

INFORMATION: STRESS OR LIFESTYLE

INFORMACIJA: STRES ILI STIL ŽIVOTA

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Abstract

Communication is a process of information exchange between stakeholders, so it is not surprising that the life of each individual changes with time under the influence of information. Information, as part of our habit, enables the individual to be more agile in both everyday living and business sphere. One of the significant impacts on the process of receiving and processing information is the appearance of the Internet. The aim of this paper is to show that it is the Internet that has increased the flow of information that a person can absorb and that the internet affects the changes in society. Furthermore, the paper suggests that information overload is increasing at work and out of work, which is reflected and influences everyday life. Due to the flood of information, there is also a sense of information fatigue, which represents a syndrome, i.e. apathy, indifference and mental exhaustion resulting from exposure to too much information. /1/ Based on the research on a sample of 164 respondents, this paper confirmed hypothesis that information anxiety differs with age. Since the internet occupies an increasingly important role among its users, features of application are indicated. An explicit indicator is the synergy of the internet usage and possessing knowledge regarding ICT application.

Sažetak

Komunikacija je proces razmjene informacija između dionika, stoga ne iznenađuje činjenica da se život svakog pojedinca s vremenom mijenja pod utjecajem informacija. Informacije, kao dio našeg habitusa, omogućuju pojedincu da bude agilniji kako u svakodnevnom življenju tako i poslovnoj sferi. Jedna od značajnih utjecaja na proces primanja i procesuiranja informacija je pojava interneta. Cilj je ovoga rada prikazati da je upravo internet povećao dotok informacija koje osoba može apsorbirati i da kao takav utječe na promjene u društvu. Također, radom se ukazuje da se preopterećenje informacijama povećava na poslu i izvan posla, što se odražava i utječe na svakodnevni život. Uslijed bujice informacija dolazi i do osjećaja informacijskog zamora koji predstavlja sindrom odnosno apatiju, ravnodušnost te mentalnu iscrpljenost koje proizlaze iz izloženosti prevelikoj količini informacija /1/. Ovim su radom na temelju istraživanja na prigodnom uzorku od 164 ispitanika potvrđene hipoteze da se informacijska tjeskoba razlikuje s obzirom na dob sudionika. Budući da internet zauzima sve značajniju ulogu među svojim korisnicima upućuje se na značajke uporabe. Kao eksplicitni pokazatelj je sinergija korištenja interneta i posjedovanje znanja u primjeni IKT-a.

1. INTRODUCTION

We live in a time in which every individual's life, but also the society as a whole, is under the influence of technology and computerization. The development of

Information and Communication Technologies (ICT) has led to an exponential increase in the amount of information /2/, which through the internet and social networks affects all spheres of human life. Namely, ICT is a combination of

technological tools and resources used for communication and the creation, storage and use of information /3/.

Research shows that communication is the most significant feature of the present age and is indispensable for the conduct of all social processes /3/. Communication is a process of transferring information and mutual understanding from one person to another /4/, but using ICTs, new communication models are emerging, which, apart from face-to-face communication, require knowledge of the forms of written communication, the so-called information literacy /3/. Information literacy enables individuals to actively participate in the information society, and is comprised of a set of knowledge, attitudes and skills related to the recognition of information needs, access to the necessary information and their valuation, use and creation of information in a legitimate and ethical manner with respect for human rights with the goal of meeting personal, professional and social goals /5/. Furthermore, the Internet as a source of knowledge and diverse information satisfies the need to expand one's own knowledge, while social networks provide the opportunity of fulfilling affiliation motives, the need for acceptance, love, and self-determination. However, apart from the undisputed advantages of using the internet and the availability of information, research has also indicated the negative aspects of internet's usage /6/.

The media revolution enabled not only access to, but has also contributed to, various programs and media from home, work and on the move, without physical limitations. There is no need to wait for the information, they are everywhere. This has led to the condition that people are constantly networked and involved /2/. But, due to the flood of information, there is a sense of information fatigue that is syndrome or apathy, indifference and mental exhaustion that arise from exposure to too much information. In addition, stress is triggered by attempting to filter excessive amounts of information from the media, network, or workplace /1/. Namely, information overload is

a condition in which the individual's efficiency is hampered by the amount of available and potentially useful information that he/she needs /7/, information which are not sufficiently filtered /8/. The feeling of being overloaded is usually associated with loss of control over the situation and overwhelming information, which ultimately can lead to health damage /7/. Information overload causes tension, stress and confusion because if one receives too much information, he/she cannot use them properly. One of the consequences of such behaviour is informational anxiety /8/, which is a state of stress caused by the inability to access, understand and use the necessary information /7/. People fear they will not be able to filter all the relevant information and that they will not be able to evaluate the information during the search, causing them anxious feelings /8/. However, although information overload is an extremely negative aspect of using the Internet, a lot of information makes us enriched with a wealth of knowledge, which was previously rare and difficult to acquire. This has also reflected on the society as a whole since it has become networked and utilizes stylized communication /9/. This refers to changes between generations.

New technologies change access to information and thus strongly influence the direction and content of socialization of youth /10/. Some authors point out that today's generation of young people is so "immersed" in the media environment and the virtual worlds of networked and digital technologies that it makes that generation significantly different from all previous generations /11/. Accordingly, it is possible to make distinctions between "the Veterans", "Baby-Boom Generation", "Generation X", "Generation Y", "Generation Z" and the most recent "Generation Alpha" /12/.

Generation X includes individuals born between 1960 and 1980 /13/. They are also called the Latchkey generation, named after the American phrase *latchkey kid*, which is a feature of children who come to an empty house from school because their parents are at work and they are alone without parental control /14/.

Generation X is characterized by resilience and independence. They understand technology and are trying to synthesize a variety of information in order to gain knowledge and understanding /13/. They learned to communicate in a real world without digital technologies /12/. Furthermore, their successors are Generation Y, digital generation, i.e. the "millennials" born between 1980 and 1995. Generation Y is the first "global" generation, and its members have similar characteristics regardless of their country of origin /13/. They are networked and active 24 hours a day and have positive attitudes towards change /15/. Generation Y is the first generation that grew up with technology and they have reached the culmination of ICT usage in adolescence when, according to research, almost everyone used computers /14/. People who have grown up with technology process information differently, develop hyper-extensive ways of thinking, and tend to jump from topic to topic /14/. Next, Generation Z has grown up surrounded by a wealth of technical devices connected to the Internet, virtual reality, and various sources of information such as Google and social networks /16/. Its members are born between 1995 and 2010, they grew up with wireless technology and they are innovative and creative and want to influence society /13/. They are beginning to learn from the earliest age because information is available to them everywhere and they communicate the best among themselves via the internet /12/. Their successors are Generation Alpha whose common characteristics can only be guessed. According to the above, in order to see if there are differences between generations in using the internet and factors related to the internet, the following hypotheses are set:

H1: Information anxiety differs between Generation X and Generation Y,

H2: Frequency of internet usage increases with better ICT skills.

2. METHOD

The data collection process was conducted by an anonymous survey questionnaire and the

data were analysed at group level in order to determine the consequences of information that may be incurred in persons employed in the public sector. The study was conducted on a suitable sample of 164 participants, of which 154 (94%) were females and 10 (6%) were male. The age span of participants is from 23 to 58 years, and participants were subsequently divided into groups in terms of generation, i.e. Generation Y includes those who are 23 to 38 years old, while Generation X includes those participants aged between 38 and 58 years. In the first group, there were 85 (52%) participants, and in the second group 79 (48%) participants. All data collected based on the survey questionnaire are processed in the IBM SPSS Statistics program. In addition to the socio-demographic features, the questionnaire contained items that examined the degree of information overload, the impact of information on the individual, the influence of the Internet on information anxiety, and the reduction of information overload. The individual items were constructed according to a 5-point Likert scale. In data processing, descriptive statistics and parametric tests for independent groups (t-test) were applied. Results based on quantitative analysis provide constructive conclusions that represent significant scientific input and provide guidelines for future research. During the research implementation, the basic principles of research ethics were respected, and the subjects were previously explained the aim and purpose of the research.

3. RESULTS

In order to test the hypotheses, the participants are divided into groups by age considering whether they belong to Generation Y or Generation X. Thus, Generation Y included participants who are 23 to 38 years old, while Generation X included participants who are 38-58 years old.

The following tables show descriptive statistics related to information overflow affecting the changes in society as well as the daily life of an individual, both private and business.

	N	Almost always %	Often %	Sometimes %	Rarely %	Never %
How often do you feel that there is much more relevant information on a specific topic than you can normally process, absorb?	164	3.6	43.6	47.9	3.0	1.2

Table 1. Descriptive data on information flow increase

Most participants report that they often (44%) and sometimes (48%) feel that there is much more relevant information on a specific topic than an individual can handle.

	N	Yes%	Yes, a bit%	No%
Have you heard of information overload before this questionnaire?	164	66.7	28.5	4.2

Table 2. Descriptive data on knowledge of the term information overload

Prior to this survey questionnaire, 67% of participants heard of information overload, while only 4% had never heard of the term.

	N	Yes%	No%
Do you think information flow into your life has increased since the introduction of the Internet?	164	95.8	3.6

Table 3. Descriptive data on information flow increase since the introduction of the internet

The modern society and the development of the internet provides an individual with a lot of information, which results confirm, almost all participants (96%) believe that information flow has increased in their lives since the introduction of the internet, while only 4% of them think otherwise, i.e. contrary.

	N	Lack of individual knowledge on how to cope with information overload %	Big changes in Society that cannot be solved on a personal level %
Do you think information overload is more related to	160	31.5	65.5

Table 4. Information overload connections

Table 4 shows that participants feel that information overload is more related to society as a whole than to an individual. As much as 66% participants believe that information overload is associated with major changes in society that an individual cannot influence and cannot be solved at a personal level, while 32% think that information overload is still associated with a lack of knowledge about the phenomenon.

	N	At work %	Out of work %	At work and out of work %	Nowhere %
Have you experienced information overload?	163	23.0	9.7	53.3	12.7

Table 5. Experience with information overload

Table 5 also indicates that information overload is widespread, i.e. more than half of the participants (54%) reported having experienced information overload both at work and out of

work. Fewer participants (23%) have experienced information overload at work only and 10% out of work.

	N	I have difficulties difficulty with making decisions because of too many conflicting sources of information %	When I look for information, I feel that there is much more information for which I do not have enough time and I am not able to process them %	The amount of information I receive confuses me; building knowledge from information takes too long %
How does information overload affect your life?	156	13.9	74.5	6.1

Table 6. Indicators of how information overload affects the life of an individual

How information overload can affect an individual's life, it can be seen from Table 6. Most participants (75%) report that they feel that there is much more information for which they do not have enough time and are unable to

absorb them, while a smaller percentage (14%) have difficulties with making decisions because of too much contradictory information or amount of information that confuses them (6%).

	N	I filter out all the unnecessary information %	I filter out all the unnecessary information, but I have the feeling that much information is still reaches me %	I filter out all the unnecessary information, but I do not feel that the remaining information is a problem %
How do you cope with the flow (inflow) of information in modern society?	164	27.3	49.7	22.4

Table 7. Strategy for coping with information flow

The table above shows that regardless of filtering all the unnecessary information, 50% of participants still feel that there is still a lot of information available to them, 27% say they

filter out all the unnecessary information, while 22% filter out all the unnecessary information but at the same time do not feel that the remaining information are an issue.

	N	Yes %	No %
Do you feel that you have a control over information flow in your life?	164	74.5	24.2

Table 8. Data on the opinion regarding information flow control

The majority of participants (75%) think they have a control over the information flow in their society, while 25% of them do not believe they can control it.

	N	When actively looking for information on a particular topic %	When information reaches you even when you do not search for them %
Would you say that information overload is stronger:	163	58.8	40.0

Table 9. Impact on information overload volume

When actively seeking information on a particular topic, 59% of participants think that information overload is stronger, and 40% think that information reaches them even when they are not looking for them.

	N	Yes%	No%
Do you sometimes interpret a large amount of information surrounding you as a "noise"?	164	77.0	22.4

Table 10. Data regarding the existence of large amounts of information

A higher percentage of participants (77%) feel that a large amount of unwanted information can sometimes be described as a noise, which creates a distraction from relevant information.

	N	Ease of spreading information over the Internet %	Increased number of channels for information transfer %	Inability of an individual to control the information he/she receives every day %	The fact that the amount of information available is constantly increasing, while our ability to process them does not increase at the same rate %
Which of the following facts do you consider to have the greatest impact on information overload:	161	16.4	38.2	17.0	26.1

Table 11. Impact on information overload creation

As an effect on information overload, 39% of participants believe it is an increasing number of channels for information transfer, 26% of participants believe the fact to be that the amount of information available is constantly increasing, while the human ability to process them does not increase at the same rate.

To test the significance of information anxiety with respect to the age of the participant, a t-test was used to test whether there was a difference between the two arithmetic means. The results obtained are shown in Table 1.

	group	N	M	sd	t	df	p
I always feel anxious while using the internet	Generation Y	84	1.798	.979	-.621	159	.536
	Generation X	77	1.900	1.033			
I find ways to avoid using the internet	Generation Y	84	1.821	1.077	-1.666	158	.098
	Generation X	76	2.118	1.177			
I easily use the internet	Generation Y	84	4.405	.778	3.844	159	.000 *
	Generation X	77	3.857	1.02			
It is important for me to purposefully use the internet	Generation Y	84	4.607	.491	1.641	159	.103
	Generation X	77	4.441	.769			
While I use the internet. I worry more than I should	Generation Y	84	2.143	1.194	-2.457	159	.015 *
	Generation X	77	2.623	1.287			

Table 12. Generational differences in the level of information anxiety

There were statistically significant differences in the level of information anxiety with regard to classification of participants into two groups. Generation Y (M = 4.405, sd = .778) reported that their use of the Internet was easier than Generation X (M = 3.385, sd = 1.02) (t = 3.844

with df = 159, p <0.05), while Generation X (M = 2.623, sd = 1.287) worries more than necessary when using the internet (t = -2.457 with df = 159, p <0.05) as opposed to Generation Y (M = 2.413, sd = 1.194). This partly confirms Hypothesis 1.

	Self-assessment of ICT skills	N	M	sd	t	df	p
I always feel anxious while using the internet	Good	89	1.775	.962	-1.035	156	.302
	Poorer	69	1.942	1.056			
I find ways to avoid using the internet	Good	89	1.798	1.057	-2.178	155	.031*
	Poorer	68	2.191	1.200			
I easily use the internet	Good	89	4.315	.924	2.915	156	.004*
	Poorer	69	3.884	.916			
It is important for me to purposefully use the internet	Good	89	4.618	.489	2.071	156	.040*
	Poorer	69	4.406	.792			

While I use the Internet, I worry more than I should	Good	89	2.258	1.310	-1.451	156	.149
	Poorer	69	2.551	1.182			

Table 13. Differences in information anxiety with regard to self-assessment ICT skills

Table 13 shows that those who consider their ICT skills to be poorer more often found ways to avoid using the internet ($M = 2.191$, $sd = 1.200$) than participants who consider their ICT skill to be good ($M = 1.798$, $sd = 1.057$). While on the other hand, those who have assessed their ICT skills as good report they use the internet more easily and that it is important for them to use it purposefully, as opposed to those who claim to have weaker ICT skills.

To test the second hypothesis, t-test was also used and participants were divided into two

groups with regard to their self-assessment of ICT skills. Originally the item that examined ICT skills was constructed with 5 degrees (excellent. very good. good. average and bad), which was later transformed in 2 degrees to make the groups equal in number and to make the interpretation easier. The participants were divided into two groups, i.e. those who had self-assessed their ICT skills as good and those who assessed them as weaker. Furthermore, the item "I am different from other internet users" has been transformed to match the rest of items.

	ICT skills self-assessment	N	M	sd	t	df	p
As internet user I would describe myself	Good	89	4.348	.755	-3.465	154	.001 *
	Poorer	67	3.881	.930			
I am similar to other internet users	Good	89	3.674	.939	1.651	154	.101
	Poorer	67	3.420	.987			
Other internet users are like me	Good	89	3.135	1.024	.555	154	.580
	Poorer	67	3.044	.980			
I am different from other internet users	Good	89	3.112	.898	-.002	158	.998
	Poorer	71	3.113	.820			
I feel emotionally connected with other internet users	Good	89	2.112	1.070	-.245	157	.672
	Poorer	70	2.186	1.094			
I feel part of the internet community	Good	88	3.341	1.092	2.910	155	.004 *
	Poorer	69	2.826	1.110			
I use the internet whenever I have a chance	Good	88	3.909	1.035	2.716	157	.007 *
	Poorer	71	3.437	1.155			
I love people who often use the internet	Good	88	2.977	1.134	1.434	157	.154
	Poorer	71	2.732	.985			

Using the internet is a very important aspect to me	Good	89	4.169	.843	2.481	158	.014 *
	Poorer	71	3.859	.703			

Table 14. Differences in self-assessment of feelings as an internet user with regard to personal assessment of ICT skills

Hypothesis 2 is partially confirmed by the fact that there is a statistically significant difference between groups that self-assess their ICT skills as good or poorer with respect to their own feelings as Internet users. Participants who evaluate their ICT skills as good described themselves as internet users more often (M = 4.348, sd = .755), are more likely to feel part of

the internet community (M = 3.341, sd = 1.092), they use the internet more when they have a chance (M = 3.909, sd = 1.035) and consider the use of the Internet to a very important aspect to them as employees (M = 4.169, sd = .843), unlike participants who estimated their ICT skills as poorer.

	N	Increasing ICT quality %	Teaching skills needed to find, evaluate and use information %	Social and cultural changes in use of information %
Which of the above, in your opinion, will contribute the most to the reduction of information overload problem?	162	10.9	63.0	24.2

Table 15. Participant opinion on what contributes the most to the reduction of information overload problem

As the most important item that would contribute to reducing information overload, participants (63%) consider teaching skills needed for finding, evaluating and using information, i.e. information literacy, while others (25%) believe that social and cultural changes in use of information will contribute to the decline of the problem and 11% believe that increasing ICT quality will contribute to reducing information overload problem.

4. DISCUSSION

Finally, the results in this study confirmed the existence of information overload that has surely increased since the introduction of the internet. Fast growth of the internet, as well as better access to information on the internet, only underscored the problem of information overload in the modern world. Participants report that they believe there is much more relevant information on a specific topic than an individual can handle and that the information flow since the introduction of the internet has increased. Similarly, Edmunds and Morris (2000) claim that although there is a high availability of information, it is difficult to

obtain useful and relevant information when needed. Most of the participants in this research have heard about information overload and have personal experience with information overload both at work and outside work. Information overload, it can be said, is a natural and inevitable human condition /7/ that has an impact both on a personal and business level. The research carried out on managerial jobs found that employees believed that information overload had an impact on job satisfaction reduction, has deteriorated their personal relationships and their health, and important decisions were postponed due to too much information /18/. Similar results were obtained in this research where participants considered that there is too much information for which they do not have sufficient time, they have difficulties in making decisions because of too much contradictory information or are confused due to large amounts of information. Regardless of filtering the information that people use in the flow of information they read or hear, half of the participants still have the feeling that a lot of information still reaches them, which creates a feeling of anxiety.

Research has shown that one of the strategies for effectively addressing or reducing information overload is to establish control over the amount of information /19/. A positive aspect is that the participants in this research have estimated how they have control over the flow of information in their society, but regardless, some participants still feel that they have no control. On the other hand, although they feel that they are in control, when searching for certain information, most people feel that information overload is stronger and that unwanted information still distracts their attention from the relevant information. Participants link information overload more with significant changes in society which individuals cannot influence and cannot be solved at the personal level, thus placing a lesser emphasis on personal knowledge i.e. ignorance regarding the strategies and the ability to cope with available information.

The existence of information anxiety among the participants in this research has been confirmed. Generation X feels a higher level of information anxiety than Generation Y. Generation X is more reluctant to use the Internet and while using the Internet worries more than necessary, thus confirming statements regarding these generations and their use of the internet and other technologies that are mentioned in the introduction.

The second hypothesis in the research was that use of the internet increases with better ICT skills, which is confirmed. That is, participants who evaluated their ICT skills as good feel as internet users and part of the internet community more, they use the internet more and consider the use of the internet as a very important aspect of their lives. We also compared information anxiety with regard to ICT skills and it was determined that those who consider their ICT skills to be poorer feel a higher level of information anxiety, i.e. they seek ways to avoid internet usage, while such results were not found among participants who assessed their ICT skills as good.

Other studies on improving and reducing information overload include the

implementation of a more developed information approach, focusing on the information format, information quality and the amount of information /19/, reduction of information duplication, managing information management strategies and providing value added information, i.e. software filtering /17/. Similarly, this research has highlighted teaching skills that are needed to find, evaluate and use information as the most important item to reduce information overload.

Finally, as is apparent from this research, the emphasis is placed on Generation X and Generation Y, which has shown that there are differences in the use of the internet and ICT skills, so the recommendation for future research is to include other generations as well. As mentioned in the paper, the latest generation are Z and Alpha and they have grown up with technology, they are networked 24 hours a day, and communicate via the internet the most, thus indicating that information and use of ICT is a lifestyle for them.

5. CONCLUSION

Information in terms of communication is in all social spheres, they are part of life and as such leave consequences on each individual. This work in the theoretical part shows the negative and positive aspects of information flow. Differences are manifested in generational domains, which is confirmed by applicative, but also with research part of this paper. In the research part the authors clearly present the features of the internet which is a link in information flow and as such marks the present society. The society in which ICT's are currently actively being consumed by four generations is becoming aware of the consequences, but also the inability to live without such speed of information flow, which implies a more frequent use of the internet. ICT knowledge, which is evolving faster and requires constant improvement of knowledge in society, should not be ignored.

Therefore, it is emphasized that the process of receiving and exchanging information is differentiated as a lifestyle or stress and as such depends solely on the age of respondents,

which also confirms the purpose and hypotheses of this research. Following all this, it is concluded that the consequences of frequent, rapid consumerism of a multitude of information cannot be neglected both in business sphere and in private operations. It can be said that the impressions and the expression of an individual in the society under the influence of the said are forming a new social era under the umbrella of ICTs.

Notes

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