Personal versus professional use of mobile phones in information processes at work

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Abstract. *Mobile phone has become today a multi tasking tool, used in the work environment for both, personal and professional purposes. On the one hand, used for personal purposes, mobile phone can bring many benefits: it reduces stress, helps to schedule time after work, helps the employee to find useful information on the Internet, etc. On the other hand, mobile phone can also have negative effects when it is used at work for personal purposes: decreases productivity at work, distracts the attention, exposes to risks employees that are working in production, etc. In what concerns the professional purposes, the benefits depend of the nature of work: keeps constant connections with supervisors and clients, employees find quick information related to working tasks, and information can be shared at any time with colleagues, etc. Of course there are also negative effects of the mobile phone used at the workplace: disturbing the activity of colleagues, non-dissipation of information to others in a timely manner, etc. In this paper we present some preliminary results from a study that highlights both, professional and personal use of mobile phones in information processes at work. The research sample has 368 respondents from different fields of activity. Based on the frequency of their use, the results indicate that, for personal purposes, text messaging applications comes on the first place, search for useful information on the Internet comes on the second place and finally, the phone calls (voice only) are on the third position. For professional purposes, at work, most employees use phone calls (voice only), then they search for useful information on the Internet, and finally, they use messaging applications.*

Keywords: mobile phone, information processes, personal information, professional information, employees.

Introduction

According to Londhe et al. (2014), the mobile phone is capable of generating social capital, which further leads to economic, social and political opportunities. Before their appearance, Geser (2004) states that formal organizations have created sophisticated fixed telephony lines specifically for their structural and organizational purposes. Now, mobile phones are substituting most of the fixed phones and adding new functions for the users.

Information is especially useful in creating and sustaining companies' competitiveness, in terms of products and services on the market (Garifova, 2015). But what kind of information companies need? Just those for professional purposes? Or even those for personal aims of the employees could sustain the working tasks? However, as Garifova

(2015) concludes, for gaining profitability and being competitively on the market, enterprises need to learn how to use information.

Given these two reunites engines of competitiveness, information and technology (mobile phone, the Internet, etc.), it is important for managers to give the proper importance to this mix in order to create business-friendly, sustainable and value-added business.

The focus of our research is the use of mobile phones at work and the main question is in what way are the mobile phones affecting the productivity of workers? We explored several characteristics of the relation between the use of mobile phones and the productivity of workers, and we discovered that an important mediator is the use of the mobile phone as a knowledge sharing instrument. We consider the smartphones as the kind of mobile phones most present on the market. The simple mobile phones, without internet capability, are so rare these days, that we will disregard them.

Literature review

The mobile phone is today a device that many of us could not live without, many aspects of daily life being determined by the use of this device. Data from the Human development index, comprising a component on "mobile phone subscription per 100 inhabitants" shows that in Romania, between the years 2000-2010, the number of mobile subscriptions per 100 inhabitants grew approximately by 10,54 times, from 11,3 to 119,2, reaching a ratio of more than 1 subscription per inhabitant. (Human development Index, 2017) Together with the fact that the percentage of population using the internet from various devices has grown from 3,6% in 2006 to 59,5% in 2016 (Human development Index, 2017), we can assume that the lives of Romanian workers are, in many cases, influenced by the use of mobile phones and by internet connectivity.

The situation of smartphones adoption by workers is similar all over the world, managers from all countries meeting the challenge of efficiently integrating these new devices in the daily routine of the workers. We found opinions that "research is needed not only to determine how more mindful usage of technology influences employee engagement and effectiveness, but also to determine how to most effectively create norms around these practices." (Colbert et al., 2016)

Broad areas in which mobile phones are used

Giving the large variety of apps available for being installed and used on today's smartphones, it is difficult to describe a complete taxonomy of areas in which these devices can be used. After Yim and Gomez (2017), mobile phone has three major areas in which it intervenes in:

1. The area of communication with others, generating information, knowledge, emotional support, etc.
2. The process of focusing on information, which is connected with occupational practices and widening of knowledge, enriching them.
3. The case of flexibility, where opportunity costs are reduced.

The access to information through the capabilities of the smartphones has connections with learning processes. In a study with students from Jamaica it became obvious that when the mobile phone is used as a learning tool, it comes a pleasure to use it (Ahmad, 2018). In addition, the mobile phone becomes an opportunity to rethink the

university education system, being always ready to be used in the classrooms for learning (Ahmad, 2018).

The communication function of these devices has consequences in the use of authority. In some cases, the mobile phone leads to the exclusion of authority delegation to subordinates, because managers are always in touch with what is happening in the company (Geser, 2004) by calling any subordinate on his mobile phone.

The unlimited access to worldwide sources of information, changes the practical perspective of the bounded rationality in decision making. As Bratianu et al. (2018) states, "decision makers should acknowledge the fact that good decisions rely on a manifold approach which simultaneously integrates various types of knowledge, intuition and the bounded rationality." In this perspective, using the mobile phones at work enlarges the types of knowledge immediately available to a decision maker, whether they might be internal or external information.

This simple instrument, the mobile phone, can also invade the personal life for some people. For example, in the case of doctors, who can be called in at any time in their leisure moments, mobile phone brings the way for their patients to notify them in case of urgent needs (Geser, 2004).

Ultimately, mobile phone is seen on the market as a marketing tool. This is because the target audience is directly or indirectly contacted (either by voice calls or by text messages, etc.), based on the information that phone operators already have (age, marital status, occupation, domicile, number of children, etc.) (Öztaş, 2015).

The connection with the knowledge management domain comes from the fact that the use of smartphones expands knowledge sharing and allows emotional knowledge to flow (Bratianu and Orzea, 2013). The high availability and the ease of access for a practically infinite category of information, are basic conditions of knowledge sharing that are built-in the smartphones. The access to social networks is, in its very nature, a knowledge sharing activity. This wave of change affects the perspective of companies on the use of smartphones in their information system and in their knowledge management system. Pitichat (2013) states that "every single company needs to work on a flow of information and knowledge in order to develop their employees to make them more productive." The reason for that lies in "the integration between Smartphone and social network applications". (Pitichat, 2013) This way, people can share their information and knowledge easily, for several purposes, some personal and some professional

Using the smartphones, the information and knowledge flows from and toward the organization, without borders, creating a richer and potentially more effective information environment. Bratianu (2011, p. 64) considers that „knowledge flows from individuals to groups of people and then to the whole organization” and that, since organizations are open systems, „knowledge flows across boundaries toward the external business environment”.

The adoption of smartphones at work is analyzed by Ahmed et al. (2018) using a Technology Acceptance Model (TAM). With this, the author explains the perceptions of using new technologies, with a focus on ease of use and usefulness, in turn affecting the intention of adopting social media as a tool for knowledge sharing. The TAM model has been widely applied in research regarding social media's use in knowledge sharing, as a means of looking into different scenarios for knowledge sharing, and at emerging IT. (Ahmed et. al, 2018),

Personal information processes and mobile phones

The smartphone is part of the new technologies, together with Internet, digital television, smart electronics, and so on, technologies that have opened new e-business opportunities (Apăvăloaie, 2014). In Romania, for example, more and more users are accessing the Internet from their personal mobile phone (Apăvăloaie, 2014). This creates new opportunities for doing business in the online environment, excluding many of the costs of the companies. According to Chandramat et al. (2005), communication barriers with anyone in the world have disappeared through voice calls and not only, and multimedia messages have become increasingly important, so that are real engines of growth alongside classical voice services.

In personal life, mobile phones are used not only for communicating with others. Smartphones, for example, have reached a much higher degree of utilization through some applications such as: calendar appointments, social networking, on-line radio, music, and games applications (Saidon et al., 2016).

Even if mobile phones do not bring happiness, all respondents in a study have confirmed that mobile phones have made them happier and helped them to find a job easier (Londhe et al., 2014). According to a study by Yim and Gomez (2017), the mobile phone helped respondents to reduce the transport costs and to improve their social relationships. At the same time, mobile phones are more effective because they allow a better communication at the level of informal groups, beyond any control from organizations (Geser, 2006). However Geser (2006) approves that at work, the use of mobile phones for personal purposes should be regulated by a constant procedure that can be controlled.

Professional information processes and mobile phones

The number of call outgoing and incoming and the duration of the calls translate into a considerable amount of time that is lost through cell phone conversations. Colbert et al. (2016) say that research is needed to set up rules and practices that are useful when using technology at the working place, while there is a study that confirms discrepancies between what employees declare in terms of time spending on phone calls for personal issues, and the real time spend on mobile phone (Abeele et al., 2013).

Donya and Kumah (2011) pointed out in a study that 47% of respondents need the mobile phone to carry out their working tasks, and by default, the rest of 53% of the respondents use the mobile phone for other uses than the professional ones.

In an another study, more than half of respondents admit they take their mobile phone with them wherever they go (Wahla and Awan, 2014, in Flinchy, 1997; Forrester, 1999; Srivastava, 2005). Also, at work, employees are expected to have an individual self-responsibility regarding the use of mobile phones for personal purposes, so it is advisable to use them at lunch or tea breaks (Wahla and Awan, 2014, in Cohen, 2011).

Given that social networks have invaded the virtual environment that employees are logging every day, managers have begun to think of a way to integrate these socialization applications into the practices of companies (Georgescu and Popescu, 2015).

According to Bakhuizen (2011), in an organization, the main category of information exchange at working place are: i) task information, about the tasks at hand, followed by information about the policy and plans of the organization (sharing vertically or top-down); ii) management information, about results, indicators, and monitors; leaders need to know how the organization is performing; iii) social information, often given by the human

resources department and concerning topics like trainings, pension, and sick leave. To this list we need to add the information accessed from outside the organization, from internet open or specialized sources, and from social networks. All the mentioned categories can be transferred (sent, up-loaded or downloaded) by the use of a smartphone.

Positive effects

In a study conducted by Londhe et al. (2014), most respondents said they are compatible with listening to music and radio on the mobile phone at work, and that helps them to reduce stress in the work environment. At the same time, the use of mobile phone is associated with a relaxed, positive working environment (Londhe et al., 2014).

According to Wahla and Awan (2014), the use of mobile phone in the workplace for professional purposes has positive effects: keeps in touch the workers with managers and customers, and employees are up to date with information on the market. The findings of the same study point out that employees working in services say they work more efficiently with a mobile phone and thus, they have a better performance; also, people are responsible for the use of mobile phones, so they do not disturb the work of other colleagues (Wahla and Awan, 2014).

After the study conducted by Donya and Kumah (2011), 26.7% of respondents use the mobile phone extensively to spread information related to working tasks, and 16.7 of them use it for the same purpose, but not so intense.

Negative effects

After Wahla and Awan (2014), employees that are working in production are exposed to risks if they use the mobile phone while working, and this fact has also a negative impact on their productivity. Also, mobile phones distract the attention of employees and can lead to a lower labor productivity (Wahla and Awan, 2014), disturbing at the same time the activity of other colleagues. Thus, it is important that employees to use the cell phones only in case of emergency during the working program, or unlimited at lunch time or other breaks (Wahla and Awan, 2014).

The same authors say that text messages have become the employees' favorites because they can hide from supervisors, and that overexploitation of the mobile phone for other purposes than professional ones should worry managers (Wahla and Awan, 2014).

Accordign to the study conducted by Donya and Kumah (2011), 46.7% of respondents do not use their mobile phone to spread or receive information related to working tasks.

Mobile phones: addiction or not for work-life balance?

Nowadays there are more and more discussions about the addiction to smart phones of the Z generation. Ozkan and Solmaz (2015) deny this idea, saying that the Z generation is not an addict, but the habit of using smart phones is something usual. Also, people in this generation want to express their personality through social networks (Ozkan and Solmaz, 2015). Kumar and Devi (2014) argue that most of the social media users are part of a homogeneous group, so that, the financial investments should follow their needs.

Potongsangarun et al. (2012) discuss about the attitude related to mobile phone network, that is a function depending on three variables: personal factors, behavior and marketing (Potongsangarun et al., 2012, in Kumanuwong, 2010). Tan et al. (2013) admit that

the using of mobile phone and especially of other applications from it, conducts to less face to face interaction, and ultimately to loneliness.

Research Methodology

The present research is a quantitative one, using an online research questionnaire created in Google Docs. The questionnaire was pretested at the beginning of July 2018. Subsequently, it was modified. Between mid of July and December 2018, 368 responses were collected from the online environment.

Table 1. Case Processing Summary

		N	%
Cases	Valid	368	100.0
	Excluded(a)	0	0.0
	Total	368	100.0

Source: Authors' own research.

The questionnaire was distributed by email and social networks using an addressing formula referring to a study aiming at highlighting the impact of mobile phone on labor productivity and by presenting an entire question as sample, in order to stimulate the curiosity of potential respondents.

Table 2. Reliability Statistics

Cronbach's Alpha	Number of sub items
0.893	85

Source: Authors' own research.

The final questionnaire has 24 questions and some of them have many sub-questions. Along with the demographic variables, the questionnaire presents a total of 95 sub-items. The internal consistency of the items was tested on 85 items in the questionnaire, excluding the questions for demographic variables. The Cronbach Alpha coefficient of the research instrument revealed a value of 0.893.

Main results

The percentages of using mobile phone for personal and professional purposes at work

Respondents were asked to specify the percentages for using the mobile phone at the workplace regarding the personal and professional uses. The results are outlined below.

Table 3. The using of mobile phone for personal purposes at work

Item	Answer	Total	Percentage
The using of mobile phone for personal purposes at work	No	62	16.85
	Yes	306	83.15
Total		368	100

Source: Authors' own research.

On one hand, 83.15% from the respondents who participated in the study declared that they use the mobile phone at work for personal purposes. On the other hand, 16.85% of them denied this aspect. Going more in detail, the persons in the second category work mainly in the following areas of activity: public administration, defense and public order, commerce, construction, manufacturing and extractive industry, engineering, education, health services, financial and insurance services, transport and other areas. Being a fairly wide range of domains, it can be considered that the use of the mobile phone at work for personal purposes remains mainly the choice of each individual, and it is clearly influenced by the personal characteristics. Besides, Pearson correlation coefficient between the use of the mobile phone at work for personal purposes and field of activity (0.037) indicates a weak positive correlation.

Table 4. The using of mobile phone for professional purposes at work

Item	Answer	Total	Percentage
The using of mobile phone for professional purposes at work	No	115	31.25
	Yes	253	68.75
Total		368	100

Source: Authors' own research.

A percent of 68.75% of the respondents declared that they use their mobile phone for work purposes, and a percent of 31.25% of them denied this. In a further analysis, the people in the first category are currently working in the following fields of activity: public administration, commerce, information and telecommunications (IT), extractive industry, engineering, education, energy production and distribution, health services, financial and insurance services, shows, cultural and recreational activities, tourism, hotels and restaurants, and other areas.

According to Pearson correlation coefficient (-0.133), there is a weak negative correlation between the *field of activity* and *the use of mobile phone for professional purposes*. Using or not using the phone at work for such destinations depends on: company size, company policy, leadership, etc.

Figure 1. The personal vs. professional use of mobile phone at work

Source: Authors' own research.

Most of the respondents (32%) say that at the workplace they use the mobile phone for professional purposes in percent of 80%, and for personal purposes in percent of 20%. Furthermore, 19% of them admit the opposite: the mobile phone it is used 20% for professional purposes, and 80% for personal purposes. Finally, 16% of them use about 60% the mobile phone for professional purposes, and 40% for personal purposes. Extremities indicate that 12% of respondents use the mobile phone strictly for personal purposes, and only 4% of them use it only for professional purposes.

It is natural for the employees to use more or less the mobile phone, depending on the nature of work. For example, in back office, for the financial services it is normal to use mobile phone discussions in order to solve some problems, while in the field of constructions, at the workplace, it is very important the mobile phone to be used with caution when performing tasks in difficult working conditions. Finally, for the considered sample, the mobile phone shows its functionality especially from a professional point of view.

Personal use of mobile phone in information processes at work

Respondents were asked to tick on a scale from 1 (never) to 5 (very often) for what they use the mobile phone for personal purposes at work. This question does not go into personal details (how much time is dedicated to discussions, with who are the discussions, what kind of information is being searched on the Internet, etc.). Instead, the item provides a global view of the types of information processes that are accessed at work and are not related to the working tasks. The table below shows the averages obtained for each of the personal information processes taken into consideration.

Table 5. Personal information processes at work (ranked decreasingly)

Personal information processes	Mean (N=368)
Messaging applications (e-mail, sms, Messenger, Whatsapp, etc.)	3.59
Search for useful information on the Internet	3.43
Phone calls (voice only)	3.34
Social networks (Facebook, Twiter, Instagram, etc.)	3.01
Orientation applications (maps, gps, Waze, etc.)	2.45
Online stores	2.17
Music listening applications (including on-line radio)	2.11
Specialized applications made available by the company	1.96
Movies/ videos viewing applications	1.88
Video calls	1.39
Games	1.35

Source: Authors' own research.

Most employees use text messaging applications (Email, SMS, Messenger, Whatsapp, etc.) with an average of 3.59 out of 5 (intensity of use of 71.8%). The intensity of 71.8% was obtained as a ratio between the respective mean and the maximum of the scale: $3.59/5 \times 100$. In addition, they search for useful information on the Internet with an average of 3.43 and an intensity of use level of 68.6%. Finally, they use phone calls (voice only) with an average of 3.34 (intensity of use of 66.8%). The lowest average was recorded for games: 1.35, with intensity of use of only 27%.

The first four highest averages indicate that employees want to communicate either through text messages or voice calls to other people. Further, they want to be aware of what is happening outside of the working environment, accessing useful information from the Internet, but also by using social networks. While the personal information processes that employees choose at work have previously been reported, the reasons why employees use mobile phones for personal purposes at work are listed below. Respondents were asked to tick on a scale from 1 (totally disagree) to 5 (totally agree) for what reasons they use mobile phone for personal purposes at work.

Table 6. Reasons for using mobile phone for personal information at work (ranked decreasingly)

Reasons for using mobile phone at work for personal purposes	Mean (N=368)
Phone help me to find out if something bad happens to the loved ones	4.39
The phone helps me to find out if there are critical issues with my home or property (e. g. car, home, etc.)	4.13
The phone helps me to schedule my time after work, by contacting friends and relatives	3.81
The phone helps me know more about relatives, friends, etc. through social networks	3.20

Source: Authors' own research.

The most common reason of the respondents for using the mobile phone at work for personal purposes, is the need to know that the loved ones are safe. Secondly, the same need for safety it is related to personal goods or properties. At the same time, the mobile phone is useful for work-life balance, helping employees to schedule their time after work. Again, the need to know information about friends or relatives it is important, so employees connect into the social networking in order to keep up with the news. All the reasons checked by respondents have an intensity level of over 64%, with an average over 3.20 from 5.

Effects felt in the workplace

When the mobile phone is used in the workplace for personal purposes, depending on the working conditions (how close employees are working, if are possible recreational facilities, etc.), individual positive effects or individual/collective negative effects may occur. For the results below, respondents were asked to tick on a scale from 1 (totally disagree) to 5 (totally agree) for what reasons they use mobile phone for personal purposes at work.

Table 7. Effects that come after using phone at work for personal purposes (ranked decreasingly)

Positive effects	Positive/ negative effects	Mean (N=368)
	Phone helps me to be more productive at work because it keeps my work-life balance	3.18
	The mobile phone used in the workplace for personal purposes improves my efficiency	3.17
Negative effects	Message communication at work slows my pace of work	2.72
	The mobile phone used at work for personal reasons distracts me	2.69
	I work more efficiently when I do not have my mobile phone next to me	2.65
	Colleagues disturb the activity of other colleagues when they use the mobile phone for personal purposes	2.48
	Phone calls with family and friends at work reduce my productivity	2.48
	Using personal mobile for my personal purposes stresses me at work	1.89

Source: Authors' own research.

The results in the previous table show an interesting phenomenon: with an average of 3.17 out of 5 (63.4% intensity), employees have approved that the mobile phone improves their efficiency, while with an average of 2.65 out of 5 (and intensity of use 53%), they say they work more efficiently when they do not have the mobile phone next to them. Of course, there are many other negative effects that may occur at work when using mobile phone for personal purposes: slowing the pace of work, distracting attention, stress, and even disturbing other colleagues activities.

Finally, the best benefits of using mobile phone in the workplace for personal purposes are to obtain work-life balance, and by default an improved productivity (with a mean of 3.18 out of 5).

Professional use of mobile phone in information processes at work

Respondents were asked to tick on a scale from 1 (never) to 5 (very often) for what they use the mobile phone for professional purposes at work. This question does not go in to many

professional details, but provides a general view regarding the types of information processes that are accessed at work and are related to the working tasks. The table below shows the averages obtained for each of the professional information processes taken into consideration.

Table 8. Professional information processes at work (ranked decreasingly)

Professional information processes	Mean (N=368)
Phone calls (voice only)	3.56
Search for useful information on the Internet	2.91
Messaging applications (e-mail, sms, Messenger, Whatsapp, etc.)	2.83
Specialized applications made available by the company	2.14
Orientation applications (maps, gps, Waze, etc.)	2.13
Social networks (Facebook, Twitter, Instagram, etc.)	1.90
Getting evidence through audio-video recordings for the work done	1.76
Video calls	1.60
Online stores	1.48
Movies/ videos viewing applications	1.48
Music listening applications (including on-line radio)	1.39
Games	1.15

Source: Authors' own research.

Most employees use the mobile phone, at the working place, for phone calls (voice only) with an average of 3.56 out of 5 (an intensity of use of 71.2%). Moreover, they search for useful information on the Internet with an average of 2.91 and intensity of use level of 58.2%. Finally, they use messaging applications (e-mail, SMS, Messenger, Whatsapp, etc.) with an average of 2.83 (an intensity of use level of 56.6%). The lowest average was recorded for games: 1.15, with a intensity of use of only 23%.

The first four highest averages indicate that employees need to communicate either through voice calls or text messages with professionals from the work environment. Also, they need to access useful information from the Internet and specialized applications made available by the company.

Personal versus professional use of mobile phone in information processes at work

Taking into account the same types of information processes, below it is presented a comparison between how often are these used for personal and professional purposes.

Figure 2. Information processes: personal vs. professional

Source: Authors' own research.

The biggest difference between the intensity of personal and professional information processes is recorded for social networks (Facebook, Twitter, Instagram, etc.), which are most often used by employees for personal purposes. Then it follows big differences for messaging applications (e-mail, SMS, Messenger, Whatsapp, etc.) and music listening applications (including on-line radio), which are more often used again for the personal aims. Regarding the specialized applications made available by the company, phone calls (voice only) and video calls, it seems that employees use them more for professional purposes at work. All the rest of the information processes analyzed are more intensely used in personal purposes.

Conclusions

The use of mobile phones at work has two separate behavioral components. The workers are using the devices for several information processes, some of them related with the work and some related with their personal life. And most of them are involved in both, the personal and the professional informational processes, during work. Only 3% said they don't use the mobile phone at work, 4% said they are using it only for professional purposes and 12% said they are using it only for personal purposes.

The effects of the use of mobile phones at work can be perceived as positive or negative, based on the resulting productivity. The time spent to use the mobile phone at work cannot be implicitly considered a waste. If it is spent on solving some personal problems, on social networks, personal leisure or comfort related activities, it reduces the working time, thus reducing productivity. But that time can also be spent for professional purposes, thus having positive effects: keeps the workers in touch with managers and customers, keeps employees up to date with information on the market and the organizational environment, helps employees fast accessing important information from public or specialized sources, using specialized software for doing their work.

Even if the time on the mobile phone is spent for personal interests, the overall effect might still be positive for the organization. We found that the employees reduce their level of stress related with personal issues by staying informed about their beloved and their goods, thus being associated with a relaxed, less stressful, positive working environment.

Results show that the biggest difference between the intensity of personal and professional information processes, in which the mobile phone is used at work, is recorded for social networks (Facebook, Twitter, Instagram, etc.), which are most often used by employees for personal purposes. On the other side, the biggest differences in favor of the professional purposes are to be found in the use of specialized applications made available by the company, phone calls (voice only) and video calls, that employees use more for professional purposes at work.

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