: e-mail, document management programs, phone etc.	,701		
In order to cope with the amount of assignments, I have to work quicker than before	,691		
Due to the ICT use in my work I experience work overloads, i.e. I get more assignments than the official time dedicated to them	,615		
My organization's employees are expected to accomplish more assignments in the same period of time due to progress of ICT.	,517		
F6. Physical wellbeing			
I suffer headache which do not fade without taking drugs	,686	3,092	0,816
I am troubled by unpleasant unexplainable physical symptoms and health disorders	,675		
I suffer spine and nape pains	,668		
I suffer eye pains	,592		
I feel that I lack physical energy more and more often	,528		
F7. Socioemotional effect of work out of working hours			
Working from home after working hours or during weekends irritates my relatives	,818	2,677	0,845
When I have to work from home after working hours, it makes me irritated	,792		
Working after working hours harms my family and relation with my friends and relatives	,753		
Although ICT provides me with a possibility to accomplish urgent assignments in the evenings, on weekends and during vacation, it reduces the quality of my personal life	,723		
F8. Practice of working after working hours			
I check my email during weekends, vacation and in the evenings after work hours	,762	2,416	0,743
I can decide to work from home. The organization motivates such practice	,693		
I have a possibility to work from home if I am ill, have to look after an ill child and so forth.	,691		
If I did not dedicate any time for work during weekends, I would face a huge avalanche of e-mails and messages at work on Monday	,684		
F9. Intensity of ICT update and necessity of life-long learning			

The organization constantly renews computers, updates software and hardware	,760	2,132	0,719
Our organization annually installs a new program to communicate, cope with assignments (e.g. plan, execute projects) etc.	,731		
Almost everyone in our organization uses the newest ICT at work	,686		
The structure of organization's website is changed or edited every year	,502		
F10. The requirements of time resources for work with ICT			
I spend a lot of time in order to learn how to use the technological novelties required for everyday work	,714	2,037	0,668
Sometimes I feel outpaced by younger colleagues in the field of technologies as they work with ICT faster than me	,655		
I do not have enough time to get accustomed to all ICT novelties beneficial in my work and use the new technical possibilities	,624		
F11. Organization's activity in social networks			
The organization has its account in social networks	,781	1,825	0,583
The organization's policy indicates that employees should represent the organization in social networks, e.g. LinkedIn, Facebook etc.	,778		
F12. Networking at work			
We have a joint catalogue in the internal network, where all official documents are held	,757	1,639	0,670
In my organization, employees execute some particular assignments in the internal organization's network, e.g. fill out reports, prepare documents, upload or download information, exchange data etc.	,732		
F13. The influence of knowledge and skills on the accomplishment of assignments			
I must constantly update my knowledge of ICT in order to successfully accomplish my duties	,545	1,569	0,554
I have to be able to use the ICT in my organization in order not to get sacked for not accomplishing assignments	,488		

L – factor loadings, % - percentage of variance explained, α – Cronbach α value
KMO measure of sampling adequacy = 0,932, total variance explained = 59,130%.

Table 4. The results of technostress factor analysis.

5. Conclusions

During the technostress factor research, a survey consisting 71 question was prepared based on the theoretical analysis in the field. After a factor analysis of the sample consisting of 1013 individuals who use ICT in their everyday work, it became clear that 13 factors combine 68 questions and can explain 59.130 per cent of the answer dispersion. These factors are: the influence of leadership and job management on employee commitment; the effect of work intensity to psycho-

emotional state; satisfaction in individual life; the dependence of assignment accomplishment on ICT; intensity of everyday work; physical wellbeing; socio-emotional effect of work after working hours; practice of working after working hours; intensity of ICT update and necessity of life-long learning; the requirements of time resources for work with ICT; organization‘s activity in social networks; networking at work, and the influence of knowledge and skills on the accomplishment of assignments.

Factor analysis enabled to reframe the questionnaire and to plan to analyze the respondents' answers, revealing the causes of technostress as well as its consequences and prevalence in the population in a statistically validated pattern. Having distinguished the factors of technostress we can analyze their dependence on the respondents' age, gender, family status, role at organization, and emergence of technostress in the particular sector. The research created a possibility to clarify and - most importantly - to influence the phenomenon of technostress in practice.

The key factors of technostress based on factor analysis can also serve for the construction of technostress intensity measurement scales in further research.

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