Threats Associated with Digital Technology in the Workplace
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Abstract:

Purpose: The study aimed to identify the phenomenon of dependence on technology (Internet and social media) of employees and the impact of dependence on their work.

Approach/Methodology/Project: As a research method, an analysis of the literature and own statistical research was used to identify the problem of employee dependence and the impact of this dependence, and the reasons why it happens.

Findings: It was found that employees who use the Internet and social media, and games for 3 to 5 hours are aware of addiction and that this has an impact on the quality of work, with as much as 50% claiming that they do not neglect their work duties and blaming the excessive use of media for tedious work, aversion to work, lack of concentration, poor work organization and lack of clearly defined duties.

Practical Implications: The research should raise concerns in employers and the need for some organizational changes. The research has shown the need for further exploration to estimate the losses incurred by employers and determine the impact on the economic efficiency and effectiveness of the entity.

Originality/Value: The survey is original, has not been conducted in this form so far; it provides essential knowledge on the behavior of employees using electronic media and possible consequences for employers.

Keywords: Labor-economics, threats, digital technologies, health, security, addictions.

JEL classification: I15, J59, O33.

Paper Type: Research study.

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1. Introduction

In the modern world, we observe a worrying tendency to overproduce information - this has repercussions in its poor assimilation. Every piece of information requires the recipient's attention, while its excessive wealth causes a lack of attention and the need to effectively distribute it among the excessive sources that can consume it (Herbert, 2009). I have evoked these reflections because they illustrate one of the most significant challenges people (employers) face using digital technologies. Digitalization in the workplace has undoubtedly brought several benefits - companies benefit from solutions that improve productivity and reduce expenses. Employees have gained more flexibility and better tools to do their work, but it must be stressed that technology affects our mental condition.

Based on the available research, it should be noted that on the one hand, it provides comfort at work, and on the other hand, it hurts health. Examples of health consequences resulting from the use of digital technologies can be problems with concentration, creativity, ability to sleep well, which in turn, in a specific perspective, affects, for example, the financial result achieved by the organization. This is confirmed by Hult International Business School's exciting study in 2016, which found that it costs companies $2,280 a year to sleep-deprived employees. Without sufficient rest, employees' ability to communicate and solve problems effectively decreases, reduces the company's efficiency, and generates other costs, such as health care.

2. Digital Technologies Are Changing Working Environments

In 2019 the Internet was used by 99.6% of all enterprises in Poland. In many industries, employees will use computers, internal networks (intranet), the Internet, and even social media (Figure 1) to perform their duties. Contemporary employees are facing (Mercer, Global Talent Trends 2018):

⇒ the "disappearance" of jobs - only half of today's key jobs will remain the same - automation - until 2022,
⇒ task reduction - employees lose interest in the job because optimized processes and scripts dictate every action,
⇒ turning away from human relationships - in the pursuit of time and cost savings, many have decided that it is easier to interact with automated systems and robots than with colleagues, customers, or suppliers,
⇒ reliance on technology - thanks to stable versions and the introduction of new technologies, employees must adapt continually; they feel like they are following an endless cycle.

All of the above features are conducive to the generation and intensification of stress in employees. Also, there are cybersecurity and data protection problems, which are also a stress factor, although these threats are assumed to have external sources

(criminal hackers), most of the data security risks arise from how companies manage their data human factor plays a primary role. It is critical to establish policies, practices, and training on acceptable use, data storage, systems, and property protection. The problem here is employee's behavior that results from misuse by employees of, e.g., social media. It should be noted that if there is a link between the content published by an employee on the Internet and his employer, especially if the presented content is harmful to the company, such conduct may be the basis for the implementation of disciplinary proceedings against the employee until termination of employment (Workplace Security Report, 2020).

Foresight reports (Future Networks Team, Huawei Technologies) indicate trends leading to a change in the physical work environment, which is increasingly and will be "saturated" with the Internet of things and other intelligent functions (artificial intelligence and robots). The working environment will be transferred from a fixed location to a continually changing variety of so-called working areas. Employers' requirements and expectations regarding the knowledge and competence of employees will also increase, especially in dealing with the evolving technology and social stress related to it (Świeboda, 2015; Kuczabski and Świeboda, 2019). It should be emphasized that the work performed is influenced by the behaviors and habits of employees who use various technologies outside work, those defined by digital addictive technologies.

Figure 1. *Employees using computers in enterprises by type of activity in 2019 in Poland*
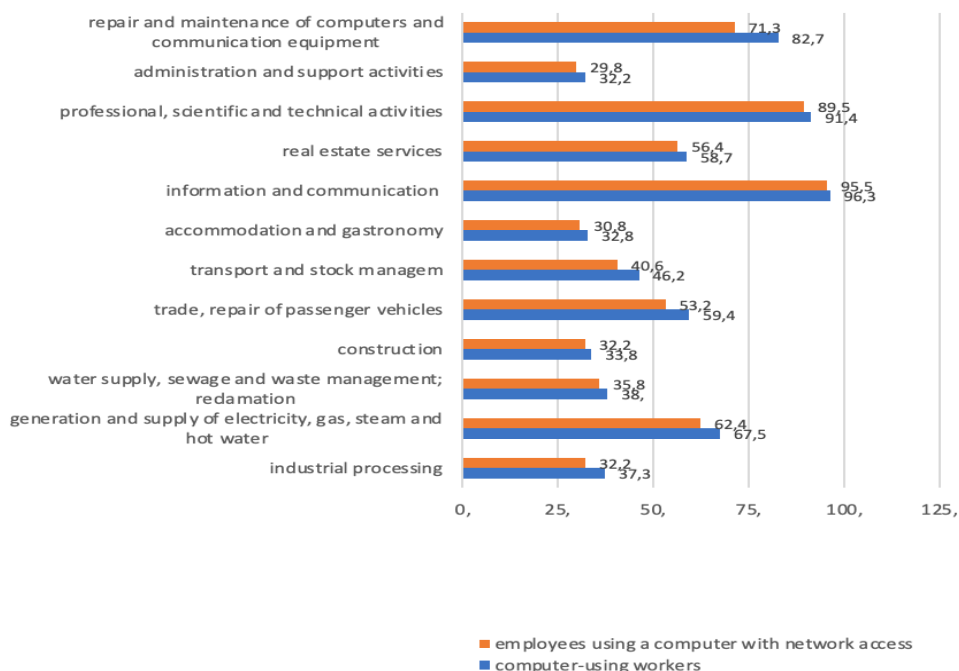
Source: *Own study based on CSO (2019).*

3. Addictive Technologies

Modern digital technologies are present in every person's everyday life, they become his or her inseparable companion mainly due to smartphones - as it has been noted, we live in the media and not with the media (Deuze, 2011). We operate in a world where American global companies have appropriated digital space called the technological Big Five: Google, Amazon, Facebook, Apple, and Microsoft (GAFAM). The technological infrastructure is designed to generate digital data that algorithms can read (Diakopoulos, 2013). The more users and the more intensive the consumption of media and digital content, both passive and active, the more the technology market has developed, and the changes in the entire media ecosystem have occurred. Phenomena such as data surveillance, surveillance capitalism, the economics of attention, propaganda, including fake news have all increased.

Smartphone has become synonymous with a plug-in for continuous connection to cyberspace, dominated by new media emerging with Web.2.0, with their flagship product, social media. The idea of their functioning was to enable all users to dialogue and interact. The power of their impact and reach has been appreciated by a business, marketing, and many other industries, and the full social incorporation of a smartphone ensures a constant flow of data, the analysis, and processing of which is one of the economic models' business. In this way, the circle of information flow technology with information acquisition technology has closed. Corporations, such as those of the GAFA, often know more about users, their habits, preferences, political and religious views than they do. In the face of the transformation of the dynamics of capitalism, which prioritizes generated values from data based on continuous user supervision, cyberspace in media is transforming into a space of continuous and permanent extraction and analysis of data, thanks to user tracking, moving towards the era of mobile personalization (Turow and Couldy, 2018). This does not change the fact that the term media will continue to be associated with content distribution.

The dynamics of the market and the economic model of running a business based on data collection and processing have developed the so-called economy of engagement related to addictive technologies. This economy is based on the participation and involvement of users. There are three forms of engagement:

1. cognitive (changes in awareness, interests, intentions;
2. emotional (experiencing);
3. behavioral (action) (Hollebeek, 2011).

The most important is the cognitive form, which uses previous cognitive resources and experiences in information processing and evaluation (Oh and Sundar, 2015). Media interactivity is a primary affordance, an indication of the use of media and communication technologies (Dijk, 2010). Users' involvement is conditioned by several factors, including a friendly interface, customized personalization, ease of use, strong emotions, and relationships with other users. Designers of the digital

media environment, using the knowledge gained about the users, create an intelligent environment to make it more and more functional on the one hand and the other hand more and more addictive. The phenomenon of the economy of attention appears - as long as technologies steal from users, the advertising space will increase.

### 4. Addictive Technologies in the Workplace: Selected Results of Own Research

As part of identifying the phenomenon of addiction and its impact on the work performed, surveys were conducted - from December 2018 to April 2019. The research group consisted of 132 people, of which 70 participants were men and 62 women. Surveys conducted were in the form of face-to-face interviews (82), and the results of 50 questionnaires were obtained from an online survey in various forums. The results indicate that all the people surveyed (132) have smartphones and use the Internet and computer at work. Respondents most often use electronic mail during working hours 72% (of which 41% are women and 31% are men respectively), 60% of total employees play online games (a significant difference for this variable is a small percentage of 20% of women in the group of respondents). During their work time, 48% of the surveyed employees make purchases via e-mail (27% women and 20% men), and 38% spend time browsing and actively participating in online forums. While performing their duties, 17% seek information, and 35% (only 10% are women) download files from the Internet - most often these are films, photos, books, handbooks, and 30% of the respondents declare that they surf aimlessly to kill time or from being forced to stay online. The time that the respondents spend surfing the web while performing their duties is presented in Figure 2. 42% of respondents spend between 3 and 5 hours surfing the web, and the same amount of time spent playing online.

Figure 2. *Time spent online during working hours*
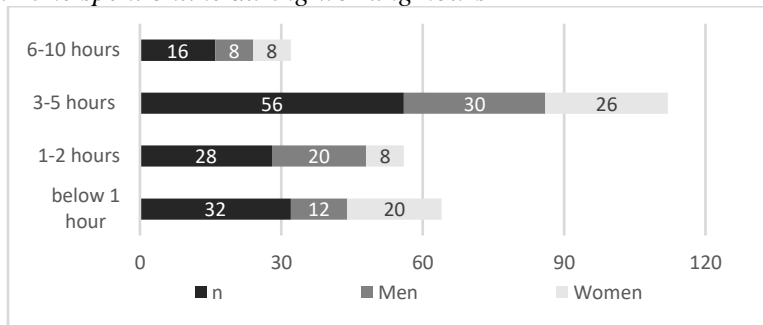
Source: *Own study.*

The research confirms that employees are aware of the potential of addiction (96%) and that it has an impact on the quality of their work; despite this, 50% of respondents say that they do not neglect their duties and perform them, while 19% of respondents believe that they often neglect their duties, 21% of respondents emphasize that it happens rarely, and in the case of 22% it sometimes happens (Figure 3).

Figure 3. *Neglect of duties*
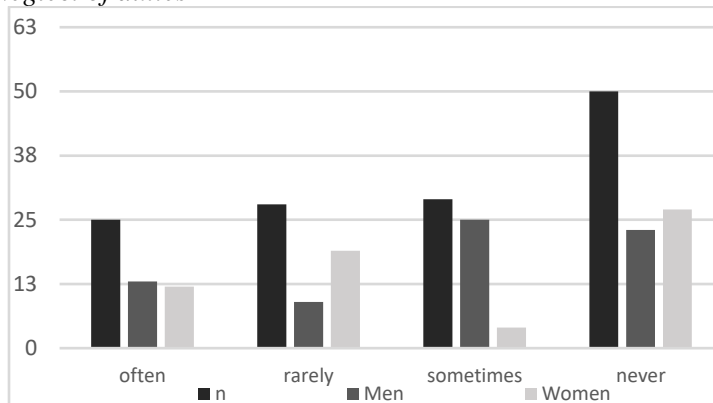
The correlation between the number of hours spent in the network and the frequency of neglecting other duties was measured by the Pearson correlation coefficient, R=0.86, which means a reasonably strong correlation and a significant dependence alpha=0.05. The value increase of one trait is accompanied by a value increase of the other trait - the increase in the number of hours spent in the network is accompanied by a number increase of neglecting duties at work. The respondents declare that they experience negative emotions due to lack of access to networks or social networking sites, and arousal and impatience are most frequently reported by the respondents.

The respondents reported health problems related to excessive use of technology, such as general exhaustion and sleep deprivation, vision, spine, and lack of concentration. 70% of the respondents are aware of the risk of addiction, but despite the symptoms, they do not consider themselves addicted - 71% of the respondents emphasize that they could give up the Internet and cell phone at work. The blame for excessive use of the Internet and social media is attributed to, e.g., tedious work, aversion to duties, lack of concentration, the evil organization of work, lack of clearly defined scope of activities.

5. Conclusion

The conducted research is a prelude to more extensive investigations. They indicate the necessity of undertaking them, as they show certain phenomena that have not been studied so far in terms of efficiency and profitability of companies' processes, which technological habits and dependencies of employees may be influenced by and have not answered the question about the effects of these dimensions. The literature review on the subject, which includes items from the fields of psychology, pedagogy, safety, and new technologies, indicates that the current understanding of the phenomenon of CTU dependence is far too narrow. It is mainly associated with the inclinations of some people to addiction. The difficulty lies in the ability to separate addictive behavior from rational use. The application in the algorithms on which modern technologies are based, mechanisms of mental stimulation of the so-called persuasive

technology and social impact based, for example, on social proof of rightness, the rule of inaccessibility, the social power of authority, or the effect of the context, allowed:

1. first of all, further improvements in the forms of communication (which increases involvement by minimizing the frustration of the user);
2. the monetization of users' time, thanks to the economy of attention (Kuczabski, 2019). We know that addictions have a negative impact on the employee's psyche manifests itself in a lack of concentration in performing the tasks entrusted, which leads to stressful situations, mental emptiness caused by directing one's thoughts towards living in the "network. Due to the rapid development of technology, the results of the research quickly become obsolete, so it is necessary to continually repeat and modify them to provide as much data about the phenomena that can be prevented from being diagnosed in advance.

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